

BID SPECS 3,000 GALLON TANKER

One (1) Overall Height Restriction, NONE Y__N__

OVERALL HEIGHT

An overall height restriction has not been specified for this apparatus.

One (1) Overall Length Restriction, NONE Y__N__

OVERALL LENGTH

An overall length restriction has not been specified for this apparatus.

One (1) Overall Width Restriction, NONE Y__N__

OVERALL WIDTH

An overall width restriction has not been specified for this apparatus.

One (1) Wheelbase Restriction, NONE Y__N__

WHEELBASE

A wheelbase restriction has not been specified for this apparatus.

One (1) Angle of Approach, NFPA Minimum, 8 Degrees Y__N__

ANGLE OF APPROACH

The angle of approach for the apparatus shall not be less than eight (8) degrees as specified by the current edition of the NFPA 1901 Guideline.

One (1) Angle of Departure, NFPA Minimum, 8 Degrees Y__N__

ANGLE OF DEPARTURE

The angle of departure for the apparatus shall not be less than eight (8) degrees as specified by the current edition of the NFPA 1901 Guideline.

One (1) NFPA Pumper Equipment Allowance 2500# Y__N__

NFPA PUMPER EQUIPMENT ALLOWANCE

In compliance with the current NFPA guidelines, the apparatus shall be engineered to provide an allow of 2500 pounds of fire department provided loose equipment.

One (1) Calculated Center of Gravity

Y__N__

CENTER OF GRAVITY

The apparatus, prior to acceptance, will be required to meet the vehicle stability of the applicable NFPA Automotive Fire Apparatus Standard.

A calculated center of gravity shall be provided. The calculated or measured center of gravity (CG) shall be no higher than 80-percent of the rear axle track width. If so, a tilt table test at the apparatus body builder's facility or Electronic Stability Control (ESC) must be provided on the chassis meeting the requirement of the NFPA 1901 Guideline.

One (1) Representative Technical Drawings (3-View) (Left/Right/Rear)

Y__N__

ENGINEERING BLUEPRINTS

The manufacturer shall submit "proposal" blueprints which are “representative” of the vehicle being proposed and these have been generated on computer-aided-design (CAD) equipment.

The blueprints are provided as follows:

Sheet No. 1:

- Left side exterior view
- Right side exterior view
- Rear exterior view

The manufacturer shall provide construction drawings for approval prior to actual construction of the vehicle.

The design of the equipment is in accordance with the best engineering practices. The equipment design and accessory installation shall permit accessibility for use, maintenance and service. All components and assemblies shall be free of hazardous protrusions, sharp edges, cracks or other elements, which might cause injury to personnel or equipment.

All oil, hydraulic, and air tubing lines and electrical wiring shall be located in protective positions properly attached to the frame or body structure and shall have protective loom or grommets at each point where they pass through structural members, except where a through-frame connector is necessary.

Parts and components will be located or positioned for rapid and simple inspection and recognition of excessive wear or potential failure. Whenever functional layout of operating components determines

that physical or visual interference between items cannot be avoided, the item predicted to require the most maintenance shall be located for best accessibility.

One (1) Change Orders

Y__N__

CHANGE ORDERS

To ensure the proper engineering and construction of the purchaser's custom fire apparatus in a timely manner, the contractor shall consider the order final and complete after any changes made during the pre-construction conference are mutually approved. Change orders requested after the pre-construction conference are discouraged. It shall be understood and agreed that any changes, if approved, after the order has been released to Engineering, shall constitute a valid cause for production delay and without penalty to the contractor.

One (1) Apparatus, Body Warranty, 1 Year

Y__N__

BODY WARRANTY

The manufacturer shall provide a one (1) year body warranty. The manufacturer shall supply details of their warranty information with their bid submission.

One (1) Waterous Pump Warranty, 7 Years

Y__N__

PUMP WARRANTY

The fire pump manufacturer shall provide a seven (7) year warranty. The manufacturer shall supply details of their warranty information with their bid submission.

One (1) Stainless Steel Plumbing Warranty, 10 Years

Y__N__

STAINLESS STEEL PLUMBING WARRANTY

The manufacturer shall provide a ten (10) year warranty on the stainless steel plumbing components and installation. The manufacturer shall supply details of their warranty information with their bid submission.

One (1) Warranty, Water Tank, No Preference

Y__N__

WATER TANK WARRANTY

The tank manufacturer warrants each tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle (vehicle must be actively used in fire suppression). The tank must be installed in accordance with the manufacturer's installation manual. Every tank is thoroughly inspected and tested for leaks before leaving our facility. Should any problems develop with your booster/foam tank and will not meet performance criteria during the service life of the vehicle, notify the tank manufacturer in writing or call our TOLL-FREE SERVICE HOT LINE. Provide the manufacturer

with the serial number and a description of the problem. If the tank problem would render the truck out of service, the tank manufacturer will dispatch a service technician WITHIN 48 HOURS (2 DAYS) to repair the tank. (This time period is for North America only)

The manufacturer shall repair, or at their option, replace the tank with a new tank. The tank manufacturer will cover customary and reasonable costs to remove and install the tank.

One (1) Aluminum Body Warranty, 5 Years

Y__N__

ALUMINUM BODY WARRANTY - FIVE YEAR

The manufacturer shall warrant to the original purchaser only, that the all-aluminum body, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of FIVE (5) years.

This warranty does not apply to the following items that are covered by a separate warranty: paint finish, hardware, moldings, and other accessories attached to this body.

The manufacturer will be given a reasonable opportunity to investigate all claims. The purchaser must commence any action arising out of, based upon or relating to agreement or the breach hereof, within twelve months from the date the cause of the action occurred.

One (1) Galvanized Subframe Warranty, Lifetime

Y__N__

GALVANIZED SUBFRAME WARRANTY

Subject to the provisions, limitations and conditions set forth in this warranty, Rosenbauer America, LLC (hereby referred to as "seller"), hereby warrants to each original purchaser only that each new hot dip galvanized body subframe (exclusive of paint finish and hardware) is structurally sound and free of all structural defects of both material and workmanship and further warrants that it will maintain such structural integrity for the duration of ownership by the original purchaser. This warranty terminates upon transfer of possession or ownership by the original purchaser.

One (1) PPG Paint Warranty, 5 Years

Y__N__

PAINT WARRANTY FIVE YEAR

The PPG paint performance guarantee will cover the areas of the vehicle finished with the specified product for a period of FIVE (5) years beginning the day the vehicle is delivered to the purchaser.

The full apparatus body, shall be covered for the following paint failures as outlined on the guarantee certificate:

- Peeling or delaminating of the topcoat and/or other layers of paint.
- Cracking or checking.
- Loss of gloss caused by cracking, checking, or hazing.
- Any paint failure caused by defective PPG Fleet Finishes, which are covered by this guarantee.

One (1) *Body Manuals Complete, 1 Set Printed*

Y__N__

BODY MANUAL – PRINTED

Rosenbauer shall provide with the vehicle upon delivery, one (1) complete delivery manual. This manual shall be in a notebook type binder, with reference tabs for each section of the vehicle.

Within each section shall be:

- Individual component manufacturer instruction and parts manuals
- Warranty forms for the body
- Warranty forms for all major components
- Warranty instructions and format to be used in compliance with warranty obligations
- Wiring diagrams
- Installation instruction and drawings for major parts
- Visual graphics and electronic photos for the installation of major parts
- Necessary normal routine service forms, publications and components of the body portion of the apparatus
- Technical publications for training and instruction on major body components
- Warning and safety related notices for personnel protection

- Cab and chassis manuals on parts, service and maintenance shall be provided

One (1) In Process Photos

Y__N__

IN PROCESS PHOTOS

There shall be a series of photos provided as the apparatus progresses through the production process.

One (1) Electrical Base, Standard, W/O Load Management

Y__N__

LOW VOLTAGE ELECTRICAL SYSTEM SPECIFICATIONS

The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest Federal DOT standards, and the requirements of the applicable NFPA standards.

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for the protected circuit. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be protected in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.

The wiring between the cab and body shall be joined using Deutsche type connectors or an enclosed in a terminal junction panel area. This system will permit body removal with minimal impact on the apparatus electrical system. All connections shall be crimp-type with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

Any electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in a junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified every three-inches (3") by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA #1901 standards.

The electrical circuits shall be provided with low voltage overcurrent protective devices. Such devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. The overcurrent protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.

The electrical system shall include the following:

- Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. A corrosion preventative compound shall be applicable to all terminal plugs located outside of the cab or body.
- The electrical wiring shall be harnessed or be placed in a protective loom.
- Holes made in the roof shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.
- A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
- All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.

The warning lights shall be switched in the chassis cab with labeled switches in an accessible location. Individual rocker switches shall be provided only for warning lights provided over the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. The warning light switches

shall be of the rocker type. For easy nighttime operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and "call for the right of way". When the parking brake is applied, a "blocking right of way" system shall automatically activate per requirements of the applicable NFPA standards. All "clear" warning lights shall be automatically turned off upon application of the parking brake.

NFPA REQUIRED TESTING OF ELECTRICAL SYSTEM

The apparatus shall be electrically tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of the applicable NFPA standards. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

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 ten (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 failed test.

2. Alternator performance test at idle:

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.

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system is permitted during this test. However, if an alarm sounds due to excessive battery discharge, as detected by the system requirements in the NFPA standards, or a system voltage of less than 11.7 volts dc for more than 120 seconds is present, the test has failed.

4. Low voltage alarm test:

Following the completion of the above 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 activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a

reading of less than 11.7 volts dc for a 12 volt system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

NFPA REQUIRED DOCUMENTATION

The following documentation shall be provided on delivery of the apparatus:

- a. Documentation of the electrical system performance tests required above.
- b. A written load analysis, including:
 - 1. The nameplate rating of the alternator.
 - 2. The alternator rating under the conditions.
 - 3. Each specified component load.
 - 4. Individual intermittent loads.

One (1) Electrical Junction Box, Weather Resistant Y__N__

WEATHER RESISTANT ELECTRICAL JUNCTION BOX

The electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required. The main body junction panel shall be located in the pump compartment.

One (1) High Idle System Y__N__

HIGH IDLE SYSTEM

There shall be a high idle system furnished and installed on the apparatus. The high idle system shall have an on/off switch located in the chassis on the switch console. The system shall have an interlock that will disable the solenoid if the parking brake is not completely set.

One (1) Switch Panel/Electrical Console, Angled Between Cab Seats, Natural Finish Y__N__
(2 Dr)

ANGLED ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL

An angled electrical console shall be constructed of .125" smooth aluminum material and mounted in the cab of the truck chassis. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be bolted in place for easy access to the switch connections.

All emergency light switches shall be lighted, rocker style. Switches shall be internally lit when the switch circuit is in the on position. A plug-in identification label is to be provided and installed adjacent to each rocker switch with backlighting provided behind the label.

SWITCHES

A rocker style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. The emergency lights shall be activated by a single "MASTER SWITCH" on the electrical console.

One (1) Batteries, With Supplied Chassis Y__N__

BATTERY SYSTEM

The battery system shall be supplied with the chassis.

One (1) Battery Switch, Master Disconnect, Chassis Supplied Y__N__

MASTER ELECTRIC SWITCH

A battery disconnect switch shall be located conveniently to the driver of the apparatus. The switch shall disconnect the 12 volt power supply from the battery system.

One (1) Battery Charger/Compressor, KUSS, Pump Plus 1000 PLC Y__N__

BATTERY CHARGER AND AIR COMPRESSOR

A Kussmaul Pump Plus 1000 PLC model #51-21-1100 battery charger and air compressor system shall be installed. The 12 volt compressor system shall be designed to maintain the air pressure in the chassis brake system whenever the pressure drops below a predetermined level.

The battery charger shall be supplied from the 12 volt shore power receptacle and be a fully automatic high output charging system. The unit shall be mounted in a clean dry area and will be accessible for service and/or maintenance.

One (1) Display, Bar Graph, Single Battery Bank 091-199-001 Y__N__

BATTERY CHARGER DISPLAY

A Kussmaul 091-199-001 single battery bank voltage display shall be supplied with the charger.

One (1) Shore Power Inlet, Left Front Cab Door, Commercial Y__N__

SHORE POWER PLUG

The shore power plug shall be located at the left front cab door.

One (1) Shore Power Inlet, KUSS Super Auto-Eject 20 Amp Y__N__

AUTO-EJECT

A Kussmaul "Super Auto-Eject" 20-amp automatic disconnect device shall be provided and installed on the 110-volt shoreline connection complete with weatherproof cover and matching plug. The Auto-Eject shall be activated by the chassis starter switch to disconnect the plug. The Super Auto-Eject shall be completely sealed to prevent contamination of the mechanism by inclement weather and road conditions. The Super Auto-Eject shall have an internal switch to open and close the AC circuit after the mating connector is inserted and before the connector is removed.

One (1) Air Horns Two (2) 24" Round Hadley E-Tone Y__N__

AIR HORNS

Two (2) Hadley brand E-Tone air horns shall be provided. The air horns shall be 6" in diameter and 24" long. Each horn shall feature flared ends offering a pleasing appearance.

One (1) Air Horn Location Hood Mounted, One (1) Ea Side Y__N__

AIR HORN LOCATION

The air horns shall be located on the hood. One (1) shall be mounted on the driver side and one (1) on the officer side, so as not to interfere with any other components on the hood.

One (1) Air Horn Control, Driver, Horn Ring, Air/Electric Y__N__

ELECTRIC TRAFFIC HORN AND AIR HORN SELECTOR SWITCH

A selector switch shall be provided on the cab's dash that will allow the chassis steering wheel horn button to activate either the electric traffic horn or air horn system.

One (1) Air Horn Control, Officer, Single Foot Switch Y__N__

AIR HORN FOOT SWITCH

A foot switch shall be installed to activate the air horn system on the officer's side of the floor.

One (1) 12V Power/Ground, 30A, Radio Location Y__N__

12 VOLT POWER SOURCE

One (1) 12 volt power and ground connection rated at 30 amps shall be provided on the apparatus for the installation of a mobile two-way radio.

One (1) Switched Power, Thru Master Y__N__

The power source shall be run through the chassis master battery switch and shall be deactivated when the master switch is in the "OFF" position.

One (1) Light, Engine Compt, 12 Volt LED, w/Switch Y__N__

ENGINE COMPARTMENT LIGHT

One (1) 12 volt LED light with switch shall be mounted in the engine enclosure.

One (1) Light, Pump Compt, 12 Volt LED w/Switch Y__N__

PUMP ENCLOSURE LIGHTS

One (1) LED work light shall be provided in the pump enclosure.

Two (2) Telelight Pole, SM, Bottom Raise (#530) Y__N__

TELESCOPIC POLE

Two (2) Fire Research 530 series side mount bottom raise telescopic light pole shall be provided. The light pole shall extend approximately 30" in height and be anodized aluminum. A knurled twist lock mechanism to secure the extension pole in position shall be included with the pole.

Two (2) TeleLight, FireTech, FT-SL-GESM-W-SW, White Y__N__

Two (2) FireTech FT-SL-GESM-W-SW pole mounted scene light shall be provided. The light shall have a white housing.

Two (2) Mounting Location, Front Of Body Y__N__

LIGHT MOUNTING LOCATION

The mounting location for the specified light shall be on the front of the apparatus body.

Two (2) Tele Light Switch, On Light Head Y__N__

LIGHT SWITCH ON LAMPHEAD

A switch shall be installed on the quartz light lamp head. The weatherproof on-off toggle switch shall be mounted on the lower left side of the lamp head.

One (1) Back Up Alarm Y__N__

BACK-UP ALARM

An automatic electric back-up alarm shall be wired to the back-up light circuit, and mounted under the rear of the apparatus body.

One (1) Back Up Camera, ASA, Color Y__N__

BACKUP CAMERA

An ASA color rear camera system shall be mounted on the rear of the vehicle. All system components shall be installed by the apparatus body manufacturer.

One (1) Radio Antenna Base, Supply and Install, Ea Y__N__

RADIO ANTENNA BASE

One (1) radio antenna base shall be supplied and installed on the apparatus, the antenna coax terminating in the cab. The location shall be determined by the customer.

One (1) Marker Lts, LED, DOT Requirements Y__N__

MARKER LIGHTS

LED marker lights shall be installed on the vehicle in conformance to the Department of Transportation requirements.

One (1) License Plate Bracket, SST, No Light, Rear Y__N__

LICENSE PLATE BRACKET

A stainless steel license plate bracket shall be provided at the rear of the apparatus.

One (1) Tail/Brake Lights, Whelen, LED, M62BTT (Pair) Y__N__

TAIL LIGHTS

One (1) pair of Whelen M62BTT LED tail/brake lights shall be provided. The rectangular 4"x6" lights shall be red.

One (1) Turn Signals, Whelen, LED w/ Arrow, M62T (Pair) Y__N__

TURN SIGNALS

One (1) pair of Whelen M62T LED turn signals with populated sequential chevron arrow shall be provided.

One (1) Turn Signals, Mid Body, LED Marker Light (Pair) Y__N__

MID BODY LED TURN SIGNALS

One (1) pair of mid body LED turn signals shall be provided. The location of the turn lights shall be at mid-body near the rear wheel axle.

One (1) Backup Lights, Whelen, LED, M62BU (Pair) Y__N__

BACKUP LIGHTS

One (1) pair of Whelen Series M62BU LED backup lights shall be installed on the rear of the apparatus body. The dimensions shall be 4" x 6" and the lens color shall be clear.

One (1) Ground Lights, Cab, 2 Door, LED Pair Y__N__

CAB GROUND LIGHTS

Two (2) LED ground lights shall be installed on the chassis cab, one under each cab door.

One (1) Step Lights, Cab, (2) Pair LED Four Y__N__

CAB STEP LIGHTS

There shall be LED cab step lights supplied below the chassis cab doors. The lights shall be mounted below the cab doors and illuminate the chassis cab steps. There shall be two (2) LED lights located on each side of the chassis cab.

One (1) Ground Lights, Pump Panel, LED, Pair Y__N__

PUMP PANEL GROUND LIGHTS

Two (2) LED ground lights shall be installed under the pump panel running boards. One (1) light shall be located on the driver's side and one (1) light located on the officer's side of the apparatus.

One (1) Ground Lights, Rear Step, LED, Pair Y__N__

REAR STEP GROUND LIGHTS

Two (2) LED ground lights shall be installed under rear step of the apparatus.

One (1) Light Switch, Ground Lights w/ Park Brake Y__N__

The ground lights shall automatically activate when the parking brake is applied.

Two (2) Step Light, Fixed /Folding Step, LED, Ea Y__N__

STEP LIGHT

Two (2) LED step light(s) with clear lens shall be installed.

Two (2) Step Light, Rear Tailboard, LED, Ea Y__N__

REAR TAILBOARD LIGHTS

Two (2) LED step lights with clear lens shall be installed to illuminate the step surfaces at the rear of the apparatus body.

DECK LIGHTS

One (1) 12 volt Code 3 Model CW2450 spotlight and one (1) 12 volt Code 3 Model CW2451 floodlight, each with nine (9) LED's, shall be installed. The lights shall have an "on-off" switch, handle and swivel base.

One (1) Deck Lights, Rear Of Hose bed Y__N__

DECK LIGHTS - REAR

The deck lights shall be installed at the rear of the hose bed.

One (1) Deck Light Switch, Wired Park Brake Switch Y__N__

A deck light switch shall be installed and wired to the parking brake.

Two (2) Scene Light, Whelen, M9LZC LED, w/Chrome Bezel Y__N__

SCENE LIGHT

Two (2) Whelen M9 Series Model # M9LZC scene light(s) shall be provided. The steady burn scene light shall incorporate Linear Super-LED® and Smart LED® technology.

The M9LZC shall be furnished with a chrome trim ring, a rubber gasket, screws, and screw grommets for installation. The M9LZC shall have the ability to be installed as a surface mount scene light.

Voltage: +12v

Size: H=6.51”, W=10.34”, D=1.892”

Amp Draw: 6.0 Amps

Lens Color: Clear

One (1) Scene Light, Whelen, M9LZC LED, w/Chrome Bezel Y__N__

SCENE LIGHT

One (1) Whelen M9 Series Model # M9LZC scene light(s) shall be provided. The steady burn scene light shall incorporate Linear Super-LED® and Smart LED® technology.

The M9LZC shall be furnished with a chrome trim ring, a rubber gasket, screws, and screw grommets for installation. The M9LZC shall have the ability to be installed as a surface mount scene light.

Voltage: +12v

Size: H=6.51”, W=10.34”, D=1.892”

Amp Draw: 6.0 Amps

Lens Color: Clear

One (1) Scene Light, Whelen, M9LZC LED, w/Chrome Bezel Y__N__

SCENE LIGHT

One (1) Whelen M9 Series Model # M9LZC scene light(s) shall be provided. The steady burn scene light shall incorporate Linear Super-LED® and Smart LED® technology.

The M9LZC shall be furnished with a chrome trim ring, a rubber gasket, screws, and screw grommets for installation. The M9LZC shall have the ability to be installed as a surface mount scene light.

Voltage: +12v

Size: H=6.51”, W=10.34”, D=1.892”

Amp Draw: 6.0 Amps

Lens Color: Clear

One (1) SceneWarn Light, Mounting Plate, Painted Y__N__

The scene light shall be installed on an aluminum mounting plate, painted to match the body.

One (1) SceneWarn Light, Mounting Plate, Painted Y__N__

The scene light shall be installed on an aluminum mounting plate, painted to match the body.

One (1) Scene Light - Body Left Side Y__N__

LEFT SIDE BODY SCENE LIGHTING

The following scene lighting shall be located on the left side of the body:

One (1) Scene Light - Body Right Side Y__N__

RIGHT SIDE BODY SCENE LIGHTING

The following scene lighting shall be located on the right side of the body:

One (1) Scene Light - Rear Body Y__N__

REAR BODY SCENE LIGHTING

The following scene lighting shall be located on the rear of the body:

Two (2) 3-Way Control Switch, Left Scene Lights, Cab Dash/Pump Panel Y__N__

SCENE LIGHT SWITCHING

A scene light switch with indicator shall be installed on the cab dash and on the pump panel to control the left side scene light(s). The switches shall be wired to operate in a three-way configuration to allow the light(s) to be controlled from either location regardless of switch position. The switches shall be labeled "LEFT SCENE".

One (1) 3-Way Control Switch, Left Scene Lights, Cab Dash/Pump Panel Y__N__

SCENE LIGHT SWITCHING

A scene light switch with indicator shall be installed on the cab dash and on the pump panel to control the left side scene light(s). The switches shall be wired to operate in a three-way configuration to allow the light(s) to be controlled from either location regardless of switch position. The switches shall be labeled "LEFT SCENE".

Two (2) 3-Way Control Switch, Right Scene Lights, Cab Dash/Pump Panel Y__N__

SCENE LIGHT SWITCHING

A scene light switch with indicator shall be installed on the cab dash and on the pump panel to control the right side scene light(s). The switches shall be wired to operate in a three-way configuration to allow the light(s) to be controlled from either location regardless of switch position. The switches shall be labeled "RIGHT SCENE".

One (1) 3-Way Control Switch, Right Scene Lights, Cab Dash/Pump Panel Y__N__

SCENE LIGHT SWITCHING

A scene light switch with indicator shall be installed on the cab dash and on the pump panel to control the right side scene light(s). The switches shall be wired to operate in a three-way configuration to allow the light(s) to be controlled from either location regardless of switch position. The switches shall be labeled "RIGHT SCENE".

One (1) 3-Way Control Switch, Rear Scene Lights, Cab Dash/Pump Panel Y__N__

SCENE LIGHT SWITCHING

A scene light switch with indicator shall be installed on the cab dash and on the pump panel to control the rear scene light(s). The switches shall be wired to operate in a three-way configuration to allow the light(s) to be controlled from either location regardless of switch position. The switches shall be labeled "REAR SCENE".

One (1) Door Open/Hazard Warning Light, Flashing LED Red Lens Y__N__

DOOR OPEN LIGHT

A red flashing, warning light shall be provided and installed in the driver's compartment to indicate an open passenger or apparatus compartment door. The warning light shall also be attached to folding equipment racks and light towers as specified. The light shall be a flashing LED marker light with a red lens and shall be properly marked and identified.

One (1) Siren, Electronic, Whelen 295SLSA1 Y__N__

ELECTRIC SIREN AND CONTROL

A Whelen model #295SLSA1 electronic siren shall be mounted in the cab. This unit shall feature an electronic air horn, wail, yelp, hi-lo and shall have a hard wired PA microphone.

One (1) Speaker, Fed Sig Dynamax, ES100C 100 Watt Y__N__

SPEAKER

One (1) Federal Signal DynaMax 100-watt speaker, model #ES100C, shall be installed. The speaker shall feature a Neodymium driver and a high strength composite housing that is chemical resistant and maintains rigidity at high temperatures.

One (1) Speaker Grille, SST, "R" Y__N__

SPEAKER

One (1) stainless steel grille shall be installed on the speaker.

One (1) Speaker Location, To Be Determined by Body Mfg. Y__N__

SPEAKER LOCATION

The siren speaker shall be installed on the apparatus bumper extension, as determined by the body manufacturer.

One (1) Siren, Fed-Sig, Q2B-NN Mech, Bumper, Partially Rcsd, Left Side Q2B-012NNSD Chro Y__N__

FEDERAL MECHANICAL SIREN

One (1) Federal Signal Q2B-NN mechanical siren, model Q2B-012NNSD, shall be partially recess mounted into the left side of the front bumper. The grille will be outside the bumper. The "Q" siren shall feature a highly polished chrome body and grille. The siren's distinctive mechanical wail sound shall produce 123 db at 10'. The siren control switch(es) shall be installed in the cab.

One (1) Siren Control, Fed-Sig, Q2B, Driver's Side Foot Switch Y__N__

SIREN CONTROL

A foot switch shall be provided on the driver's side of the cab floor to activate the Federal Signal Q2B siren.

One (1) Siren Control, Fed-Sig, Q2B, Rocker, Dual Action, Red, Console Y__N__

Q SIREN CONTROL

A red dual action momentary rocker switch shall be installed into the cab console to activate the Federal Signal Q2B siren. Pushing the switch up shall activate the Q siren, and pushing the switch down shall activate the brake function.

One (1) Light Bar, Whelen, Justice, LED, 56" JE2NFPA Y__N__

LIGHTBAR

One (1) Whelen Justice series light bar shall be included with the apparatus cab. The light bar shall be a model JE2NFPA and shall be mounted on the roof of the cab, towards the front, above the windshield.

The light bar shall feature:

- A 56" light bar designed for high performance
- Four (4) red Linear Super LED corner modules
- Four (4) red CON3 LED hinged modules
- Two (2) white CON3 LED hinged modules with exterior clear optic lenses
- Clear hard coated lenses to provide extended life/luster protection against UV & chemical stresses
- Designed in accordance with NFPA Zone A requirements

One (1) Warning Light Control, with E-Master Warning Switch Y__N__

WARNING LIGHT ACTIVATION

The warning lights shall be activated through the master warning switch.

One (1) Warning Lights, Whelen, Low Front, (2) M6 LED Y__N__

LOWER FRONT WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side on the front of the chassis cab. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1) Warning Lights, Whelen, Intersection, (2) M6 LED Y__N__

INTERSECTION WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed one each side of the bumper. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1) Warning Lights, Whelen, Lower Mid Body (2) M6 LED Y__N__

LOWER MID-BODY WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side of the apparatus, mid-body. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1) Warning Lights, Whelen, Lower Rear Side (2) M2W LED, in Rub Rail Y__N__

LOWER REAR SIDE WARNING LIGHTS

One (1) pair of Whelen model M2 LED warning lights shall be installed, one each side of the apparatus, towards the rear of the body, in the rub rail. The dimensions of the lights shall be 4-1/4" x 2-11/16".

One (1) Warning Lights, Whelen, Upper Rear Body (2) S-LED Rotary L31 P/N L31*F Y__N__

UPPER REAR WARNING LIGHTS

One (1) pair of Whelen Super LED, rotating beacons, P/N L31H*F, shall be installed, one each side on the upper rear of the apparatus body. The unit shall have dimensions of 4" high x 7-9/16" deep.

One (1) Stanchions, Rear Warning Light, Cast Alum Y__N__

REAR WARNING LIGHT MOUNTING

The upper rear lights shall be mounted on cast aluminum stanchions attached to the apparatus body, one on each side.

One (1) Warning Lights, Whelen, Lower Rear Body (2) M6 LED Y__N__

LOWER REAR WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side on the lower rear of the apparatus body. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1) Compartment LED Strip Light, (1) Each Compartment (approx. 24") Y__N__

COMPARTMENT LIGHT

A label shall be installed in the cab to indicate seating positions for firefighters. A weight allowance of 250 pounds for each shall be factored into the gross vehicle weight rating of the chassis.

One (1) Label, "Caution: Do Not Wear Helmet While Seated" Y__N__

HELMET WARNING TAG

A label shall be installed in the cab, visible from each seating position. The label shall read "CAUTION: DO NOT WEAR HELMET WHILE SEATED." Helmets must be properly stowed while the vehicle is in motion according to the current edition of NFPA 1901.

One (1) Tow Plates (2), Rear Frame Rail, Under Step Y__N__

REAR TOWING PROVISIONS

There shall be two tow eyes furnished under the rear of the body and attached directly to the chassis frame rails. There shall be a reinforcement spreader bar connecting the two tow eyes. Tow eyes are to be constructed of 3/8" plate steel with a 4" I.D. hole, large enough for passing through a tow chain end hook.

One (1) Bumper Extension, 24", By Body Builder Y__N__

BUMPER EXTENSION

The chassis frame shall be extended 24" with reinforced steel angle and structural channel by the body builder. The extension shall be designed to support the bumper and other equipment to be installed.

One (1) Bumper Gravelshield, 24", By Body Builder Y__N__

FRONT BUMPER GRAVELSHIELD

A 24" front to rear filler panel constructed from NFPA compliant, slip resistant aluminum tread plate shall be provided on the front chassis frame extension. The extension shall be covered on the top and sides, up to the level of front bumper and shall be reinforced to support one (1) firefighter (approximately 250 pounds) and the equipment specified to be installed.

One (1) Crosslay Style (Open Ended) Hose bed Y__N__

FRONT BUMPER HOSEBED

A recessed full width hose bed constructed from smooth aluminum shall be installed in the front bumper extension. The hose bed shall be open to the sides of the bumper extension.

Water drain holes shall be provided in the bottom.

One (1) 150-ft of 1-3/4-in Hose Capacity Y__N__

One (1) Full Width Divider- to provide storage area in rearward portion of space Y__N__

DIVIDER

A divider shall be provided in the front bumper crosslay, to allow the rearward portion of the space to be utilized for storage of rescue tools.

The front portion shall be designed for 150' of 1-3/4" hose w/ nozzle.

One (1) Aluminum T/P Door, Raised Full Width, Front Bumper Compartment Y__N__

BUMPER COMPARTMENT DOOR

The front bumper compartment shall be equipped with a raised aluminum treadplate door for the full width of the compartment.

One (1) Gas Shock, Bumper Compartment Door Y__N__

BUMPER COMPARTMENT DOOR SHOCK

A gas shock shall be supplied to hold the front bumper compartment door in the open position.

One (1) Bumper, Heavy Duty Steel, Angled Corners, Painted Y__N__

HEAVY DUTY FRONT BUMPER

The chassis shall feature a heavy duty bumper constructed from ASTM A36, 1/4" thick steel and painted primary job color. The bumper shall be 12" high by 102" wide with two inch (2") flanges and chamfered corners.

The bumper shall be mitered inward from the outer edges of the frame rails and welded at the miter. The bumper shall be primed and painted to match the chassis color.

Integral heavy duty steel bumper "wings" shall extend from the bumper to the cab.

A contoured apron/gravel shield fabricated from NFPA compliant, slip-resistant polished aluminum shall enclose the area between the bumper and the cab.

VINYL CROSSLAY END FLAPS

The crosslay hose bed shall be equipped with end flaps and shall be secured utilizing a hook and loop fastening system at the sides of the crosslay hose bed.

One (1) Vinyl Color, BLACK Y__N__

One (1) Tow Hooks Painted Rearward Mount (Pair) Y__N__

TOW HOOKS

Two (2) tow hooks shall be mounted to the bumper extension under the bumper towards the rearward section of the extension. The tow hooks shall be steel and shall be painted black.

One (1) Tire Pressure Indicator, Tandem Axle, Commercial, RWTG1235 Y__N__

TIRE PRESSURE INDICATOR

There shall be a tire pressure indicator, p/n RWTG1235, at each tire's valve stem on the vehicle that shall indicate if there is insufficient pressure in the specific tire.

One (1) Mud Flaps, Rear Wheels, Black, w/ Body Y__N__

REAR MUD FLAPS

A pair of black mud flaps shall be installed behind the rear wheels.

One (1) Pump Flow Rating, Waterous, CXK, 1500 GPM Y__N__

1500 GPM FIRE PUMP SPECIFICATIONS

The centrifugal type fire pump shall be a Waterous model CXK with a rated capacity of 1500 GPM. The pump shall meet NFPA 1901 requirements.

The pump shall be certified to meet the following deliveries:

1500 GPM @ 150 PSI

1500 GPM @ 165 PSI

1050 GPM @ 200 PSI

750 GPM @ 250 PSI

One (1) Pump, Waterous, CXVK, PTO, 1 Stage Y__N__

WATEROUS CXVK SINGLE STAGE PUMP

A Waterous model CXVK fire pump shall be midship mounted, single-stage centrifugal type and shall meet the requirements of the NFPA 1901 standard. The pump must be tested by the pump manufacturer for 10 minutes hydrostatically at a pressure of 350 psig. Certification by the pump manufacturer must be provided.

IMPELLER

The bronze impeller shall be specifically designed for the fire service. The impeller shall be accurately balanced, both mechanically and hydraulically, for vibration free operation. The impeller shaft shall be stainless steel heat-treated and precisely ground to size and supported on both ends by oil or grease lubricated ball bearings.

The wear rings shall be replaceable, bronze, reverse-flow, labyrinth-type. The fire pump shall have deep groove ball bearings located outside the pump to give rugged support and proper alignment to the impeller shaft. Bearings shall be oil or grease lubricated. All pump bearings shall be completely separated from the water being pumped.

PUMP MOUNTING

The pump shall be bolted to steel angles in pump module, using grade 8 bolts.

The midship mounted fire pump shall be mounted with steel angles and channel from the frame using grade 8 bolts, to both the frame and pump to permit removal of the pump for service. The pump shall be equipped with bolt flanges or Victaulic couplings on the suction and discharge side of the pump to provide for removal of fire pump without disturbing piping.

DRIVE LINE

Fire pump shall be driven by a heavy duty 10 bolt PTO capable of enough torque to operate the fire pump at rated capacity for continuous duty. The PTO shall be of a "Hot Shift" style.

Hollow-tube drivelines and universals shall be properly matched to the engine and transmission output torque ratings.

One (1) Pump Seal, Mech, Waterous Y__N__

FIRE PUMP MECHANICAL SHAFT SEAL

The Waterous fire pump shall be equipped with self-adjusting, maintenance free, 'mechanical shaft seal' which is designed to be functional in the unlikely event of a seal failure.

One (1) Pump Impeller, Waterous, Standard Hubs Y__N__

IMPELLER HUBS

The Waterous fire pump impeller hubs shall be standard bronze type.

One (1) Pump Shift, Waterous, PTO, Pump and Roll Y__N__

PTO PUMP SHIFT SPECIFICATIONS -- PUMP AND ROLL

An electric powered PTO pump shift shall be installed in the cab driver's area where not subject to accidental engagement.

A rocker switch for PTO pump engagement shall be installed in the cab driver's area. The pump shift system shall permit "pump and roll" operations, as well as stationary pumping operations.

The following indicator lights shall be included with pump shift.

1. A green indicator light, labeled "PUMP ENGAGED" shall indicate pump PTO has successfully been engaged.
2. A green indicator light, labeled "OK TO PUMP" shall indicate the PTO is engaged and parking brake is activated. Pump control is through the pressure governor.
3. A red flashing indicator light, labeled "PUMP & ROLL" shall indicate the PTO is engaged and parking brake is released. Pump control is through the driver's throttle pedal.
4. Pump shift and interlocks shall comply with applicable sections of the NFPA standards.
5. An instruction label and nameplate shall be provided to indicate proper pump engagement instructions.

One (1) Primer, Trident Air Primer, Automatic

Y__N__

TRIDENT PRIMER – AUTOMATIC

An automatic fire pump priming system shall be provided and installed. The system shall be oil-less type and environmentally safe. Once engaged, the system shall be fully automatic and not require any action from the pump operator/engineer when pump draft is lost. This feature provides an additional safety margin by maintaining pump flow from the available water source automatically during drafting operations. When air is introduced during a drafting operation from conditions such as whirlpools or turbulence from porta-tank refill operations, the priming system shall automatically engage to remove the air and stabilize water flow and pump pressure. For additional safety, the entire system shall operate at less than 70dBA of ambient noise.

The priming system shall engage automatically whenever the pump discharge falls below five (5) psi and shall remain engaged until a pump prime has been achieved. The priming system shall automatically disengage when a positive pump discharge pressure has been established. The electrical current draw from the chassis batteries shall not exceed four (4) amps at any given time of operation and allow for unlimited run time without causing an overheat condition for of any of the system components.

A single engagement switch shall be provided on the pump control panel that will allow the operator to engage the automatic pump priming system. There shall be a light provided on the pump control panel to indicate when the system is engaged. The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose of appropriate size. The priming system shall comply with applicable sections of NFPA standards.

One (1) Primer Control - Main Pump Rocker Switch

Y__N__

PRIMER CONTROL

A rocker switch control shall be provided on the pump operator's panel, for the main pump primer control.

One (1) Pump Installation, Midship PTO, By Body Builder

Y__N__

MIDSHIP FIRE PUMP DRIVESHAFTS AND INSTALLATION

The midship PTO fire pump shall be installed and shall include installation of the fire pump, modification and/or fabrication of new drivelines and all pump-mounting brackets. The PTO drive shaft(s) shall be spin balanced prior to final installation.

One (1) Pump Test, Pumper, UL

Y__N__

UNDERWRITERS LABORATORIES FIRE PUMP TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per applicable sections of NFPA standards, prior to delivery of the completed apparatus.

The UL acceptance certificate shall be furnished with the apparatus on delivery.

One (1) Pump Test, Label

Y__N__

FIRE PUMP TEST LABEL

A fire pump performance and rating label shall be installed on the fire apparatus pump panel. The label shall denote levels of pump performance and testing completed at factory. These shall include GPM at net pump pressure, RPM at such level, and other pertinent data as required by applicable NFPA standards. In addition, the pressure control device, tank to pump flow tests, and other required testing shall be completed.

In addition, the entire pump, suction and discharge passages shall be hydrostatically tested to a pressure as required by applicable NFPA standards. The pump shall be fully tested at the pump manufacturer's factory to the performance specifications as outlined by applicable NFPA standards. Pump shall be free from objectionable pulsation and vibration.

If applicable, the fire pump shall be tested and rated as follows:

- 100% of rated capacity at 150 pounds net pressure.
- 70% of rated capacity at 200 pounds net pressure.
- 50% of rated capacity at 250 pounds net pressure.

- 100% or rated capacity at 165 pounds net pressure.

One (1) Dump-Relief Valve, Suction Side, TFT A18 Y__N__

INTAKE RELIEF/DUMP VALVE

A TFT A18 series, 2-1/2" intake relief/dump valve preset at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 250 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

Discharge side of the intake relief valve shall be plumbed away from the pump operator.

One (1) Pump Cooler, Bypass-To-Tank, 3/8" Y__N__

FIRE PUMP COOLING

The fire pump shall be equipped with 3/8" cooling line from the pump to the water tank. This re-circulation line shall be controlled by a pump panel control valve with nameplate label noting it as the "fire pump bypass cooler". There shall be a check valve installed in the pump cooler line to prevent tank water from back flowing into the pump when it is not in use.

One (1) Heat Exchanger, Engine, Hook-Up Only Y__N__

CHASSIS ENGINE HEAT EXCHANGER COOLING SYSTEM

The apparatus shall be equipped with a heat exchanger for supplementary chassis engine cooling during fire pump operations. A manually opened valve, mounted at the operator's panel, shall direct water from the fire pump to the heat exchanger that is mounted in the engine radiator cooling hose. The system shall provide cooling water from the fire pump to circulate around the engine radiator coolant without mixing or coming in direct contact with the engine coolant.

A nameplate label shall be installed on the pump panel noting "engine cooling system" with "on-off" opening directions noted.

One (1) Screens/Anodes, Pump Y__N__

PUMP ANODES

There shall be sacrificial, zinc anodes in the pump steamer ports which shall protect the pump and piping from electrolysis. These anodes shall also act as screens.

One (1) Piping, SST - 1250 GPM & Up Y__N__

PUMP PLUMBING SYSTEM

The fire pump plumbing system shall be of rigid stainless steel pipe or flexible piping with stainless steel fittings. Mechanical grooved couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Flexible hose couplings shall be threaded stainless steel or mechanical grooved coupling connections.

The fire pump and plumbing shall be hydrostatically tested in compliance to applicable sections of NFPA standards. The test results shall be included in the delivery documentation.

Three (3) FOAM Capable Discharge Y__N__

Three (3) specified discharges shall be plumbed for foam.

Two (2) 200-ft of 1-3/4-in Hose Capacity Y__N__

Each crosslay hose bed shall provide for a minimum capacity of 200 feet of 1-3/4" diameter double jacket hose with the hose and nozzle provided by the fire department.

One (1) 150-ft of 1-3/4-in Hose Capacity Y__N__

The front bumper crosslay hose bed shall provide for a minimum capacity of 150 feet of 1-3/4" diameter double jacket hose with the hose and nozzle provided by the fire department.

One (1) Pump Drain, Master, Manifold, Push Pull Type Y__N__

FIRE PUMP MASTER DRAIN

The fire pump plumbing system and fire pump shall be piped to a single push-pull type master pump drain assembly.

ADDITIONAL LOW POINT DRAINS

The plumbing system shall be equipped with additional low point manually operated drain valves to allow total draining of the fire pump plumbing system. These valves shall be accessible from the side of the vehicle and labeled.

One (1) Drain/Bleeder, Class 1, Automatic Y__N__

A Class 1 automatic type 3/4" bleeder valve shall be installed.

One (1) Drain/Bleeder, IC Lift-Up, Manual 1/4 Turn Y__N__

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift, to open and push down, to close.

Two (2) Drain/Bleeder, IC Lift-Up, Manual 1/4 Turn Y__N__

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift, to open and push down, to close.

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One (1) Intake Manifold, Stainless Steel Y__N__

STAINLESS STEEL INTAKE MANIFOLD

The suction manifold assembly shall be fabricated with Schedule #10 type 304 stainless steel. All threaded fittings shall be a minimum of Schedule 10 stainless steel. The suction manifold assembly shall have radiused sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to installation. The stainless steel manifold assembly shall be attached to the pump intake volute with a heavy-duty, flexible Victaulic coupling.

The stainless steel manifold assembly shall have a ten (10) year warranty.

One (1) Discharge Manifold, Stainless Steel Y__N__

STAINLESS STEEL DISCHARGE MANIFOLD

The discharge manifold assembly shall be fabricated with minimum of Schedule #10 Type 304 stainless steel. All threaded fittings shall be a minimum of Schedule #40 stainless steel. The discharge manifold assembly shall have radiused sweep elbows to minimize water turbulence. The manifold shall be welded and pressure tested prior to installation. The stainless steel manifold inlet shall be attached to the pump discharge and have additional brackets as required to support the discharge manifold, valves and related components.

The stainless steel manifold assembly shall have a ten (10) year warranty.

One (1) Unpainted, Pump & Piping Y__N__

PLUMBING SYSTEM

The plumbing system shall be unpainted.

One (1) Threads, National Hose (NST) Y__N__

HOSE THREADS

The hose threads shall be National Standard Thread (NST) on all base threads on the apparatus intakes and discharges.

One (1) Intake, Ungated, 6", LH Side Y__N__

LEFT SIDE -- 6" UNGATED INTAKE

One (1) 6" ungated suction intake shall be installed on the left side pump panel to supply the fire pump from an external water supply. The threads shall be 6" NST. The intake shall be provided with a removable screen.

One (1) Intake, Ungated, 6", RH Side Y__N__

RIGHT SIDE -- 6" UNGATED INTAKE

One (1) 6" ungated suction intake shall be installed on the right side pump panel to supply the fire pump from an external water supply. The intake shall be provided with a removable screen.

One (1) Intake, Auxiliary, Gated, 2-1/2", NST, Left Side Y__N__

LEFT SIDE -- 2-1/2" GATED INTAKE

One (1) 2-1/2" gated suction intake shall be installed on left side pump panel to supply the fire pump from an external water supply. The control valve shall be a quarter turn ball valve and shall have 2-1/2" NST female thread of chrome plated brass.

The intake shall be equipped with a 3/4" drain and bleeder valve. A nameplate label and removable screen shall be installed.

One (1) Plug, 2-1/2", Chrome Rocker Lug, w/Chain Y__N__

A 2-1/2" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain or cable securement.

One (1) Cap, 6", Chrome Long Handle Y__N__

A 6" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1) Cap, 6", Chrome Long Handle Y__N__

A 6" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1) Dual Tank to Pump Controls - Pump Operator's Panel & Chassis Cab (2) Y__N__
Controllers

The tank to pump valve shall be controlled at the pump operator's panel with one controller and the chassis cab's switch panel with a second controller.

One (1) Tank-To-Pump, Water Tank, 3" Valve/4" Piping, PTO/Crossmount Y__N__

WATER TANK TO PUMP LINE

A 3" water tank to fire pump line shall be provided with a full flow quarter turn ball valve, 4" piping, and with flex hose and stainless steel hose clamps. The tank to pump line shall be equipped with a check valve to prevent pressurization of the water tank.

The line shall be flow tested during the fire pump testing and shall meet applicable requirements of NFPA standards.

One (1) Intake Valve Control, Pull Rod, 1/4 Turn, AKR - IC Y__N__

An Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature shall be provided on the intake. The handle shall be equipped with a color-coded name plate.

One (1) Intake Valve Control, AKR, Manual Swing Type-Adjacent Y__N__

The valve shall be equipped with a manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1) Tank Fill/Cooling Line, Water Tank, 2" Y__N__

FIRE PUMP TO WATER TANK FILL LINE

A 2" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve with 2" piping and flex hose to tank. The valve control handle shall have a nameplate located near the valve control.

One (1) Discharge, 1-1/2" NST Front Bumper Crosslay Y__N__

FRONT BUMPER - 1-1/2" CROSSLAY DISCHARGE

A 1-3/4" front bumper crosslay installed at the bumper deck area. The discharge shall be supplied by a 2" quarter turn full flow ball valve at the pump panel. The discharge shall terminate with a swivel with 2" NPT female x 1-1/2" male NST hose threads. The swivel shall be mounted in the base of hose bed and plumbing shall not hang below the bumper level.

The plumbing shall be flexible hose with abrasion resistant support mountings. Auxiliary low point drains shall be provided on the discharge line.

The crosslay hose bed shall be constructed of smooth aluminum with a minimum capacity of 200 feet of fire department supplied 1-3/4" diameter double jacket hose and nozzle.

The hose bed grating shall be equipped with drain holes.

One (1) Crosslay Discharges, (2) 1-1/2", Over Pump Panel, NST w/divider Y__N__

TWO (2) 1-1/2" CROSSLAY DISCHARGES

Two (2) pre-connect 1-3/4" hose crosslays shall be installed over pump enclosure, with quarter turn 2" diameter ball valves. The outlets shall be a 2" NPT female swivel x 1-1/2" male NST hose threads.

The crosslay hose beds shall have smooth aluminum sides. The hose bed decking shall be constructed with slots integrated into the hose bed floor. Dividers shall be installed to separate the crosslay beds.

One (1) Crosslay Cover, Alum T/P, Single, W/Vinyl End Flaps (Non NFPA Walking Surface) Y__N__

CROSSLAY HINGED COVER WITH END FLAPS

The crosslay hose bed shall be equipped with a single aluminum diamond plate hinged cover with vinyl end flaps with hook & loop fasteners. The cover shall have rubber bumpers, latching devices, and lift up handle on each end of the cover.

The hose bed cover shall be labeled, "Not a Standing or Walking Surface", per NFPA.

One (1) Crosslay Cover, Alum T/P, Single, W/Vinyl End Flaps (Non NFPA Walking Surface) Y__N__

CROSSLAY HINGED COVER WITH END FLAPS

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The hose bed cover shall be labeled, "Not a Standing or Walking Surface", per NFPA.

One (1) Crosslay Trim, Alum Angles, Both Sides Y__N__

CROSSLAY HOSE BED TRIM

The crosslay hose bed shall be equipped anodized aluminum angle overlays, one on each end of the hose bed.

One (1) Crosslay Discharges, Over Pump Panel, Normal Height Y__N__

CROSSLAY HOSEBEDS

Crosslay hose bed(s) shall be mounted over the upper pump panel or gauge panel in the upper portion of the pump enclosure. The crosslay hose bed shall be approximately 12" from the top of the pump enclosure.

Two (2) Discharge, 2-1/2", Left Side, Pump Panel, NST Y__N__

LEFT SIDE PUMP PANEL -- 2-1/2" DISCHARGE

Two (2) 2-1/2" discharge shall be installed on the left side pump panel area and shall be controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NST male hose threads. A color coded nameplate label shall be provided adjacent the control handle.

One (1) Discharge, 2-1/2", Right Side, Pump Panel, NST Y__N__

RIGHT SIDE PUMP PANEL -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the right side pump panel area and shall be controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NST male hose threads. A color coded nameplate label shall be provided adjacent the control handle.

One (1) Discharge, 3" x 4"NST, Right Side, Pump Panel, NST Y__N__

RIGHT SIDE PUMP PANEL -- 3" x 4" DISCHARGE

One (1) 3" discharge shall be installed on the right side pump panel area and shall be controlled by a full flow 3" slow-close quarter turn ball valve. The discharge shall have 4" NST male hose threads. A color coded nameplate label shall be provided adjacent the control handle.

One (1) Discharge, 2-1/2", Right Rear, NST Y__N__

REAR RIGHT SIDE -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the right side rear panel of the apparatus body and shall be controlled by a quarter turn ball valve on the pump panel. The discharge shall have 2-1/2" NPT x 2-1/2" NST male hose threads. The outlet shall be equipped with an engraved nameplate label shall be installed adjacent the valve control handle.

Two (2) Elbow, 2-1/2"F x 2-1/2" NST M, Chrome Y__N__

Two (2) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1) Elbow, 2-1/2"F x 2-1/2" NST M, Chrome Y__N__

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1) Elbow, 2-1/2"F x 2-1/2" NST M, Chrome Y__N__

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1) Elbow, LW Alum, 5" Storz x 4"F Y__N__

One (1) lightweight aluminum elbow with 30 degree slant shall be provided. Threads shall be 5" Storz with lugs and manual locks x 4" female swivel NST with rocker lugs.

Two (2) Cap, 1-1/2", NST Chrome, Rocker Lug, w/Chain Y__N__

Two (2) 1-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

Two (2) Cap, 2-1/2", NST Chrome, Rocker Lug, w/Chain Y__N__

Two (2) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1) Cap, 2-1/2", NST Chrome, Rocker Lug, w/Chain Y__N__

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1) Cap, 2-1/2", NST Chrome, Rocker Lug, w/Chain Y__N__

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1) Cap, LW Alum, 5" Storz, w/Cable Y__N__

One (1) 5" lightweight aluminum Storz cap with cable or chain securement shall be provided.

One (1) Monitor Discharge, 3", Over Midship Pump Enclosure, NPT Y__N__

3" MONITOR DISCHARGE

One (1) 3" discharge shall be piped to the area over the pump enclosure with 3" NPT male threads provided. The pipe shall be equipped with Victaulic couplings (if necessary) and shall be properly secured to prevent movement when a monitor or deck gun is attached. The quarter turn ball valve shall be controlled on pump panel.

A color coded nameplate label shall be provided adjacent the valve control handle.

Two (2) Discharge Valve Control, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge Y__N__

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

Two (2) Discharge Valve Control, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge Y__N__

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

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color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1) Discharge Valve Control, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge Y__N__

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1) Discharge Valve Control, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge Y__N__

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1) Discharge Valve Control, Pull Rod, 1/4 Turn, SM, AKR Slow Close - IC w/Gauge Y__N__

One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature and a manual slow-close device shall be provided on the specified discharge. The handle shall be equipped with color-coded name plate.

One (1) Discharge Valve Control, AKR, 3" Elec, #9333 Y__N__

One (1) Akron valve equipped with an Akron Navigator 9333 controller and a 12 volt electric motor actuator shall be provided on the specified 3" discharge. The controller shall be push button type and provide position indication through a full color backlit LCD display. It shall have manual adjustment of

the brightness as well as an auto-dimming option. A color-coded name plate shall be installed over the valve control.

One (1) Valve Control, AKR, 3.0" Elec, KZCO, TSL Controller Y__N__

The valve shall be equipped with a KZCO KZ Valve Model EH-5 12 volt electric actuator. The valve control shall be a TSL controller with indicator light provided. When the valve is open, the indicator light shall illuminate. When the valve is closed the indicator light shall be off.

The control shall be properly identified with a color-coded name plate.

Two (2) Valve, AKR, 8000, (2") Y__N__

The specified valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

One (1) Valve, AKR, 8000, (2") Y__N__

The specified valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

Two (2) Valve, AKR, 8000, (2-1/2") Y__N__

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1) Valve, AKR, 8000, (2-1/2") Y__N__

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1) Valve, AKR, 8000, (2-1/2") Y__N__

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1) Valve, AKR, 8000, (3") Y__N__

The specified valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1) Valve, AKR, 8000, (3"), Electric Y__N__

The specified valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1) Valve, AKR, 8000, (2") Y__N__

The valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

One (1) Valve, AKR, 8000, (2-1/2") Y__N__

The valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1) Valve, AKR, 8000, (3"), KZCO Electric

Y__N__

The valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1) Foam System, F/PRO 1600, Class A, 1.7G, 12V

Y__N__

FOAM PRO FOAM SYSTEM

A FoamPro 1600 electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flow meter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flow meter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

- Activate the foam proportioning system
- Select the proportioning rates from 0.1% to 1.0%
- See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM (6.4L/min) at 200 PSI (1400 kPa) with a maximum operating pressure up to 400 PSI (2750 kPa). The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 horsepower (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI (35 kPa) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

- Operator control module

- Paddlewheel flow meter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam tank
- Foam injection check valve
- Main waterway check valve
- Flow meter and tee

The foam system shall be installed and calibrated to manufacturer's requirements. In addition the system shall be tested and certified by the apparatus manufacturer to meet applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance to SAE standards. The system shall be third party tested to certify compliance with RFI/EMI emissions per MIL-STD-416E.

An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

CONTROL CONNECTION CABLE -- FOAM SYSTEM

The FoamPro 1600 Series foam system shall be provided with a twelve (12) foot control cable from the controller to the foam pump assembly.

PUMP PANEL CONTROL -- FOAM SYSTEM

The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head.

FLOWMETER AND TEE -- FOAM SYSTEM

A FoamPro brass flow meter shall be provided. The flow meter shall be installed in the "foam capable" discharge line. The flow meter shall have maximum accuracy between the flow range of 10 GPM and 320 GPM and be capable of operation between 3 GPM to 380 GPM.

LOW-LEVEL TANK SENSOR FOAM TANK

A FoamPro low-level foam tank sensor shall be provided. The sensor shall be capable of mounting side of foam tank that shall interface with the microprocessor. The unit shall have a 1/8" NPT thread size.

MAIN WATERWAY CHECK VALVE -- FOAM SYSTEM

be attached to the fill tower by mechanical means. The fill opening shall be designed to incorporate a 1/4 inch removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped directly to the bottom of the tank to minimize aeration without the use of funnels or other special devices.

The foam tank fill tower shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color coded label or visible permanent marking that reads "FOAM TANK FILL" shall be placed at or near any foam concentrate tank fills opening. A label shall be placed at or near any foam concentrate tank fill opening that specifies the type of foam concentrate the system is designed to use. Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, and a warning message that reads "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

The foam concentrate tank outlet connection shall be designed and located to prevent aeration of the foam concentrate and shall allow withdrawal of 80 percent of the foam concentrate tank storage capacity under all operating conditions with the vehicle level.

One (1) Foam Tank Drain, Class 1" Ball Valve, Under Tank Y__N__

FOAM TANK DRAIN -- UNDER TANK

The foam tank shall have a 1" Class 1 ball valve drain provision installed.

Two (2) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

Two (2) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

Two (2) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

Two (2) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

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One (1) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1) Gauge, Discharge, IC, 2-1/2" (0-400 PSI), WF Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1) Gauge, Discharge, Digital, In Cab, Pump and Roll Y__N__

IN-CAB DIGITAL PUMP AND ROLL DISCHARGE PRESSURE GAUGE

One (1) digital pressure gauge shall be provided. The gauge display shall be a waterproof display with super-bright digits at least 1/2" high. A weatherproof transducer (transmitter) shall be installed in the appropriate location in the piping system. The gauges will be located in the chassis cab for pump and roll operations.

One (1) Pressure Governor, FRC, Pump Boss Max PBA500-A10 Series, w/Body Single Y__N__
Sensor

PRESSURE GOVERNOR AND MONITORING DISPLAY

A Fire Research PumpBoss Max series PBA500-A10 pressure governor and control module kit shall be installed. The kit shall include a control module, discharge pressure sensor, and cables. The control module housing shall be waterproof and have dimensions not to exceed 7 1/2" high by 3 5/8" wide. 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 2" from the front of the control module. The control LCD shall be 3.5" in size with a minimum brightness of 1000 nits and optically bonded to 3mm Borofloat Glass. Inputs for monitored engine information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus or engine specific signal wiring. Inputs from the pump discharge pressure sensor shall be electrical.

The following continuous displays shall be provided:

- Engine RPM; shown on LCD screen

- Check engine and stop engine warning; shown on LCD screen
- Engine oil pressure; shown on LCD screen
- Engine coolant temperature; shown on LCD screen
- Transmission Temperature; shown on LCD screen
- Battery voltage; shown on LCD screen
- Pressure and RPM operating mode LEDs
- Pressure / RPM setting; shown on LCD screen
- Throttle ready / Ok to Pump LEDs.

On screen (LCD) 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. LCD Screen and LED's 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:

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

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

The pressure governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready and Ok to Pump LED shall light when the interlock signal is recognized. The pressure governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the pressure governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The pressure governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor control module shall be programmed at installation for a specific engine.

One (1) Foam Tank Gauge, FRC TankVision Pro 300, Class A, Pump Panel #WLA360- Y__N__
A00

CLASS A FOAM TANK GAUGE

A Fire Research TankVision Pro model WLA360-A00 foam tank indicator kit shall be installed at the operator's panel. The kit shall include an electronic indicator module, a pressure sensor, a 10-ft sensor cable and a tank vent. The indicator shall show the volume of Class A foam concentrate in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of Polycarbonate/Nylon, and have a distinctive green label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a datalink to connect remote indicators. Low foam warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the foam tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors. The foam tank vent shall be installed on the foam fill tower.

One (1) Vinyl Color, BLACK Y__N__

The vinyl cover shall be black in color.

One (1) Vinyl Color, BLACK Y__N__

The vinyl cover shall be black in color.

One (1) == Pumper/Tanker-Side Mount Pump Compt - 401.025 04/01/25 == Y__N__

SIDE MOUNT PUMP ENCLOSURE

The side mount pump enclosure shall be removable and supported from the chassis frame rails. This enclosure will allow independent flexing of the pump enclosure from the body and allow for quick removal. The support structure shall be constructed of extruded aluminum tubing and angle.

All pump suction and discharge controls are to be mounted on the driver side pump operator's panel so as to permit operation of the pump from a central location. The fire pump, valves and controls shall be accessible for service and maintenance as required by applicable sections of NFPA standards.

The "master" gauges shall be suitably enclosed and mounted on a full pump compartment width "hinged" gauge panel constructed of the same material as the pump operators control panel, allowing access to the backside of all gauges and gauge lines. The individual gauges shall be mounted inline with the control handle or adjacent to the control handle. Panel is to include a stainless steel piano hinge, flush mounted chrome plated trigger latch, and stainless steel cable end stops. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.

The following controls and equipment as specified in the specifications, shall be provided on the pump panel or within the pump enclosure:

- Primer.
- Pump and plumbing area service lights.
- Pressure control device and throttle control.
- Fire pump and engine instruments.
- Pump intakes and discharge controls.
- Master intake and discharge gauges.
- Tank fill control.
- Tank suction control.
- Water tank level gauge.
- Pump panel lights.

CROSSLAY INSTALLATION

The area atop the pump enclosure shall be notched for the installation of a crosslay hose bed. The hose bed shall have smooth sides and a perforated floor to allow for drainage. Provisions shall be provided to secure hose and equipment per requirements of applicable NFPA standards.

One (1) Running Board, LH Pump Panel, Alum T/P, SM Y__N__

LEFT SIDE RUNNING BOARD -- SIDE MOUNT PANEL

The left side mount pump panel shall be equipped with side running board. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab.

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1) Running Board, RH Pump Panel, Alum T/P, SM Y__N__

RIGHT SIDE RUNNING BOARD -- SIDE MOUNT PANEL

The right side mount pump panel shall be equipped with side running board. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab.

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1) Hosewell, Running Board, Pump Panel, RH Y__N__

HOSEWELL COMPARTMENT -- RIGHTSIDE RUNNING BOARD

A hosewell shall be recessed in the right side running board of the apparatus pump panel. The hosewell shall be constructed of aluminum material and shall be provided with drain holes drilled in each bottom corner with plastic grating on the floor.

The hose and couplings shall be secured in compliance to applicable NFPA standards.

Capacity for the following purchaser supplied hose:

One (1) Hosewell, Running Board, Velcro Straps, Y__N__

HOSE WELL SECUREMENT

There shall be two (2) Velcro straps provided for the securement of the hose in the running board hose well.

One (1) Pump Side Access Door, Upper RH, Alum T/P Y__N__

PUMP ENCLOSURE ACCESS DOOR -- RIGHT SIDE UPPER

A pump panel access door shall be provided on the upper right side of the side mount pump enclosure. The access door shall be approximately 18" high and as wide as possible. The door shall be constructed of aluminum tread plate with push button type latches.

One (1) Pump Panel, Bolted, LH Y__N__

LEFT SIDE PUMP PANEL -- BOLTED

The pump panel installed on the left hand side of the pump enclosure shall be fastened to the pump enclosure with 1/4" stainless steel bolts.

One (1) Pump Panel, Bolted, RH Y__N__

RIGHT SIDE PUMP PANEL -- BOLTED

The pump panel installed on the right hand side of the pump enclosure shall be fastened to the pump enclosure with 1/4" stainless steel bolts.

One (1) Pump Panel, Line X, LH/RH, SM Y__N__

PUMP PANEL -- SIDE MOUNT

The pump operator's panel, along with the lower left hand and right hand pump panels shall be constructed of Line-X aluminum material and be fastened to the pump enclosure with 1/4" stainless steel bolts.

The instrument area shall have a stainless steel continuous hinge that shall swing for easy access to gauges.

One (1) Labels, Test Data and Safety Placards Y__N__

LABELS

Safety, information, data, and instruction labels for apparatus shall be provided and installed at the operator's instrument panel.

The labels shall include rated capacities, pressure ratings, and engine speeds as determined by the certification tests. The no-load governed speed of the engine, as stated by the engine manufacturer, shall also be included.

The labels shall be provided with all information and be attached to the apparatus prior to delivery.

One (1) Labels, Innovative Controls Color Coded Y__N__

COLOR CODED PUMP PANEL LABELING AND NAMEPLATES

Discharge and intake valve controls shall be color coded in compliance to guidelines of applicable sections of NFPA standards.

Innovative Controls permanent type nameplates and instruction panels shall be installed on the pump panel for safe operation of the pumping equipment and controls.

One (1) Pump Panel LED Lights, (3) Tecniq E10-W0001-1, Midship LH w/Switch on Operator P Y__N__

MIDSHIP PUMP PANEL LIGHTS -- LEFT SIDE

Three (3) Tecniq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood on the left side pump panel. The lights shall be controlled by a switch located on the operator's instrument panel.

One (1) Pump Panel LED Lights (2), Midship RH, Tecniq E10-W0001-1 Y__N__

MIDSHIP PUMP PANEL LIGHTS -- RIGHT SIDE

Two (2) Tecniq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood on the right side pump panel. The lights shall be controlled by a switch located on the operator's instrument panel.

One (1) Pump Panel Light (1), Actuated w/Pump Engagement Y__N__

PUMP ENGAGED LIGHT

One (1) pump panel light shall be illuminated at the time the fire pump is engaged into operation. The remaining lights shall be controlled by a switch located on the operator's instrument panel.

One (1) Master Gauges, IC, 4" PSI, Pair Y__N__

MASTER DISCHARGE AND INTAKE GAUGES

Two (2) 4" diameter IC discharge pressure and intake gauges (30"-0-600 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

The master gauges shall have clear scratch resistant molded crystals with captive O-ring seals shall be used to ensure distortion free viewing and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40°F to +160°F. Each 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 brass bezel shall be provided to prevent corrosion and protect the lens and gauge case.

One (1) Gauge, Test Taps Y__N__

TEST TAPS

Test taps for pump intake and pump pressure shall be provided on the pump instrument panel and be properly labeled.

One (1) Water Tank Gauge, FRC, TankVision Pro 300, Pump Panel WLA300-A00 Y__N__

WATER TANK GAUGE

A Fire Research TankVision Pro model WLA300-A00 tank indicator kit shall be installed on the pump panel. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a datalink to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

One (1) Water Tank Gauge, Whelen PS TANK2 LED, Level Lights, (3 Lts), FRC Y__N__

WATER TANK LEVEL LIGHTS

Three (3) Whelen PS-TANK2 vertically mounted LED lights shall be installed one each side of the apparatus and one (1) on the rear to allow for monitoring the water tank level from a distance.

They shall be configured as follows:

- GREEN - Position 1 indicates FULL
- BLUE - Position 2 indicates 3/4
- AMBER - Position 3 indicates 1/2
- RED - Position 4 indicates 1/4

Each light shall remain illuminated until the water level drops below full 3/4, 1/2, or 1/4 levels. When the level drops below 1/4 the RED light will flash to indicate an empty tank. The Whelen PS-TANK water tank level lights shall be controlled with a Fire Research Corporation TankVision remote driver.

One (1) Mounting Location, Front Body Corners Y__N__

MOUNTING LOCATION

The tank level gauges shall be mounted, one each side of the front of the body.

One (1) Mounting Location, Rear Body Y__N__

MOUNTING LOCATION

The tank level gauge shall be mounted, on the rear of the body.

One (1) Intake Valve Control, AKR, Manual Swing Type-Adjacent Y__N__

The valve shall be equipped with a manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1) Valve, AKR, 8000, (2-1/2") Y__N__

The valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1) Water Tank, "T" Tank Y__N__

WATER TANK

The apparatus shall be equipped with a "T" shaped tank.

One (1) Water Tank, 3000 Gallon, Pumper/Tanker, Poly Y__N__

WATER TANK - 3000 GALLON

The apparatus shall be equipped with a three-thousand (3000) gallon polypropylene water tank. The tank shall be equipped with a standard four-inch (4") overflow pipe or a six-inch (6") pipe as required for dump chute operations. The overflow pipe shall dump behind the rear axle of the apparatus.

One (1) Water Tank, Base Specs, Poly Y__N__

The apparatus shall be equipped with a polypropylene water tank. The tank body and end bulkheads shall be constructed of .75" thick, polypropylene, nitrogen-welded and tested inside and out. Tank construction shall conform to applicable NFPA standards. The tank shall carry a lifetime warranty.

The transverse and longitudinal .375" thick swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments.

The .5" thick cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the booster tank.

A combination vent/water fill tower shall be provided at front of the tank. The 0.5" thick polypropylene fill and overflow tower shall be equipped with a hinged lid and a removable polypropylene screen. The overflow tube shall be installed in fill tower and piped with a minimum schedule 40 PVC pipe through the tank.

The water tank sump shall be located in the forward area of the tank. There will be a schedule 40 polypropylene tank suction pipe from the front of the tank to the tank sump. The tank drain and clean out shall be located in the bottom of the tank sump. The sump shall have a minimum 3" threaded outlet on the bottom to be used for a combination clean out and drain.

The pump to tank refill connection shall be a sized to mate with tank fill discharge line. A deflector shield inside the tank will also be provided.

The tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches, cross member spacing must be decreased to allow for not more than 400 square inches of unsupported area.

The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of 1/4" x 1" and a hardness of approximately 60 durometer. The rubber must be installed so it will not become dislodged during normal operation of the vehicle. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both in the front and rear as well as side to side to prevent tank from shifting during vehicle operation.

A picture frame type cradle mount with a minimum of 2" x 2" x 1/4" mild steel, stainless steel, or aluminum angle shall be provided or the use of corner angles having a minimum dimension of 4" x 4" x 1/4" by 6" high are permitted for the purpose of capturing the tank.

Although the tank is designed on a free floating suspension principle, it is required that the tank have adequate vertical hold down restraints to minimize movement during vehicle operation. If proper retention has not been incorporated into the apparatus hose floor structure, an optional mounting restraint system shall be located on top of the tank, half way between the front and the rear on each side of the tank. These stops can be constructed of steel, stainless steel or aluminum angle having minimum dimensions of 3" x 3" x 1/4" and shall be approximately 6" to 12" long. These brackets must incorporate rubber isolating pads with a minimum thickness of 1/4" inch and a hardness of 60 durometer affixed on the underside of the angle. The angle should then be bolted to the body side walls of the vehicle while extending down to rest on the top outside edge of the upper side wall of the tank.

Hose beds floors must be so designed that the floor slat supports extend full width from side wall to side wall and are not permitted to drop off the edge of the tank or in any way come in contact with the individual covers where a puncture could occur. Tank top must be capable of supporting loads up to 200 lbs per sq. foot when evenly distributed. Other equipment such as generators, portable pumps, etc.

must not be mounted directly to the tank top unless provisions have been designed into the tank for that purpose. The tank shall be completely removable without disturbing or dismantling the apparatus structure.

One (1) Water Tank, Manufacturer, No Preference, Poly Y__N__

The water tank shall be certified for the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's record of construction and the certification shall be provided to the purchaser when the apparatus is delivered.

One (1) Water Tank, Fill Tower, 10" x 10", <3500 Gals Y__N__

WATER TANK FILL TOWER

A fill tower measuring approximately 10" x 10" square shall be provided on the water tank up to and including 3500 gallons total capacity.

One (1) Direct Tank Fill, 2-1/2" Right Rear Y__N__

DIRECT TANK FILL

A 2-1/2" diameter direct tank fill inlet shall be provided, including a 2-1/2" female NH swivel, plug and screen.

The valve shall be located and controlled on the right side rear of body.

One (1) NH 2-1/2" Swivel, Plug & Screen Y__N__

The direct tank fill inlet shall include a 2-1/2" female NH swivel, plug and screen.

One (1) Quick Dump, Rear 10", External Mount w/Swivel Dump Y__N__

QUICK DUMP - REAR

A Newton 10" quick dump valve shall be provided and externally mounted. The location shall be at the center rear of the apparatus.

One (1) Quick Dump, Rear 10", Manual Open/Close Controls Y__N__

A manual operated lever control shall be used to open and close the rear dump valve.

One (1) Quick Dump, Rear 10", SST Y__N__

The Newton dump valve installed on the water tank shall be constructed of stainless steel.

One (1) Swivel Dump Chute w/ Manual Extend/Retract, Rr, SST, Newton (A.H. Stock) Y__N__

An A.H. Stock #6000SW-34 stainless steel swivel chute with a #4036-34 36" manually telescoping stainless steel chute extension shall be attached to the Newton Quick Dump.

The swivel dump chute shall have the ability to dump water from the driver's side or the officer's side and any point in between. The dump shall have the ability to be stowed on either the driver's side or the officer's side of the truck.

When the extension is in the extended position, there shall be no less than a 34 inch clearance from level ground to the bottom of the dump to ensure that there is enough clearance for the swivel dump to offload into all portable drop tanks.

The dump shall meet NFPA requirements for water delivery on three sides of the vehicle.

One (1) Hose bed Y__N__

HOSEBED WIDTH

The width of the pumper body hose bed shall be 74".

One (1) Hose bed, Grating, Extruded Alum, >180" Long Y__N__

ALUMINUM HOSEBED GRATING

The hose bed compartment deck shall be constructed entirely from maintenance-free, extruded aluminum slats. The slats shall have an anodized, radiused ribbed top surface. The slats shall be of widths approximately 3/4" high x 6" wide and shall be assembled into a one-piece grid system to prevent the accumulation of water and allow ventilation to assist in drying hose.

The apparatus hose body shall be properly reinforced without the use of angles or structural shapes and free from all projections that might injure the fire hose.

The main apparatus hose body shall run the full length of the apparatus body from behind the pump panel area to the rear face of the body.

The upper rear interior of the hose body on the right and left sides shall be overlaid with brushed stainless steel to protect the painted surface from damage by hose couplings.

One (1) Hose bed Storage Capacity, 55 Cubic Feet, Minimum Y__N__

HOSE BED STORAGE CAPACITY

The hose bed shall be designed to have a storage capacity for a minimum of 55 cubic feet of fire department supplied fire hose.

One (1) Hose bed Divider, 1/4" Alum Y__N__

ALUMINUM HOSEBED DIVIDER

One (1) adjustable hose bed divider constructed of .250" aluminum shall be installed on the apparatus.

One (1) Hose bed Cover, Vinyl, >180" L, <74" W, Velcro Y__N__

VINYL HOSEBED COVER

The apparatus shall be equipped with a vinyl hose bed cover with a weighted rear flap.

The cover, approximately 74" wide, shall be secured utilizing a Velcro fastening system at the front and sides of the hose bed body.

One (1) Vinyl Color, BLACK Y__N__

The vinyl cover shall be black in color.

One (1) Y__N__

1/8" ALUMINUM BODY

The body shall be fabricated of aluminum extrusions, smooth aluminum sheet and aluminum treadplate.

The aluminum extrusion alloy shall be 6061 with a temper rating of T6, and have a tensile strength of 45,000 PSI and yield strength of 40,000 pounds. The aluminum extrusions shall 3" x 3" aluminum tubing, 1-3/4" x 3" aluminum tubing and 3" x 3" aluminum angle and specially designed extrusions, up to .250" wall thickness where applicable.

The smooth aluminum sheet material alloy shall be 5052 with a temper rating of H32, and have a tensile strength of 33,000 PSI and yield strength of 28,000 pounds.

The aluminum treadplate alloy shall be 3003 with a temper rating of H22, and have a tensile strength of 30,000 PSI and yield strength of 28,000 pounds.

The extrusions shall be designed as structural-framing members with the smooth aluminum and treadplate fabricated to form compartments, hose beds, and floors. All aluminum material shall be welded together using the latest mix spray pulse arc welding system.

Compartment floors shall be of the sweep out design with the floor higher than the compartment door lip and to be water and dust proof. All compartments shall be made to the maximum practical dimensions to provide maximum storage capacity. To ensure maximum storage space, the apparatus shall be constructed without any void spaces between the body and the compartment walls. Double wall construction does not meet this requirement.

All exterior compartments shall have polished aluminum drip moldings installed above the doors where necessary to prevent water from entering the compartments.

inner seal shall not be visible from the exterior to maintain a clean appearance of door. The slats shall have interlocking joints with a folding locking flange to provide security and prevent penetration by sharp objects.

The track shall be a one (1) piece aluminum assembly that has an attaching flange and finishing flange incorporated into the design that facilitates installation and provides a finished look to the door without additional trim or caulking. A low-profile side seal shall be utilized to maximize usable compartment space.

A drip rail designed to prevent water from dripping into the compartment shall be provided. The drip rail shall have a built in replaceable non-contacting seal to eliminate scratching of the surface of the door.

Bottom rail extrusion must have smooth back to prevent loose equipment from jamming the door and have "V" shaped double seal to prevent water and debris from entering the compartment. The door latch system shall be a full width one (1) piece lift bar that enables the user to operate with one hand.

The roll mechanism shall have a clip system that connects the curtain slats to the operator drum to allow for easy tension adjustment without tools. A four (4) inch diameter counterbalanced operator drum shall be incorporated to assist in lifting the door.

Five (5) Door Finish Natural Y__N__

DOOR FINISH

The roll up doors shall have a natural finish.

One (1) Door Strap, EZ-Pull Down, Ea Y__N__

EZ-PULL DOWN STRAPS

One (1) elastic nylon straps shall be provided and installed on each roll up door. The straps shall be secured to the side wall of the interior compartment in a way that will allow the EZ-Pull strap to contract automatically and tuck inside the compartment when closed to prevent the strap from dangling and hindering closing of the door. When the door is the open position, the straps shall be installed so that they are fully extended as to not interfere with removing items from the compartment. For the ease of locating, the straps shall be bright orange in color.

One (1) Smooth Alum Compt Floors Y__N__

COMPARTMENT FLOORS

The compartment floors shall be constructed of smooth aluminum material, to match the compartment interior walls.

One (1) Sub-Frame, Extreme Duty, Galvanized

Y__N__

EXTREME DUTY SUB-FRAME

The subframe shall be provided with reinforced "Severe Duty" construction consisting of double gussets and additional structural steel tubing. The subframe shall be mounted with stress isolating rubber cone bearings on the chassis frame rails. This provides optimum weight distribution on the axles assuring the required soft soil mobility and maximum traction for cross-country travel.

The apparatus shall be constructed using an extreme-duty steel subframe. This subframe shall be independent of the chassis frame and support the body and equipment. The upper portion of the extreme duty subframe shall be constructed of heavy duty 1.5" x 3" 7-gauge steel tube, 3" channel and plate steel gussets. It shall be designed to "cradle" the tank transversely and longitudinally to prevent fore and aft motion, yet allowing the tank to "float", preventing twisting of the tank on uneven terrain. The upper portion of the extreme duty subframe shall include heavy duty outriggers to support the body and equipment. The front of the subframe shall be mounted to the chassis using stress isolating rubber cone bearing to reduce twisting stress on the body. The rear platform itself shall be constructed from 1.5" x 3" 7-gauge steel tube and 2"x3"x1/4" steel angle and shall support the rear compartment and the rear of the body.

After fabrication the entire subframe assembly shall be hot dip galvanized to prevent corrosion. The hot dip galvanized subframe shall have a lifetime warranty against failure due to corrosion.

One (1) Body, Formed Alum, Pumper/Tanker, Up to 220"

Y__N__

BODY CONFIGURATION

The aluminum apparatus body shall be up to 220" long, reference the drawing for actual body length.

One (1) 102" OAW, 26" Full Depth/26" Lower Depth, TA HL/LR

Y__N__

BODY WIDTH

The overall width of the pumper body shall not exceed 102".

COMPARTMENT DEPTH

The left side compartments on the pumper body shall have the maximum available height and depth dimensions. These dimensions shall remain consistent for the full height and depth of the compartment.

The lower right side compartments on the pumper body shall be 26" deep.

One (1) Compt Height, 67"

Y__N__

COMPARTMENT HEIGHT

The left side body compartments shall be 67".

One (1) Compt Height, 33" High Right Y__N__

COMPARTMENT HEIGHT

The right side body compartments shall be 33" high.

One (1) Ahead Rear Wheels - Full Height Comp't - Roll Up Door Y__N__

LEFT FRONT COMPARTMEN

There shall be one (1) full height compartment located ahead of the rear wheels. The compartment shall be equipped with a full height roll up door.

The compartment shall be equipped with the following:

One (1) Upper High Side - Single Comp't - Roll Up Door Y__N__

LEFT OVERWHEEL COMPARTMENT

There shall be one (1) compartment above the rear wheels. The compartment shall be equipped with a roll up door.

The compartment shall be equipped with the following:

One (1) Behind Rear Wheels - Full Height Comp't - Roll Up Door Y__N__

LEFT REAR COMPARTMENT

There shall be one (1) full height compartment located behind the rear wheels. The compartment shall be equipped with a full height roll up door.

The compartment shall be equipped with the following:

One (1) Ahead Rear Wheels - Low Comp't - Roll Up Door Y__N__

RIGHT FRONT COMPARTMENT

There shall be one (1) low compartment located ahead of the rear wheels. The compartment shall be equipped with a low roll up door.

The compartment shall be equipped with the following:

One (1) Behind Rear Wheels - Low Comp't - Roll Up Door Y__N__

RIGHT REAR COMPARTMENT

There shall be one (1) low compartment located behind the rear wheels. The compartment shall be equipped with a low roll up door.

The compartment shall be equipped with the following:

One (1) No Rear Compt Y__N__

REAR COMPARTMENT

There shall be no compartment located on the rear of the body.

One (1) Rear Body - Flat Back Y__N__

REAR BODY CONFIGURATION

The rear of the apparatus body shall be of the flat back design.

One (1) Rear Step - Pumper/Tanker Body - Bolt-On - 14" Y__N__

REAR STEP - 14" BOLT-ON

A 14" deep step surface shall be provided at the rear of the apparatus body, bolted in place and easily removable for replacement or repair. The tailboard shall be constructed of .188" aluminum diamond plate or equal non-slip surface in compliance with NFPA #1901 standards. The ends of the tailboard shall be designed with approximately a 30-degree angle on each side.

A label shall be provided warning personnel that riding on the rear step while the apparatus is in motion is prohibited.

One (1) Wheel Well Panel, Alum Painted, Tandem Axle - Alum Y__N__

TANDEM AXLE WHEEL AREA

For ease of accessibility and maintenance, wheel well panels shall be double break formed painted smooth plate that is welded in place.

To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 25") radius wheel well liner shall be provided. Wheel well liner shall be smooth aluminum to prevent corrosion.

Two (2) Fenderette, Polished Aluminum Y__N__

FENDERETTES

The rear wheel wells shall be radius cut for a streamlined appearance. A polished aluminum fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless-steel fasteners.

One (1) Vents, Compts, Louvers, Includes Filters (Ea) Y__N__

One (1) louver with filter shall be installed in the compartment.

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

One (1) Shelving Tracks, (2) Unistrut, Alum, Vertical Y__N__

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One (1) Wall Light, ROM,V5 LED Track Light, (2) Ea Compartment Y__N__

COMPARTMENT LIGHTS

Two (2) ROM vertically mounted roll-up compartment LED V3 door lights shall be installed one each side of the door opening. The compartment lights shall be integrated into the roll-up door tracks with the light actuation with the door opening.

The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

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The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

One (1) Wall Light, OSS Access, LED Tube Light, (2) Ea Compartment Y__N__

COMPARTMENT LIGHTS

Two (2) OnScene Solutions Access LED lights shall be installed, one on each side of the door opening. The lights shall contain 36 LEDs per light producing approximately 180 lumens (six LEDs and 30 lumens every 9"). The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty. The light shall have a 5/8" LEXANTM polycarbonate tube enclosure for severe duty applications.

The light stick shall be waterproof and be connectible via a jumper wire to add additional lights in series if required.

One (1) Compartment Light, Door Switch, Auto, Ea Y__N__

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Compartment Light, Door Switch, Auto, Ea Y__N__

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Compartment Light, Door Switch, Auto, Ea Y__N__

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Compartment Light, Door Switch, Auto, Ea Y__N__

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Compartment Light, Door Switch, Auto, Ea Y__N__

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Ladder Mounting, Side Body Brackets, Driver Side Y__N__

EXTERIOR LADDER MOUNTING

Exterior ladder mountings shall be provided for the specified ladders on the side of the apparatus body.

LADDER MOUNT LOCATION

The location of the ladder mounting assembly shall be located on the driver side of the apparatus body.

One (1) Ladder Mounting, Folding Attic, External Y__N__

EXTERIOR FOLDING ATTIC LADDER MOUNTING

An exterior mounting shall be provided for the specified folding attic ladder.

One (1) Ladders, Ground, Provided By Manufacturer Y__N__

LADDER SOURCE

New ground ladders shall be provided by the manufacturer.

One (1) Ladder, Roof, Duo-Safety, 14' Aluminum 775-A Y__N__

ROOF LADDER

One (1) Duo Safety Model 775-A, 14-foot aluminum roof ladder with folding steel roof hooks on one end and steel spikes on the other end shall be provided on the apparatus. The ladder shall meet or exceed all latest NFPA Standards.

One (1) Ladder, Extension, Duo-Safety, 24' Aluminum, 2 Section 900-A Y__N__

EXTENSION LADDER

One (1) Duo-Safety Model 900-A, 24-foot two (2) section aluminum extension ladder shall be provided on the apparatus. The ladder shall meet or exceed all the latest NFPA standards.

One (1) Ladder, Attic, Duo-Safety, 10' Aluminum, Folding 585-A Y__N__

FOLDING LADDER

One (1) Duo Safety Model 585-A, 10-foot folding aluminum ladder shall be provided on the apparatus. The ladder shall meet or exceed all the latest NFPA Standards.

The following pike poles shall be provided by the manufacturer.

One (1) Pike Pole, 6' Fiberglass, I-Beam Handle Y__N__

PIKE POLE

One (1) 6' pike pole with I-Beam handle shall be provided. The pike pole shall be of fiberglass construction.

One (1) Pike Pole, 10' Fiberglass, I-Beam Handle Y__N__

PIKE POLE

One (1) 10' pike pole with I-Beam handle shall be provided. The pike pole shall be of fiberglass construction.

Two (2) Pike Pole Mounting Tube, External, Ea Y__N__

PIKE POLE MOUNTING BRACKET

Two (2) tube shall be provided for pike pole mounting. The tube shall have a 2" interior diameter and shall be mounted on the outside of the apparatus body.

Two (2) Suction Hose, Flex, Kochek PVC, 6"x10' Y__N__

SUCTION HOSE

Two (2) 6.0" x 10-foot length of Kochek PVC flexible suction hose shall be supplied. The suction hose shall have light-weight couplings provided.

Two (2) Suction Hose Couplings, Aluminum, LH FM x RLM Y__N__

HOSE COUPLINGS

Light-weight aluminum couplings shall be provided on the suction hose. A long handle female swivel shall be provided on one end and a rocker lug male shall be provided for the other end.

Two (2) Suction Hose Tray, Driver Side Over Compts (Ea) Y__N__

HARD SUCTION MOUNTING

Two (2) horizontally mounted aluminum hard suction hose tray with velcro straps shall be provided above the driver side body compartments.

One (1) Suction Hose Provided By the manufacturer. Y__N__

SUCTION HOSE SOURCE

New suction hose shall be provided by the body builder.

One (1) Folding Water Tank, 3000 Gallon Alum Frame, 22 Oz Vinyl Y__N__

FOLDING PORTABLE WATER TANK

A 3000-gallon, 22 oz vinyl, portable water tank shall be provided by the manufacturer. The tank shall include an aluminum support frame.

One (1) Folding Tank Provided By, Body Builder Y__N__

FOLDING TANK SOURCE

New folding tank shall be provided by the body builder.

One (1) Folding Tank Mounting, Zico 12V Electric/Hydraulic, Passenger Side, PTS-HA Y__N__

PORTABLE WATER TANK MOUNTING SYSTEM

There shall be a ZICO Quic-Lift Hydraulic Portable Tank System, model PTS-HA storage carrier provided on the passenger side of the booster tank and above the lower compartments to carry a portable folding tank. The tank carrier shall hold the folding tank in the vertical position for travel, and fold down over the lower body side for loading and unloading. The folding tank carrier shall have two high strength aluminum casting sets, dual self-contained hydraulic actuators and a PTS-HA-CH center hinge. The hydraulic actuators shall be controlled with a weather-tight momentary switch located on left side of the body. There shall be a reinforcement plate installed on the compartment top where the folding tank carrier is attached. The Quic-Lift Hydraulic Portable Tank System shall be capable of being lowered manually if a failure occurs.

One (1) Folding Tank Cover, Zico, Painted Y__N__

The folding tank storage carrier shall be provided with a smooth aluminum cover enclosing the folding tank, painted to match the body.

One (1) Step - Bolted - Treadplate - Rear Intermediate - up to 48" Y__N__

REAR INTERMEDIATE STEP

An intermediate fixed step shall be provided at the rear of the apparatus body, , just below the hose bed, bolted in place and easily removable for replacement or repair. The intermediate step shall be

constructed of .188" polished aluminum diamond plate or equal non-slip surface in compliance with NFPA #1901 standards and be approximately 8" deep x 48" wide.

One (1) Handrails, Rear Step, Vertical, 30" Pair Y__N__

HANDRAIL REAR STEP

Two (2) extruded aluminum non-slip handrails, approximately 30" in length, shall be provided and vertically mounted on the rear of the apparatus, one (1) on each side of the body.

One (1) Handrails, Below Hose bed, Horizontal, up to 48" Y__N__

HANDRAIL BELOW HOSEBED

One (1) extruded aluminum non-slip handrail, approximately 48" in length, shall be provided and horizontally mounted to the intermediate step, located below the hose bed on the rear of the apparatus.

One (1) Handrails, Pumper, Top of Body Sides, Rear, 12", Pair Y__N__

HANDRAIL - TOP OF BODY SIDES

Two (2) extruded aluminum non-slip handrails, approximately 12" in length, shall be provided and mounted, one (1) each side at the top of the body sides, at the rear of the apparatus body.

One (1) Access Ladder, Body, Left Rear Y__N__

ACCESS LADDER

An access ladder shall be provided on the apparatus as a means of egress to and from the top of the apparatus. The ladder shall have five (5) seven (7") inch open style stair treads leading to the top of the apparatus. A sixth fold down type step shall hinge above the first step and stow between the first and second steps while in the travel position. A full length thirty-six-inch (36") handrail shall be furnished on both sides of the access ladders to provide hand holds while traveling up the ladders. A weatherproof micro switch shall sense the down position of the step and alert the driver should the vehicle emergency brake be released. This switch will be wired into the open door warning system.

One (1) Body Trim, Front Compt, Height of Side Compts, Alum T/P Y__N__

FRONT BODY PROTECTION PANELS

Aluminum tread plate overlays and panels shall be installed on the front of the body compartment from the lower edge to the top of the compartment doors.

One (1) Body Trim, Entire Rear Body, Smooth for Chevron Stripe Y__N__

REAR BODY PROTECTION PANELS

The rear body panels of the body shall be a smooth material, to allow for the proper application and installation of a "Chevron" stripe on the rear.

One (1) Catwalks, Top of Side Compts, Door Header, Alum Treadplate Y__N__

CATWALKS - DOOR HEADER

The door header and the top of the compartments shall be aluminum treadplate.

One (1) Rub Rails, Lower Body, Extruded Alum Y__N__

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the lower right and left body sides. The side rub rails shall be a heavy extruded aluminum "C" channel.

One (1) Rub Rails, Spacers, Nylon Y__N__

NYLON SPACERS FOR RUB RAILS

There shall be nylon spacers provided between the rub rail and the body. This shall allow wash out and replacement in the event of damage.

One (1) Wheel Well Provisions, Ahead of Wheels Left Side Y__N__

WHEEL WELL PROVISION LOCATION

One (1) Wheel Well Provisions, Single SCBA Tube, Brushed SST Door Y__N__

A breathing air cylinder storage compartment shall be provided in the rear wheel well area of the apparatus body.

The compartment shall be constructed of aluminum and removeable for repair or replacement.

The compartment shall be provided with SCBA cylinder scuff protection. The compartment shall have a brushed stainless-steel door.

The wheel well provisions shall be located on the left side of the apparatus, ahead of the rear wheels.

One (1) Wheel Well Provisions, Between Tandems Left Side Y__N__

WHEEL WELL PROVISIONS LOCATION

One (1) Wheel Well Provisions, Extinguisher, Brush SST Door Y__N__

A fire extinguisher storage compartment shall be provided in the rear wheel well area. The compartment shall be constructed of aluminum and removeable for repair or replacement. The compartment shall be provided with SCBA cylinder scuff protection. The compartment shall have a brush stainless-steel door.

The wheel well provisions shall be located on the left side of the apparatus, between the rear tandem wheels.

One (1) Wheel Well Provisions, Behind Wheels Left Side Y__N__

WHEEL WELL PROVISION LOCATION

One (1) Wheel Well Provisions, Single SCBA Tube, Brushed SST Door Y__N__

A breathing air cylinder storage compartment shall be provided in the rear wheel well area of the apparatus body.

The compartment shall be constructed of aluminum and removeable for repair or replacement.

The compartment shall be provided with SCBA cylinder scuff protection. The compartment shall have a brushed stainless-steel door.

The wheel well provisions shall be located on the left side of the apparatus, behind of the rear wheels.

One (1) Wheel Well Provisions, Ahead of Wheels Right Side Y__N__

WHEEL WELL PROVISION LOCATION

One (1) Wheel Well Provisions, Single SCBA Tube, Brushed SST Door Y__N__

A breathing air cylinder storage compartment shall be provided in the rear wheel well area of the apparatus body.

The compartment shall be constructed of aluminum and removeable for repair or replacement.

The compartment shall be provided with SCBA cylinder scuff protection. The compartment shall have a brushed stainless-steel door.

The wheel well provisions shall be located on the right side of the apparatus, ahead of the rear wheels.

One (1) Wheel Well Provisions, Between Tandem Right Side Y__N__

WHEEL WELL PROVISIONS LOCATION

One (1) Wheel Well Provisions, Open Storage, Brushed SST Door Y__N__

An open storage compartment shall be provided and located between the rear tandem axles of the apparatus body.

The storage compartment shall be constructed entirely of aluminum and removable for repair or replacement.

The compartment shall have a brushed stainless-steel door at the front of the compartment

The wheel well provisions shall be located on the right side of the apparatus, between the rear tandem wheels.

One (1) Wheel Well Provisions, Behind Wheels Right Side Y__N__

WHEEL WELL PROVISION LOCATION

One (1) Wheel Well Provisions, Single SCBA Tube, Brushed SST Door Y__N__

A breathing air cylinder storage compartment shall be provided in the rear wheel well area of the apparatus body.

The compartment shall be constructed of aluminum and removeable for repair or replacement.

The compartment shall be provided with SCBA cylinder scuff protection. The compartment shall have a brushed stainless-steel door.

The wheel well provisions shall be located on the right side of the apparatus, behind of the rear wheels.

PAINT

One (1) Apparatus Color Y__N__

APPARATUS COLOR

One (1) Body Paint, Tandem Axle, Pumper/Tanker - Single Color Y__N__

BODY PAINT PROCESS

While constructing the truck body, all aluminum parts that are to be finish painted shall be properly fitted on the body and then removed to be painted as individually. The back side of all aluminum parts shall be sanded smooth of any burrs and sharp edges.

During reassembly of the apparatus, care shall be exercised in fitting and fastening the parts back in their respective position on the vehicle.

All aluminum parts shall be bolted to the body using stainless steel fasteners. Zinc or Cadmium plated fasteners are not acceptable. All bright metal fittings, if unavailable in stainless steel shall be heavily chrome plated. Iron fittings shall be copper plated prior to chrome plating.

All seams shall be caulked both inside and along the exterior edges with a urethane automotive sealant to prevent moisture from entering between any body panels.

The body and all parts shall be thoroughly washed with a grease cutting solvent (PPG DX330) prior to any sanding. After the body has been sanded and the weld marks and minor imperfections are filled and sanded, the body shall be washed again with (PPG DX330) to remove any contaminants on the surface.

The next two to four coats (depending on need) shall be a PPG DelFleet F4936 High Solids Epoxy Gray Primer. The film build shall be 4-6 mils when dry. The primer surfacer coat, after appropriate dry time, shall be sanded with 320-600 grit sandpaper to ensure maximum gloss of the paint. The last step is the application of at least three coats of PPG Delfleet polyurethane two-component color (single stage). The film build being 2-3 mils dry. The single stage polyurethane, when mixed with corresponding catalyst shall provide a UV barrier to prevent fading and chalking.

All products and technicians shall be certified by PPG every two (2) years.

One (1) Compt Finish, Spatter Coat, Up to 6 Compts Y__N__

INTERIOR COMPARTMENT FINISH

Six (6) apparatus side compartment interiors are to be painted with a spatter finish material. The compartments shall be cleaned with a grease remover, and then the surface sanded and prepared for painting. The compartment shall be provided with two (2) coats of white epoxy. The compartments are then coated with a splatter paint top coat.

One (1) Body Paint, Touch Up, 2 oz. Bottle, One Color Y__N__

TOUCH-UP PAINT

One (1) two (2) ounce bottle of touch-up paint shall be furnished with the completed truck at final delivery

One (1) Lettering Supplied by Purchaser Y__N__

LETTERING

The purchaser shall supply the apparatus lettering.

One (1) Numbering, (3) 24" Scotchlite Reflect, Cab Roof Y__N__

LETTERING/NUMBERING - CAB ROOF

A maximum of three (3) 24" high, white Scotchlite reflective letters or numbers shall be provided and installed on the chassis cab roof as directed by fire department.

One (1) Stripe, Triple Reflective, 1" x 4" x 1" Large "Hockey Stick" Design Y__N__

REFLECTIVE STRIPING

A 1" x 4" x 1" wide 3M brand Scotchlite reflective multi-stripe shall be affixed to the perimeter of the vehicle. There shall be a 1" gap between each of the stripes. Striping shall conform to applicable NFPA

requirements. least 50% of the perimeter length of each side and width of the rear, and at least 25% of the perimeter width of the front of the vehicle shall have reflective striping.

The striping shall be applied in a large "Hockey Stick" pattern.

One (1) Stripe, Reflective, Oralite V98, Chevron Pattern Entire Rear, Body Only Red/Yell Y__N__

CHEVRON STRIPING

The entire rear portion of the body shall have Oralite V98 reflective striping installed. The chevron style striping shall be applied at a 45-degree upward angle pointing towards the center upper portion of the rear panel.

One (1) Reflective Stripe Material, Red Y__N__

COLOR OF STRIPING MATERIAL

The color of the striping material shall be red.

One (1) Reflective Stripe Material, White Y__N__

COLOR OF STRIPING MATERIAL

The color of the striping material shall be white.

One (1) Reflective Stripe Material, Yellow Y__N__

COLOR OF STRIPING MATERIAL

The color of the striping material shall be yellow.

One (1) NFPA Standing / Walking Surfaces Yellow Safety Tape (NFPA 1901 15.7.1.6) Y__N__

YELLOW SAFETY TAPE - STANDING & WALKING SURFACES

The apparatus shall meet NFPA 1901 15.7.1.6 designating any horizontal standing or walking surface higher than 48-in (1220 mm) from the ground and not guarded by railing or structure at least 12-in (300 mm) high shall have at least a 1-in (25 mm) wide safety yellow line delineation that contrasts with the background to mark the outside perimeter of the designated standing or walking surface area, excluding steps and ladders.

One (1) Wheel Chocks Pair Zico #SAC-44 Folding w/ Mounts Y__N__

WHEEL CHOCKS WITH MOUNTS

A pair of Zico Model SAC-44 Quic-Chok folding wheel chocks shall be provided and mounted under the apparatus body with model SQCH-44H horizontal mounting brackets.

