

Crete Fire & Rescue

*****ELECTRICAL SYSTEM CHANGE*****

Major changes will be coming with the apparatus body 12 volt electrical system. Changes will likely include a new multiplex system. This may be an upgrade from the current VMUX system to the newer VMUX/IDEX system or may be a change to a completely different brand of multiplex system. The current VMUX system currently in use is being discontinued.

MAKE YOUR CUSTOMER AWARE OF THIS ELECTRICAL SYSTEM CHANGE IN WRITING WITH YOUR BID PROPOSAL.

NOTICE REGARDING ENGINE AVAILABILITY:

THIS EFFECTS ALL BRANDS - ALL MODELS OF CHASSIS:

THIS EFFECTS ALL BRANDS - ALL MODELS OF ENGINES:

ALL COMMERCIAL CHASSIS:

We are getting closer to new EPA engine regulations. The engine you are proposing may be upgraded a different, more expensive model OR upgraded to the new 2027 EPA complaint engine. **THIS WILL COME WITH SIGNIFICANT ADDITIONAL COSTS.**

It is your responsibility to pass this information on to the end user and advise them that the cost for the engine upgrade will be passed on to them. **MAKE YOUR CUSTOMER AWARE OF THIS IN WRITING WITH YOUR BID PROPOSAL.**

Toyne will not incur any costs involved with this. It will be the end user's responsibility.

MODEL YEAR CHANGE: Make the customer aware that any model year upcharge will be passed on to them.

CHASSIS MODEL CHANGE: Make the customer aware that if it is necessary to change the model of chassis to be compatible with new 2027 engine model, the upcharge cost will be passed on to them.

One (1)

EPA 2027 DISCLAIMER

EPA 2027 ENGINE DESIGN DISCLAIMER

As the fire apparatus industry shifts towards new EPA standards for engines, certain apparatus designs and components may need to be modified or may no longer be available. Some items that may be affected include, but not limited to, the following:

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- Apparatus overall dimensions.
- Compartment dimensions (body and pump).
- Frame mounted components.
- Front of back of cab piping (intake or discharge).

Chassis manufacturer's continue to evaluate the new EPA compliant engines and have not released any information on the required design modifications that will be necessary to accomodate the new engines.

As this information becomes available and it is determined that something on this apparatus will require modification or will no longer be available, notification will be made to the Department.

One (1)

Corporate Ownership of Manufacturer

CORPORATE OWNERSHIP OF MANUFACTURER

The manufacturer of the apparatus must be fully owned and managed by a Parent Company, Corporation, or Individual(s) that is 100% held by United States of America based Company, Corporation, or United States citizen(s).

Proposals from any manufacturer that is fully or partially owned and/or operated by a foreign company, Corporation or Individual(s) under any type of ownership, partnership, or any similar type of agreement will be immediately rejected.

One (1)

First Class # 1 Quality Fire Apparatus.

TOP OF THE LINE FIRE APPARATUS

If the manufacturer or bidder for the apparatus manufacturer represents two or more different lines of apparatus and/or operates two or more manufacturing plants, it should be clearly stated in the bid proposal.

In addition to this requirement, the bidder shall give a detailed explanation of why the particular line, brand, model or manufacturing facility will be used.

Manufacturer's or bidder's with multiple lines (two or more) or multiple manufacturing facilities (two or more) shall be required to submit bid proposals on only the top of the line brand/model or from the top of the line facility.

It is the intention of the purchaser to purchase a top of the line, first class, #1 quality fire apparatus. Any bidder that submits a bid on a "lower end" line, brand, model, or from a "lower end" manufacturing facility will be immediately rejected.

The purchaser is not interested in purchasing a manufacturer's or bidders "lower end" apparatus. Because of this, any bids submitted that do not comply with the above requirements will be immediately rejected.

One (1)

**** THERE IS A LENGTH REQUIREMENT **** 32' 384"

***** LENGTH REQUIREMENT *****

One (1)

The maximum length of this apparatus shall not exceed 32' (384").

Certification of NFPA compliance 2024

CERTIFICATION OF NFPA 1900-2024 COMPLIANCE

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As per NFPA 1900, the Purchaser shall assume the responsibility of determining, prior to the purchase of the apparatus, who will be responsible for ensuring that all aspects of NFPA are met. The manufacturer shall be responsible for providing or performing only the items requested by the purchaser in the documents provided to the manufacturer by the purchaser.

Written certification shall be provided by the manufacturer stating that the delivered apparatus complies with the NFPA Standard. If the purchaser has elected to provide, perform, outsource and/or contract with a third party or waive any item required by NFPA, the manufacturer shall provide, upon delivery, a "Statement of Exceptions" per Chapter 7 of NFPA 1900.

The "Statement of Exceptions" shall include:

- A separate specification of the section of the NFPA Standard for which the apparatus is lacking compliance.
- A description of the particular aspect of the apparatus that is not compliant therewith or required equipment that is missing.
- A description of the further changes or modifications to the delivered apparatus which must be completed to achieve full compliance.
- An identification of the entity that will be responsible for making the necessary post-delivery changes or modifications or for supplying and installing any missing required equipment to the apparatus to achieve full compliance to the standard.

Prior to, or at the time of, delivery of the apparatus, the Statement of Exceptions shall be signed by an authorized agent of the entity responsible for the final assembly of the apparatus and by an authorized agent of the purchasing entity, indicating a mutual understanding and agreement between the parties regarding the substance thereof.

The purchaser shall not place the apparatus into active emergency service until fully compliant with NFPA.

One (1)

NFPA required misc equipment

NFPA REQUIRED EQUIPMENT

The end user of this apparatus shall provide all other equipment and accessories that are required by NFPA but not specifically listed in these specifications.

One (1)

Maximum vehicle top speed

MAXIMUM TOP SPEED

The maximum top speed of this apparatus shall be determined using the following NFPA criteria:

- Apparatus with 1250 gallon combined tank capacities shall not exceed 60 MPH.
- Apparatus with GVWR of over 50,000 lbs. shall not exceed 60 MPH.
- Apparatus weighing over 26,000 lbs. shall not exceed 68 MPH.

One (1)

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One (1)

Hale AP50 500 GPM pto for wet rescue

HALE MODEL AP50 - 500 GPM PTO PUMP

The fire pump shall be a Hale Fire Pump Company model AP50 that complies with all applicable requirements of the latest edition of the "Standard for Automotive Fire apparatus" published by the National Fire Protection Association.

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- One (1) Hale PRO-TECH 5 year warranty. 2 yr parts and labor and 5 yr parts only (STD).
PUMP WARRANTY

The pump shall be covered by the Hale Pro-Tech 5-year pump warranty against workmanship and materials. Both parts and labor shall be covered for the first 2 years and years 3-5 shall have parts only coverage.

- One (1) 500 GPM single stage pump performance. NON - UL.
PUMP PERFORMANCE - 500 U.S. GPM

The pump shall be a single stage centrifugal with a capacity of 500 United States gallons per minute. The pump shall deliver the percentage of rated discharge pressures as indicated below:

- 100 percent of rated capacity at 150 pounds net pressure.
- 70 percent of rated capacity at 200 pounds net pressure.
- 50 percent of rated capacity at 250 pounds net pressure.
- 100 percent of rated capacity at 165 pounds net pressure.

- One (1) FRC Pump Boss Max pressure governor.
FRC PUMP BOSS MAX PRESSURE GOVERNOR SYSTEM

Fire Research Pump Boss Max pressure governor and monitoring display kit shall be installed. The kit shall include a control module, pressure sensor, and cables.

The following continuous displays shall be provided on shown on the LCD screen:

- Check engine/stop engine warning
- Engine rpm
- Engine oil pressure
- Engine temperature
- Battery voltage
- PSI / RPM setting
- Throttle ready LED.

An on LCD screen 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.

The program shall store the accumulated operating hours for the pump and engine with push button display. The program shall display and provide audible and visual warning alarms for the following conditions:

- High Transmission Temperature
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Battery Voltage
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of water (visual alarm only)
- No engine response (visual alarm only)

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- Accumulated engine and pump hours.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes.

A throttle ready LED shall illuminate when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

One (1)

TFT A18 Intake Relief Valve

TFT A-18 INTAKE RELIEF VALVE

A TFT model A-18 intake relief/dump valve shall be provided on the intake side of the pump to relieve excess incoming pressure. The system shall be designed to automatically restore to a non-relieving position when excessive pressure is no longer present. The pressure adjustment range shall be from 50 psi to 200 psi. The relief system shall be adjustable with a common type box end wrench.

One (1)

Intake relief valve 125 psi pre-set.

The intake relief valve shall be pre-set to 125 psi.

One (1)

PTO ELECTRIC pump shift for EVS transmission 500-750 pto only

PTO PUMP SHIFT MECHANISM -ELECTRIC

The PTO pump shall be shifted from road to pump mode by means of a cab mounted switch that controls an electric "hot shift" control.

A green indicator light shall be provided in clear view of the driver. The light shall be energized when the pump shift has been completed. The light shall be labeled "PUMP ENGAGED".

Additional green indicator lights shall be provided in clear view of the driver as well as on the pump panel which shall be energized when both the pump shift has been completed and the chassis transmission is in pump gear. This light shall be labeled "OK TO PUMP".

The light on the pump panel shall be positioned above the throttle control mechanism and shall be marked "WARNING: DO NOT OPEN THROTTLE UNLESS LIGHT IS ON". The pump panel light shall also be energized when the chassis transmission is in the neutral position and the parking brake is engaged.

One (1)

Truck shall be NON PUMP AND ROLL capable.

TRANSMISSION "NEUTRAL" PUMP MODE

The apparatus shall pump in the transmission "neutral" position. If the apparatus transmission is placed in "drive" while the pump is engaged, the pump will automatically dis-engage.

This apparatus **will not** have the capability to pump and roll.

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- One (1) Trident air primer
TRIDENT PRIMING SYSTEM
- One (1) A Trident air priming system shall be provided.
Universal master pump drain.
MANIFOLD DRAIN VALVE
- One (1) The pump shall have a manifold type drain valve assembly consisting of a stainless steel plunger in a bronze body with multiple ports. The control for the valve shall be on the left side along the bottom of the panel and above the side running board. The valve shall be a rotary type with a large easy to grip handle. The valve shall be labeled "PUMP DRAIN".
ICI "Lever Lift" bleeder drain valves
ICI "LEVER LIFT" BLEEDER/DRAIN VALVES
- ICI 3/4" quarter turn ball type bleeder/drain valve shall be provided for each discharge and auxiliary intake. A hose shall be connected to the valve that will direct water below the apparatus and away from the immediate pump operator's location.
- One (1) The control handle shall be "lever lift" style for easy actuation. The handle for the control shall have a recessed area for the color coded identification label.
Low point auto-drains.
LOW POINT AUTO-DRAINS
- Automatic drains shall be provided in low points of any discharge piping. The drain shall drain to the ground below its location. This drain shall be a supplementary drain and will not be considered the required 3/4" bleeder drain.
- One (1) Hale TRV120 automatic thermal valve ** Tank
HALE TRV120 THERMAL RELIEF VALVE
- A Hale model TRV120 thermal relief valve shall be provided and installed on the discharge side of the pump. The valve shall function automatically when the water temperature in the pump exceeds 120 degrees Fahrenheit. The valve shall discharge a 3/8" stream of water helping prevent pump overheat. The valve shall be self-resetting after the temperature of the water in the pump drops below 120 degrees Fahrenheit.
- One (1) Discharge to tank.
- One (1) The water shall be discharged to the booster tank.
Tank refill/recirculation line wet rescue
TANK REFILL/RECIRCULATION DISCHARGE
- A discharge shall be provided from the pump discharge manifold to allow pump cooling when necessary as well as to refill the booster tank.
- One (1) The water tank fill gauge shall be directly in line with this discharge control.
2" refill/recirc valve piping
- One (1) The valve and piping shall be 2".
Akron 9327 Navigator Pro electric control p/t
The refill/recirculation discharge shall be electrically actuated from the pump operator's position with an Akron 9327 Navigator Pro valve controller. The controller shall provide valve position indication.

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One (1) Stainless Steel Piping wet rescue

STAINLESS STEEL PIPING

All piping for discharges not bolted directly to the pump body or pump discharge manifold casting shall be stainless steel using stainless steel fittings. High pressure helix wire reinforced flexible piping with an NFPA compliant minimum burst pressure may be used in some areas to minimize friction losses. All flexible piping couplings shall be high tensile strength stainless steel.

All piping shall be properly supported and braced to prevent movement of piping other than what is allowed by the flexible couplings to compensate for apparatus flexing.

Any discharge manifolds provided on the apparatus that are not part of a pump casting must be fabricated of a minimum of schedule 10 marine grade stainless steel piping. Use of any welded light gauge (less than Schedule 10) manifolding or plumbing will not be acceptable.

One (1) Stainless steel piping 10 year warranty

The stainless steel piping shall be warranted to be free from corrosion perforation for a period of 10 years following the delivery of the apparatus.

One (1) Victaulic style fitting/couplings. (STD)

VICTAULIC COUPLINGS

Victaulic style couplings shall be used in the assembly of the pump piping system. The couplings shall allow flex in the piping and provide for a disassembly point for maintenance and repairs.

One (1) Vented Lug Caps and Plugs (VLC)

VENTED LUG CAPS AND PLUGS

All discharges and intakes that specify caps and/or plugs shall be provided with vented lug type designed to relieve trapped pressure and help reduce possible operator injuries.

One (1) Left side auxiliary 2.5" intake. wet rescue

LEFT SIDE FORWARD AUXILIARY INTAKE

An auxiliary intake shall be provided on the left side of the pump compartment in the forward position.

One (1) Aux intake valve/piping 2 1/2" LH FRT

The intake valve and piping shall be 2 1/2".

One (1) Akron 9327 Navigator Pro electric control 2 1/2" LH FWD aux int,

The valve shall be electrically actuated from the pump operator's position with an Akron 9327 Navigator Pro valve controller. The controller shall provide valve position indication.

One (1) LH FWD 2.5" int connection 2.5" FNST swivel w plug NST

The intake shall have a 2 1/2" chrome plated female NST swivel connection with screen and a male NST chrome plated intake plug and chain.

One (1) LH FWD aux intake 3/4" bleeder/drain valve

A 3/4" bleeder/drain valve shall be provided.

One (1) Foam Pro 1600 CLASS A (additional costs). HQR-P

FOAM PRO 1600 CLASS A FOAM SYSTEM

A Foam Pro model 1600 Class A foam system shall be provided and properly installed on the apparatus.

The system shall be an electronic, fully automatic, variable speed direct injection discharge side foam proportioning system. The foam proportioning operation shall be based in direct measurement of water

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flows and pressures.

The system shall be equipped with a control module, suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flowmeter, while also monitoring foam concentrate pump output, comparing values to ensure that the operators preset proportional amount of foam concentrate is injected into the discharge side of the pump.

The control module shall enable the pump operator to 1) activate the foam proportioning system and 2) select the foam proportioning rates from 0.1% to 1.0%.

The foam system shall be capable of the following flow rates at given foam %:

1,700 gpm @ 0.1%
850 gpm @ 0.2%
340 gpm @ 0.5%
170 gpm @ 1%

A 12 volt electric motor driven, positive displacement plunger pump shall be provided. The pump capacity shall be 1.7 gpm at 200 psi with a maximum operating pressure up to 400 psi. The motor shall be controlled by a microprocessor which is mounted in the base of the pump. It shall receive signals from the control module, and power the 1/3 hp 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 in the fire pump and water tank. A 5 psi opening pressure check valve shall be provided in the concentrate line.

The foam supply shall be provided from the integral foam tank described later in these specifications.

An installation and operation manual shall be provided for the system.

One (1) Low foam tank level switch for A foam tank.

CLASS A "LOW FOAM IN TANK" INDICATOR

There shall be a Foam Pro low tank level indicator provided and vertically mounted in the wall of the foam tank. The indicator shall provide "low foam concentrate" indication to the pump operator.

One (1) Foam Pro 1-tank Schematic Placard.

FOAM SYSTEM SCHEMATIC PLACARD

There shall be a single tank foam system layout placard provided and located in close proximity to the pump operator's position as required by NFPA.

One (1) Foam Pro model 1600 rating placard.

FOAM SYSTEM RATING PLACARD

There shall be a foam system rating placard provided in close proximity to the pump operator's position as required by NFPA.

One (1) 3/4" ID foam concentrate line

3/4" FOAM CONCENTRATE LINE

The hose connecting the foam tank to the foam pump shall be 3/4" ID.

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- One (1) Foam capable discharges for HQR-P
FOAM CAPABLE DISCHARGES
- One (1) The two 1 3/4" crosslays and the reel discharge shall be foam capable.
One 2.5" dis. LH wet rescue
LEFT SIDE DISCHARGE
- One 2 1/2" discharge shall be provided on the left side pump panel.
- One (1) Left (driver's) side 2.5" discharge(s) wet rescue
One (1) left side 2 1/2" discharge(s):
- One (1) Akron 9333 Navigator Pro electric control 2.5" LH FWD
The valve shall be electrically actuated from the pump operator's position with an Akron 9333 Navigator Pro valve controller. The controller shall provide valve position indication.
- One (1) LH FWD 2.5" dis. to have elbow. MNST
The discharge shall be equipped with a chrome plated brass or bright finish stainless steel discharge elbow with MNST thread.
- One (1) LH FWD 2.5" dis. connection 2.5" cap/chain. NST
A 2 1/2" chrome plated NST cap and chain shall be provided.
- One (1) Wet rescue pump panel components/description.
PUMP PANEL
- The pump panel shall be located in the front compartment on the left side.
- One (1) Xlays, two 1 3/4" in trays
CROSSLAY PRECONNECTS
- Two 1 3/4" preconnected crosslays shall be provided and located just above the pump panel in the driver's side front compartment.
- The crosslays shall be transverse across the front of the body to allow use from either side. The crosslay transverse compartment shall be constructed of 5052 smooth aluminum sheet material with a random brushed finish applied after fabrication.
- The 1 3/4" crosslay shall be piped using 2" piping or high pressure hose incorporating a 2" ball valve with the control on the pump operator's panel.
- One (1) #1 1 3/4" or 2" xlay 200' capacity
The #1 crosslay shall have the capacity to hold 200' of 1 3/4" or 2" fire hose and nozzle.
- Two (2) Removable poly trays for speedlays
REMOVABLE SPEEDLAY TRAYS (2)
- The speedlays shall have removable trays to allow for reloading hose. The trays shall be constructed of 1/2" thick black poly material. The trays shall have handhold cutouts on the vertical and horizontal edges.
- Two (2) Akron 9333 Navigator Pro electric control 1 3/4" xlay
The valve(s) shall be electrically actuated from the pump operator's position with an Akron 9333 Navigator Pro valve controller. The controller shall provide valve position indication.

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- One (1) Chicksan 2" swivel elbows for 1.75" crosslays NST
There shall be one (1) 2" swivel elbows with 1 1/2" male NST hose thread connections provided on the 1 3/4" cross lay hose beds. The swivels shall be mounted in a position to prevent hose "pinching" at the hose thread connection.
- One (1) 3/4" manual drain valves for crosslays
1 3/4" CROSSLAY MANUAL DRAIN VALVES
- 3/4" manual drain valves shall be provided for all 1 3/4" crosslays. The valves shall have an all brass body with heavy duty neoprene seal.
- One (1) 1" booster reel (choose location later - additional cost). M1
HANNAY ELECTRIC REWIND BOOSTER REEL(S)
- One (1) One (1) Hannay 12 volt electric rewind booster reel(s) shall be provided and mounted on the apparatus.
1" reel in RH under crew cab door M1
The reel shall be mounted under the crew cab door on the right side.
- One (1) Alum treadbrite door on reel compt RH
The right side reel mounted under the crew cab door shall have an aluminum treadbrite hinged door.
- One (1) Reel shall be steel w graphite gray painted finish.
REEL FINISH - GRAPHITE GRAY
- One (1) The reel(s) shall be finish painted graphite gray on the entire surface of the reel, discs and mounting assembly.
1" reel to have 1 1/2" plumbing/valve
1 1/2" PLUMBING/VALVE
- One (1) The booster reel shall have 1 1/2" plumbing and valve.
Akron 9333 Navigator Pro electric control Reel
The valve shall be electrically actuated from the pump operator's position with an Akron 9333 Navigator Pro valve controller. The controller shall provide valve position indication.
- One (1) REEL FOAM CAPABLE.
The reel discharge shall be foam capable.
- One (1) RH (pass.) roller in under cab reel.
A Hannay FH-3 stainless steel roller assembly with brackets shall be provided for guiding the booster hose.
- One (1) Booster reel rewind button
A rewind button shall be provided adjacent to the reel. The button shall be able to be activated while standing on the ground and shall be a heavy duty momentary push type button.
- One (1) Booster reel hand crank for manual rewind
A manual rewind crank shall be provided in case of power failure. The removable crank handle shall be mounted inside of an apparatus body compartment.
- One (1) Single 100' length 1" booster hose

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100' 1" BOOSTER HOSE 800 PSI

One (1) A single 100' length of 1" booster hose shall be provided for the reel. The hose shall have an 800 psi rating and shall be coupled with bar-way couplings.

Fire Dept. Provided Nozzle for reel.

FIRE DEPARTMENT PROVIDED REEL NOZZLE

One (1) The Fire Department shall provide the nozzle for the reel.

Air blowout for 1" reel

1" BOOSTER REEL AIR BLOW OUT

An air blowout shall be provided to force the water out of the reel discharge piping. The control shall be provided at the pump panel.

One (1) A check valve shall be provided in the air line to prevent backflow of water into the chassis air system. pump panel (driver frt compt) w 1 3/4" (2) tray xlays.

PUMP PANEL

The pump panel shall be located in the forward section of the driver's side compartment ahead of the rear wheels.

One (1) Aluminum Heat Pan Enclosure

PUMP HEAT PAN ENCLOSURE - ALUMINUM

An aluminum heat pan shall be provided to enclose the bottom of the pump compartment. Aluminum material shall be used to prevent rust and corrosion that is commonly found in pans made of steel. The assembly shall completely enclose the underside of the pump to aid in the prevention of freezing in winter weather. The bottom of this enclosure shall be designed to be easily removed without the need to remove any bolts or fasteners. For ease of handling, the bottom enclosures shall be installed in two sections. One section shall slide out each side for maintenance and pump compartment clean out. Drain holes shall be provided in the bottom.

One (1) Pump compartment heater 40,000 BTU

PUMP COMPARTMENT HEATER

A minimum 40,000 BTU hot water type heater shall be provided and mounted within the pump compartment. Both the feed and return coolant hoses shall be routed within the frame rails from the engine compartment to the heater in the pump compartment. A 12 volt fan shall be provided and shall be mounted to direct heated air toward the back of the gauge panel.

One (1) Commercial chassis

Shutoff valves shall be provided in both lines and shall be located in an easily accessible location within the engine compartment.

One (1) Pump compt heater fan switch on cab console.

PUMP COMPARTMENT HEATER SWITCH

One (1) A lighted switch shall be provided on cab console to activate/de-activate the heater fan.

Pump compartment heater hose - rubber

PUMP COMPARTMENT HEATER HOSE

The pump compartment heater shall be connected to the chassis engine using Gates Green Stripe or comparable rubber heater coolant hose.

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- One (1) Pump panel brushed stainless steel.
PUMP PANEL CONSTRUCTION
- The pump panel shall be constructed of brushed stainless steel. The entire panel shall hinged down for access.
- One (1) Side mount panel brushed stainless steel
BRUSHED STAINLESS STEEL PUMP PANEL
- The pump panel shall be constructed of 304 2B marine grade brushed stainless steel with a #4 brushed and polished finish.
- One (1) ILI - LED top mount pump panel lights - track type
LED PUMP PANEL LIGHTS
- The top mount pump panel shall be illuminated using a track type LED light assembly.
- The light shall be constructed of an unbreakable type clear poly flexible material housed in an aluminum extrusion mounted behind a brushed stainless steel light shield shall be provided across the top of the gauge panel.
- One (1) ILI - LED side mount pump panel lights - track type
SIDE MOUNT PUMP PANEL LIGHTS
- The side mount pump panel shall be illuminated using a track type LED light assembly.
- The light shall be constructed of an unbreakable type clear poly flexible material housed in an aluminum extrusion mounted behind a brushed stainless steel light shield provided across the top of the gauge panel.
- One (1) Pump panel light activation with pump shift
AUTOMATIC PUMP PANEL LIGHT ACTIVATION
- The pump panel lights above the pump control panel shall function automatically with the pump shift activation.
- One (1) Pump panel light activation with pump shift
AUTOMATIC PUMP PANEL LIGHT ACTIVATION
- The pump panel lights above the pump control panel shall function automatically with the pump shift activation.
- One (1) ICI 4" master pressure gauge
ICI MASTER PUMP DISCHARGE PRESSURE GAUGE
- An ICI 4" diameter master pressure gauge shall be provided to indicate the main pump discharge pressure. The gauge shall read from 30" hg vacuum to 400 psi and shall be accurate within +/- 1%. The gauge shall be glycerin filled (-40F to +150F) and have a high impact resistant clear acrylic lens.
- One (1) ICI 4 " pump intake pressure gauge
ICI MASTER PUMP INTAKE PRESSURE GAUGE
- An ICI 4" diameter master pressure gauge shall be provided to indicate the pump intake pressure. The gauge shall read from 30" hg vacuum to 400 psi and shall be accurate within +/- 1%. The gauge shall be

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- glycerin filled (-40F to +150F), read up to 400 psi, be accurate within +/- 1% and have a high impact resistant clear acrylic lens.
- One (1) Master gauge bezel - bright finish
The master intake and discharge gauges shall have bright finish bezels.
- One (1) Master gauges face white with black numbers
The master gauge dials shall be white with black markings. The needle shall match the color of the markings.
- One (1) Master intake/discharge gauge labeling
The master intake gauge shall be clearly labeled "PUMP INTAKE" and shall be located to the left of the master discharge pressure gauge. The label shall be burgundy color.
- One (1) The master discharge gauge shall be clearly labeled "PUMP DISCHARGE" and shall be located to the right of the intake pressure gauge. The label shall be black color.
Master gauge warranty.
The master intake/discharge pressure gauges shall have a lifetime non-yellowing and freeze warranty. The gauges shall also be warranted for 4 years for defects in materials and workmanship, including fluid leakage. The warranty will not cover labor costs and/or transportation costs.
- One (1) Innovative Controls Soft Glo tank gauge on pump panel. **
INNOVATIVE CONTROLS SOFT-GLO TANK GAUGE - PUMP PANEL
- One (1) An Innovative Controls Soft-Glo tank gauge shall be provided on the pump panel. The gauge shall feature a 180 degree highly visible wide view Soft-Glo LED display showing the level of the booster tank.
Tank gauge to have chrome bezel
The gauge shall have a chrome bezel.
- One (1) Tank gauge park brake disable
TANK GAUGE PARK BRAKE DISABLE
- One (1) The tank gauge(s) shall be disabled when the park brake is released so that the lights are not a distraction when the vehicle is in motion.
Innovative Controls Soft-Glo "A" foam tank gauge on pump panel.
INNOVATIVE CONTROLS SOFT-GLO FOAM TANK GAUGE - CLASS A FOAM
- One (1) An Innovative Controls Soft-Glo class A foam tank gauge shall be provided on the pump panel. The gauge shall feature a 180 degree highly visible wide view Soft-Glo LED display showing the level of the booster tank.
- One (1) Foam gauge chrome bezel.
A chrome plated bezel shall be provided.
- One (1) ICI pressure gauges (US)
ICI DISCHARGE PRESSURE GAUGES
- One (1) Unless otherwise specified, each 1 1/2" or larger discharge shall have an ICI pressure gauge. The gauge shall be glycerin filled (-40F to +150F), read from 0 - 400 psi, be accurate within +/- 1% and have a high impact resistant clear acrylic lens.
Pressure gauge size - 2 3/4" diameter ICI
The individual discharge pressure gauges shall have a 2 3/4" diameter.
- One (1) Pressure gauge face white with black numbers
The discharge pressure gauge dials shall be white with black markings. The needle shall match the color of the markings.
- One (1) Pressure gauge - control handle alignment

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The pressure gauge shall be directly in line with or adjacent to the discharge control handle for the discharge that they provide pressure readout for. **For ease of operation, this requirement must be strictly adhered to. There shall be no exception to this requirement.**

One (1)

Pressure gauge labeling

The gauges shall be clearly labeled with permanent color coded labels.

One (1)

Pressure gauge warranty.

The discharge pressure gauges shall have a lifetime non-yellowing and freeze warranty. The gauge shall also be warrantied for four years for defects in materials and workmanship including fluid leakage.

Warranty will not cover labor costs and/or transportation costs.

One (1)

Innovative Controls ID labels STD VERBIAGE/COLORS

IDENTIFICATION LABELS FOR PUMP PANEL

Innovative Controls verbiage label bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These labels shall be designed and manufactured to withstand the specified apparatus service environment.

Where required, the verbiage label bezel assemblies shall include a chrome plated panel mount bezel with durable easy to read UV resistant polycarbonate inserts featuring the specified verbiage and color coding. The UV resistant polycarbonate verbiage and color inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

The color scheme for the discharge and intake labels shall be per NFPA.

One (1)

United Plastic Fabrication, Inc Booster Tank PT3. wet rescue

BOOSTER TANK- UNITED PLASTIC FABRICATING, INC.

The tank shall have a LIFETIME warranty provided by United Plastic Fabricating, Inc.

The tank exterior shell shall be constructed of minimum 1/2" thick PT3 polypropylene sheet stock. This material shall be non-corrosive stress relieved thermoplastic which is U.V. stabilized for maximum protection. The booster tank shall be of a specific configuration and is designed to be completely independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity. The tank construction shall include Poly Pro Seal technology. A sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise.

The transverse swash partitions shall be manufactured of 3/8" PT3 polypropylene material. The longitudinal swash partitions shall be constructed of 3/8" PT3 polypropylene and extend through the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions shall interlock with one another and are welded to each other as well as to the walls of the tank. All partition spacing shall be compliant with NFPA recommendations.

The top of the booster tank shall be fitted with removable lifting eyes.

The tank cradle assembly shall be designed to provide support to the tank. The assembly shall be approved by the manufacturer of the tank.

One (1)

500 Gallon poly tank wet rescue

BOOSTER TANK CAPACITY 500 GALLONS

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- One (1) The poly booster tank shall have a capacity of 500 U.S. gallons.
4" tank overflow
4" TANK OVERFLOW
- A 4" diameter tank vent/overflow shall be provided and integrated into the tank. The piping shall be a minimum of schedule 40 polypropylene designed to run through the tank and discharge behind the rear wheels to the ground.
- One (1) 1" tank sump drain
1" TANK SUMP DRAIN
- A 1" drain shall be provided in the bottom of the tank sump to fully drain the tank. The drain shall use 1" stainless steel piping with a 1" valve.
- One (1) Drain handle remoted to side
The control for the valve shall be remoted to the driver's side of the apparatus just under and behind the side rub rail. The drain control handle shall be labeled "TANK DRAIN".
- One (1) 3" tank sump clean out plug
3" TANK SUMP CLEAN OUT PLUG
- One (1) A 3" tank sump clean out plug shall be provided in the bottom of the tank sump.
10 gallon Class A tank
10 GALLON CLASS A FOAM TANK
- A 10 gallon Class A foam tank shall be provided. The tank shall have all connections necessary to connect to the foam system and shall also have a 1/4 turn drain valve with hose attached to allow the tank to be drained.
- The tank shall have an **8"x 8"** fill tower with hinged type lid with latch. A vent shall be provided in the lid.
- A label shall be provided on the lid that reads "CLASS A FOAM TANK FILL" and "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM".
- One (1) Class A foam tank integrated into main booster tank
CLASS A FOAM TANK/BOOSTER TANK INTEGRATION
- The class A foam tank shall be integrated into the apparatus booster tank. The foam tank shall not be separate from the booster tank.
- One (1) 3" tank to pump - (MS1) (4" piping tank to valve) wet rescue
3" TANK TO PUMP
- One 3" tank to pump line(s) and valve(s) shall be provided between the tank and the pump. The piping from the sump to the valve shall be 4".
- One (1) Akron 9327 Navigator Pro electric control (tank to pump).
The tank to pump valve shall be electrically actuated from the pump operator's position with an Akron 9327 Navigator Pro valve controller. The controller shall provide valve position indication.
- One (1) Tank to pump line check valve

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TANK TO PUMP CHECK VALVE

A check valve assembly shall be provided on the pump. The valve shall prevent unintentional back filling of the tank through the tank to pump line. Connection from the valve to the tank shall be made by using a non-collapsible flexible rubber hose.

One (1)

Toyne HD walk around welded stainless steel rescue body.

STAINLESS STEEL APPARATUS BODY CONSTRUCTION

The entire apparatus body shall be formed by shearing and bending fire apparatus quality stainless steel sheet metal. Metal tubular structures or extrusions shall not be used in the construction of the apparatus body. All edges of the sheared metal shall be sanded to remove any sharp shear edges prior to bending the metal. After shearing and bending, the body shall be assembled on a jig table that is designed to hold all apparatus body parts securely in place to insure an accurately built apparatus body. After the fabricated body parts are secured on the jig, the body shall be welded together using a wire welder to insure proper weld penetration.

The entire apparatus body shall be welded together using only unexposed welding methods. No welds shall be visible on the exterior of the apparatus body. All welds on the exterior of the body shall be ground flush and filled with automotive body filler. Metal or rubber trims shall not be used to hide welds or seams.

One (1)

Body sub-structure for rescue type 'walk-around' body. (Steel - HDG)

BODY SUPERSTRUCTURE FRAME

The entire apparatus body substructure shall be framed using heavy wall structural steel channels, angles, plate and tubing.

The frame shall be assembled on a precision jig to insure that the apparatus body remains true and square during assembly.

After complete assembly of the tank cradle substructure, the entire assembly shall be hot dipped galvanized for superior corrosion protection.

One (1)

Welded SS - ss comp floors.

COMPARTMENT FLOORS

All compartment floors shall be constructed of fire apparatus quality stainless sheet steel. The floors shall have a minimum 1" upward flange on the rear wall of the compartment to prevent any possible moisture accumulation in this area. A drainport shall be provided in each rear corner of the compartment to allow any water that may collect on the floor to drain out. The sides of the floor must be welded the full depth of the compartment to eliminate moisture accumulation. These welds must be placed on the bottom exterior of the compartment so that they are not visible on the interior of the compartment. The front edge of the compartment shall consist of a minimum of four bends to provide additional strength in the compartment floor and shall then form the lower door jamb.

All compartment floors shall be sweep out design. This shall include the lower side compartments, any upper compartments, and the rear face compartment. Any exception to this requirement will cause immediate rejection of bid.

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- One (1) Welded SS - compt walls/body sides
COMPARTMENT REAR WALLS/BODY SIDES
- The compartment rear walls and the apparatus body sides shall be constructed of fire apparatus quality stainless sheet steel. The corners shall be one piece construction from top to bottom and from the inner body panel to the outer face of the compartment to provide maximum strength. Corners using structural support channels or extrusions that require two or more pieces to be welded together shall not be implemented.
- One (1) Welded SS - compt tops/ceilings
SIDE/REAR COMPARTMENT TOPS AND CEILINGS
- The side and rear compartment tops and ceilings shall be constructed of fire apparatus quality stainless sheet steel. The ceiling of the lower side compartments in the extended depth section shall also be constructed of this material.
- One (1) Welded SS - fenderwell
FENDERWELLS
- The left and right side rear fender wells shall be constructed of fire apparatus quality stainless steel sheet steel. A 1" gap shall be provided on the bottom of each side of the circular liner to allow drainage of water and for easy cleanout. Sufficient clearance shall be provided for tire chains. The fender wells shall be thoroughly cleaned and sealed.
- One (1) Welded SS - removable fender liner
REMOVABLE INNER FENDER LINER
- The fender wells shall be radius cut and shall have a circular inner liner to prevent rust pockets and for ease of cleaning. The inner liner shall be constructed of high impact polyethylene material and shall be fully removable for chassis suspension access.
- One (1) Welded SS - ss fenderette
STAINLESS STEEL FENDERETTE
- The fender wells shall be trimmed with a polished stainless steel fenderette. The stainless steel fenderette shall be secured into place with stainless steel fasteners and shall be easily removable for replacement. A black rubber fender welting shall be provided between the fenderette and the inner liner surface. The fenderettes shall protrude from the apparatus body a maximum of 1".
- One (1) **The fenderette must be bolted into place and removable for replacement.**
Body mounts for rescue type 'walk-around' body.
BODY MOUNTING
- The substructure shall be mounted to the chassis framerrails with not less than 8 "U" bolt type brackets, 4 on each side. The "U" bolts shall have a minimum diameter of 5/8".
- One (1) Roof construction for 'walk around' rescue - alum. treadbr (welded ss body)
ROOF CONSTRUCTION
- One (1) The roof shall be 1/8" aluminium treadbrite with all seams fully sealed around the perimeter of the roof.
Front body wall - .125" aluminum treadbrite.
FRONT BODY SKIN 1/8" ALUMINUM TREADBRITE
- The front body wall skin shall be constructed of or overlaid with 1/8" aluminum treadbrite.

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The aluminum treadbrite front wall shall be sealed around its entire perimeter used a pliable silicone sealent, silver in color.

- One (1) Compartment ventilation for all exterior compartments.

COMPARTMENT VENTILATION

Each compartment shall be ventilated to the exterior of the body through a removable metal ventilation plate in the compartment wall or through pass through ventilation into an adjoining compartment.

A cleanable filter material shall be provided behind the plate.

- One (1) Plastic cover plates will not be acceptable.

Rear step area lighting LED std

REAR STEP AREA LIGHTING

Two high output LED step type lights shall be provided in the rear step, one each side. The lighting shall be directed downward.

- One (1) The lights shall function automatically with the park brake.
204" Walk-around Rescue Body 17' . 32-48-56-48 compts. *****

RESCUE BODY EXTERIOR COMPARTMENTS

- One (1) DFW1 70" high x 32" wide x 26" depth lower/transverse upper

DRIVER'S SIDE FRONT OF REAR WHEEL COMPARTMENT - TRANSVERSE

DFW1 - One compartment shall be provided ahead of the driver's side rear wheel. The compartment shall have the minimum dimensions of 70" high x 32" wide x 26" usable depth.

- One (1) DFW1 Roll up door - Painted single color.

DFW1 compartment shall have a roll up door with a single color painted finish.

- One (1) DFW2 70" high x 48" wide x 26" usable depth

DRIVER'S SIDE FRONT OF REAR WHEEL COMPARTMENT

DFW2 - A second compartment shall be provided ahead of the driver's side rear wheel. The compartment interior dimensions shall be 70" high x 48" wide x 26" usable depth.

- One (1) DFW2 Roll up door - Painted single color.

DFW2 compartment shall have a roll up door with a single color painted finish.

- One (1) DAW1 39" high x 61" wide x transverse

DRIVER'S SIDE ABOVE WHEEL COMPARTMENT - TRANSVERSE

DAW1 One compartment shall be provided above the rear wheels on the driver's side. The compartment shall be 39" high x 61" wide x transverse.

- One (1) DAW1 Roll up door - Painted single color.

DAW1 compartment shall have a roll up door with a single color painted finish.

- One (1) DRW1 70" high x 48" wide x 26" usable depth

DRIVER'S SIDE REAR OF REAR WHEEL COMPARTMENT

DRW1 - One compartment shall be provided behind the driver's side rear wheels. The compartment interior dimensions shall be 70" high x 48" wide x 26" usable depth.

- One (1) DRW1 Roll up door - Painted single color.

DRW1 compartment shall have a roll up door with a single color painted finish.

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- One (1) PFW1 70" high x 32" wide x 26" depth lower/transverse upper.
PASSENGER'S SIDE FRONT OF REAR WHEEL COMPARTMENT
- One (1) PFW1 - One compartment shall be provided ahead of the passenger's side rear wheel. The compartment shall have the minimum dimensions of 70" high x 32" wide x 26" usable depth.
PFW1 Roll up door - Painted single color.
PFW1 compartment shall have a roll up door with single color painted finish.
- One (1) PFW2 70" high x 48" wide x 26" usable depth
PASSENGER'S SIDE FRONT OF REAR WHEEL COMPARTMENT
- One (1) PFW2 - A second compartment shall be provided ahead of the passenger's side rear wheel. The compartment interior dimensions shall be 70" high x 48" wide x 26" usable depth.
PFW2 Roll up door - Painted single color.
PFW2 compartment shall have a Robinson roll up door with single color painted finish.
- One (1) PAW1 39" high x 61" wide x transverse
PASSENGER'S SIDE ABOVE WHEEL COMPARTMENT - TRANSVERSE
- One (1) PAW1 One compartment shall be provided above the rear wheels on the passenger's side. The compartment shall be 39" high x 61" wide x transverse.
PAW1 Roll up door - Painted single color.
PAW1 compartment shall have a roll up door with a single color painted finish.
- One (1) PRW1 70" high x 48" wide x 26" usable depth
PASSENGER'S SIDE REAR OF REAR WHEEL COMPARTMENT
- One (1) PRW1 - One compartment shall be provided behind the passenger's side rear wheel. The compartment interior dimensions shall be 70" high x 48" wide x 26" usable depth.
PRW1 Robinson roll up door - Painted single color.
PRW1 compartment shall have a Robinson roll up door with a single color painted finish.
- One (1) 48" D rear comp for 48" DRW/PRW compt. 17' BODY
REAR COMPARTMENT
- One (1) A rear compartment shall be provided on the apparatus. The compartment shall have minimum dimensions of 38" wide x 54" high x 48" depth.
Rear compt. Roll up door - Painted single color.
The rear compartment shall have a roll up door with painted single color finish.
- One (1) Transverse floors extended to inside door opening
TRANSVERSE FLOOR EXTENSIONS
- All lower transverse floors shall be extended out to just inside the door opening.
- One (1) Fenderwell finish painted - no alum tread - bolted on panels
PAINTED FENDERWELLS
- The fender wells shall be finish painted the primary exterior color of the apparatus.
- Two prevent potential corrosion points, aluminum treadbrite or bolted on overlapping panels shall not be implemented in the construction of the apparatus body.
- One (1) Removable fender liner - no exception
REMOVABLE INNER FENDER LINER - NO EXCEPTION

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To prevent the accumulation of potential corrosive materials in the fender well area, there shall be no exception to the removable inner fender liner.

- One (1) Fenderette replaceable no exceptions
REPLACEABLE FENDERETTE

The stainless steel fenderette shall be secured to the apparatus body with stainless steel fasteners and shall be easily removable for replacement.

Fenderettes that are welded to the apparatus body are not acceptable.

- One (1) Standard compartment ventilation with metal covers.
COMPARTMENT VENTILATION

Each compartment shall be ventilated to the exterior of the body through a removable metal ventilation plate in the compartment wall or through pass through ventilation into an adjoining compartment.

A cleanable filter material shall be provided behind the plate.

- One (1) Roll up compartment door description. (ROM Series IV) Short spec
ROM SERIES IV ROLL UP COMPARTMENT DOORS

For all compartments requiring roll up doors, Robinson (ROM) Series IV roll up doors shall be installed.

- One (1) Each shutter slat, track, bottom rail, and drip rail shall be constructed from anodized 6063 T6 aluminum.
SIDE TRIMS AND UPPER TRIM PAINTED.
PAINTED ROLL UP DOOR EXTERIOR TRIMS

The side and upper trims on the roll up door shall be painted a single color to to match the primary exterior color of the apparatus.

- One (1) Pull rope for all side compt roll up doors. (side wall mt - single axle)
ROLL UP DOOR PULL ROPES

Pull ropes shall be provided on the interior of all roll up doors on high side compartments.

One end of the rope shall be mounted to the bottom portion of the door and the other mounted to the side wall of the compartment. The end shall be mounted in a location that will prevent the strap from hanging out the door opening when the door is closed.

- Nine (9) Roll up door shrouds (COST PER DOOR)
ROLL UP DOOR SHROUD

Roll up door schrouds shall be provided on nine (9) compartment doors. The shroud(s) shall protect the roll up drum from possible damage from shifting equipment and protect the stored equipment in the compartment from water drainage of snow or rain covered doors when they have been rolled up.

- One (1) Magna-Gard coated stainless steel bolts
STAINLESS STEEL COATED FASTENERS

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All fasteners used in the finish construction of the apparatus body shall be marine grade stainless steel. Fasteners that pass through a dissimilar metal panel shall be Magna-Gard, or equal, coated to help prevent metal reaction and corrosion.

As the Magna-Gard, or equal, coating is a "baked on" type coating providing for excellent adhesion to the fastener, spray on type coatings may be used in conjunction with the Magna-Gard, or equal, but not in place of it.

Because dissimilar metal corrosion is a common occurrence on all apparatus and the Magna-Gard (or similar "baked on" coatings) fasteners are commercially available to all manufacturers and is not a proprietary product, there shall be no exception to this requirement.

One (1) Upper door jamb body extension - HD RESCUE WELDED

UPPER DOOR JAMB EXTENSIONS

The upper door jamb of the side compartments shall be extended upward on both sides providing a mounting area for side upper warning lights, scene lighting, etc. The sides shall be extended up to the same height as the side walls of the hose bed area.

One (1) Exterior of upper body extension finished painted. Welded ss body.

UPPER DOOR JAMB EXTENSIONS FINISH PAINTED

The outer surface of the upper door jamb shall be finish painted to match the exterior of the apparatus body color.

One (1) Recessed walkway in roof

RECESSED ROOF WALKWAY

A recessed walkway shall be provided in the roof the of the apparatus. The walkway shall be centered in the middle of the apparatus and be approximately 44" width.

The floor of the walkway shall be NFPA compliant 1/8" aluminum treadbrite.

One (1) Open on rear/no recess w intermediate step (see pic)

WALKWAY ACCESS

The walkway shall be open at the rear of the body for access to the top storage.

An intermediate step shall be provided on the rear of the apparatus above the rear compartment door. The step shall be as wide as apparatus design layout allows and shall be 12" depth.

One (1) Walkway area lighting LED Whelen 0AC0EDCR

WALKWAY AREA LIGHTING - WHELEN

Four Whelen 0AC0EDCR LED step type lights shall be provided in the walkway area, two each side. The lighting shall be mounted high and directed downward.

One (1) The lights shall function automatically with the park brake.

LH Coffin compartments above side compts - LH side.

LEFT SIDE COFFIN COMPARTMENTS

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Coffin compartments shall be provided above the side compartments on the left side. The length of the compartments shall be the same as the length of the side compartments. The width shall be the same as the upper depth of the side access compartments. Maximum depth will be provided based on design of the apparatus.

One (1)

LH coffin compt top access doors (2)

LEFT SIDE COFFIN COMPARTMENT ACCESS DOORS (2)

Two aluminum treadbrite access doors shall be provided for access to the left side coffin compartments. The doors shall have a 1" raised lip to help keep water from running into the compartment. The doors shall be fully weather stripped.

Two pneumatic shocks shall be provided on each door to hold the door in the open position.

One (1)

LH rear face coffin compt false floor for storage above lower sectREQ TOP DOOR

A 'false floor' panel shall be provided in the compartment above any lower section permanently mounted equipment with access from top doors.

One (1)

LH coffin compartment door flush D ring latches

The door shall be secured using stainless steel flush D-ring latches.

One (1)

LH Coffin compartment lighting - 48"

LEFT SIDE COFFIN COMPARTMENT LIGHTING

Each left side coffin compartment shall have one 48" ILI track type L.E.D. light mounted in the center of the compartment door opening(s). The lights shall be constructed of an unbreakable type clear poly type flexible material housed in an aluminum extrusion.

The lights shall function automatically and independently of other compartments when the compartment door is opened.

One (1)

LH Coffin floor matting - Turtle Tile.

LEFT SIDE COFFIN FLOOR MATTING - TURTLE TILE

The left side coffin compartment floors shall be covered with Turtle Tile floor matting. The areas of the floor that have permanently mounted equipment shall not be covered.

One (1)

RH Coffin compartments above side compts - RH side.

RIGHT SIDE COFFIN COMPARTMENTS

Coffin compartments shall be provided above the side compartments on the right side. The length of the compartments shall be the same as the length of the side compartments. The width shall be the same as the upper depth of the side access compartments. Maximum depth will be provided based on design of the apparatus.

One (1)

RH coffin compt top access doors (2)

RIGHT SIDE COFFIN COMPARTMENT ACCESS DOORS (2)

Two aluminum treadbrite access doors shall be provided for access to the right side coffin compartments. The doors shall have a 1" raised lip to help keep water from running into the compartment. The doors shall be fully weather stripped.

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Two pneumatic shocks shall be provided on each door to hold the door in the open position.

- One (1) RH rear face coffin compartment false floor for storage above lower section
A 'false floor' panel shall be provided in the compartment above any lower section permanently mounted equipment with access from top doors.
- One (1) RH coffin compartment door flush D ring latches
The door shall be secured using stainless steel flush D-ring latches.
- One (1) RH Coffin compartment lighting - 48"
RIGHT SIDE COFFIN COMPARTMENT LIGHTING
- Each right side coffin compartment shall have one 48" ILI track type L.E.D. light mounted in the center of the compartment door opening(s). The lights shall be constructed of an unbreakable type clear poly type flexible material housed in an aluminum extrusion.
- The lights shall function automatically and independently of other compartments when the compartment door is opened.
- One (1) RH Coffin floor matting - Turtle Tile.
RIGHT SIDE COFFIN FLOOR MATTING - TURTLE TILE
- The right side coffin compartment floors shall be covered with Turtle Tile floor matting. The areas of the floor that have permanently mounted equipment shall not be covered.
- One (1) Rear access ladder (rescue window recess)
ACCESS LADDER
- An access ladder shall be provided on the rear of the apparatus to access the upper area of the apparatus. A minimum of 8 inches of clearance shall be provided between the rung and the body or any obstruction.
- One (1) Rear access ladder on the left (driver) side.
REAR ACCESS LADDER – LEFT (DRIVER) SIDE
- The rear access ladder shall be located on the left (driver) side of the apparatus.
- One (1) Rear access ladder lighting.
ACCESS LADDER LIGHTING
- The access ladder and surrounding areas shall be illuminated with LED step lighting. The lights shall have a chrome plated or stainless steel housing.
- One (1) NFPA aluminum treadbrite rear step - HD rescue
REAR STEP MATERIAL - NFPA ALUMINUM TREADBRITE
- The rear step shall be constructed of NFPA complaint bright finish aluminum treadbrite.
- One (1) 10" depth rear step - Flatback
10" REAR TAILBOARD STEP
- The outer rear edge of the rear step shall be positioned 10" from the rear face of the apparatus. This shall include an approximate 3/4" wash out gap at the rear face of body.
- One (1) Std. Extruded alum. rubrail

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RUBRAILS - BRIGHT ANODIZED ALUMINUM

Extruded aluminum rub rails shall be provided on the apparatus body sides. The rub rails shall have a bright finish with anodized coating to protect the finish. The rub rails shall be spaced from the apparatus body a minimum of 1/4" with poly spacers.

The rub rails must be bolted on to the apparatus body to allow easy replacement if damaged. Rub rails that are permanently fastened to the apparatus body by welding or any other permanent method will not be acceptable. **NO EXCEPTION WILL BE ALLOWED TO THIS REQUIREMENT.**

One (1) Rubrail ends - EPDM black.

RUB RAIL ENDS

One (1) The rub rail ends shall be 'capped' with a high impact resistant black EPDM contoured block.
Ladders-slide in from rear in rescue top walkway LH SIDE Walk around rescue

WALKWAY LADDER STORAGE

Ladder storage shall be provided on the left side of the body walkway with an access door on the rear. The storage area shall be open on the top of the compartment to allow for angled load/unload of the ladders. The forward 12" of the storage area shall be covered to prevent ladders from raising up while apparatus is in motion. The rear hinged door shall have a similar stop incorporated into it. The ladder(s) shall be stored on beam.

The floor of the storage area shall be provided with permanently attached Rodex poly slip blocks with tapered edges allow easier loading/unloading of the ladders.

One (1) Alco-Lite PEL-24 24' 2 sect alum ladder
ALCO LITE 24' 2-SECTION ALUMINUM LADDER

One (1) Alco Lite model PEL-24, 24' NFPA compliant two section aluminum extension ladder shall be provided and mounted.

Eight (8) DUAL aluminum shelf track PER COMPT.
DUAL COMPARTMENT SHELF TRACKS - ALUMINUM

Eight (8) sets consisting of four heavy duty aluminum tracks shall be provided in specified compartments, two for each end of shelf.

Six (6) The tracks shall not be welded to the apparatus body.
18/26 Alum (1/8") compt. shelf \$\$ per shelf
FULL DEPTH COMPARTMENT SHELVEING

There shall be six (6) full depth shelves provided. The shelves shall be constructed of 1/8" smooth aluminum with a 2" upward bend on the front and rear edges.

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3 in L2, One in L4
One in R2 and One in R4

Six (6) Random orbit sanded finish 24/26 shallow shelves.
The shelves shall have a random orbit sanded finish.

Six (6) Turtle Tile on compt shelf - 24/26

TURTLE TILE SHELF MAT

Two (2) Each full depth shelf shall have Turtle Tile matting.
Stationary vert. compartment partition - 3/16" smooth alum. (Hi compt)

STATIONARY VERTICAL COMPARTMENT PARTITION

Two (2) stationary vertical compartment partition(s) shall be provided. The partition(s) shall be bolted into place with stainless steel fasteners. The partition(s) shall be constructed of 3/16" smooth aluminum with random orbit sanded finish.

To be mounted in L2 compartment behind cascade system
One in L4 compartment for oil dry dispenser hose

Two (2) Random orbit sanded finish 24/26 stationary vert compt partition
The partition(s) shall have a random orbit sanded finish.

Three (3) Bostrom Secure-All brackets for crew seats \$\$ each
BOSTROM SECURE-ALL SCBA SEAT BRACKET(S)

There shall be three (3) Bostrom Secure-All SCBA seat bracket(s) provided and installed.

One (1) Driver side front of axle 2 cylinder storage compt.
DRIVER'S SIDE FRONT OF WHEELWELL SPARE CYLINDER COMPARTMENT

A compartment shall be provided in the wheel area in front of the rear axle on the driver's side to hold two spare SCBA cylinders.

The compartment shall be injection molded high strength polyethylene designed specifically for the SCBA cylinder storage. The compartment shall be slanted towards the rear and have a drain port at the low point of the compartment.

One (1) Driver side rear of axle storage compt.
DRIVER'S SIDE REAR OF WHEELWELL STORAGE COMPARTMENT

A storage compartment shall be provided in the wheel area behind the rear axle on the driver's side. The compartment shall be 18 1/2" wide in the top 4 1/2" then taper down to 4 1/2" in the lower section and shall be 18 1/4" high in the tallest portion and 25" depth.

One (1) The compartment shall have a drain port at the low point of the compartment.
Pass side front of axle 2 cylinder storage compt.
PASSENGER'S SIDE FRONT OF WHEELWELL SPARE CYLINDER COMPARTMENT

A compartment shall be provided in the wheel area in front of the rear axle on the passenger's side to hold two spare SCBA cylinders.

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- One (1) The compartment shall be injection molded high strength polyethylene designed specifically for the SCBA cylinder storage. The compartment shall be slanted towards the rear and have a drain port at the low point of the compartment.
Pass side rear of axle 2 cylinder storage compt.
PASSENGER'S SIDE REAR OF WHEELWELL SPARE CYLINDER COMPARTMENT
- One (1) A compartment shall be provided in the wheel area behind the rear axle on the passenger's side to hold two spare SCBA cylinders.
- One (1) The compartment shall be injection molded high strength polyethylene designed specifically for the SCBA cylinder storage. The compartment shall be slanted towards the rear and have a drain port at the low point of the compartment.
Wheel well compts BRUSHED finish ss doors.
WHEELWELL STORAGE COMPARTMENT DOORS – BRUSHED FINISH STAINLESS
- One (1) Brushed finish stainless steel access doors shall be provided on each wheel well storage compartment in the wheel well.
Chrome plated thumb lever latches.
The doors shall be secured using chrome plated thumb lever latches.
- One (1) Wheel cowl SCBA cylinder retention straps
WHEELWELL SCBA CYLINDER COMPARTMENT RETENTION STRAPS
- One (1) One 1" wide loop of high visibility yellow webbing shall be installed in each wheel well spare cylinder compartment for each cylinder to be stored in the compartment. The loop(s) shall be designed to loop around the cylinder valve and help prevent the cylinder from sliding out of the compartment if the door is not latched or fails.
Air bag rack to hold six air bags.
AIR BAG STORAGE RACK
- One (1) A storage rack shall be designed to store up to six Fire Department provided air bags. The rack shall be constructed of .125" smooth aluminum with sanded finish.
- One (1) **Mount under shelf in L4 compartment**
Dunnage compt oil dry compartment bin (200 lb capacity)
OIL DRY COMPARTMENT
An oil dry compartment shall be provided and mounted in the dunnage compartment above the pump. The oil dry shall dispense under the right side pump panel with a valve located inside the pump compartment accessible by opening pump access door.
The compartment shall hold 200 lbs of oil dry.
- One (1) Netting for equipment securing in compt (COST PER COMPT)
EQUIPMENT NETTING

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- Four (4) Netting shall be provided in one (1) compartment(s) to help prevent the equipment stored in the compartment from shifting. The webbing shall be black in color with heavy duty connections. PAC-TRAC equipment board approx 30"h x 52"w (54" over wheel)

PAC-TRAC MOUNTING BOARDS

There shall be four (4) PAC-TRAC mounting board(s) provided and mounted in the apparatus. The mounting boards shall be approximately 30" high x 52" wide.

All in R3 compartment mounted on roll out tray.

- One (1) Transverse backboard/stokes compt inside rescue body compts.

TRANSVERSE STOKES BASKET/BACKBOARD COMPARTMENT

A stokes basket/backboard compartment shall be provided in a transverse compartment. The compartment shall be accessible from both sides. A retention strap on shall be provided on both ends.

The compartment shall hold one stokes basket and up to three flat style back boards. The basket and boards shall be Fire Department provided.

- One (1) Turtle Tile High side/high side

TURTLE TILE FLOOR MATS

All lower level apparatus body compartment floors shall be provided with 3/4" thick Turtle Tile modular 12" x 12" square tiles with perforated surface for ventilation and air circulation. The tiles shall be easily removable for cleaning the compartment. The tiles shall interlock into each other to form a "one piece" floor liner.

Floors with permanent mounted or bolted in place accessories will not have floor mats.

- One (1) Black Turtle Tile

TURTLE TILE - BLACK

- One (1) The Turtle Tile shall be black in color.
Turtle Tile edge ramps - Yellow

TURTLE TILE BEVELED EDGES - YELLOW

The Turtle Tile shall have yellow beveled edge "ramps" on the outer edge of the compartments.

- Two (2) Roll out tray 500 lb capacity. Alum tray. (32" wide compt)

ROLL OUT TRAY

There shall be two (2) roll out tray(s) provided. The tray shall be constructed of 3/16" aluminum. The tray shall have a 2" upward bent lip on all four sides of the tray, be 24" depth and 26" wide.

500 lb. total capacity heavy duty ball bearing type telescoping slides shall be provided.

A positive latching mechanism shall be provided to hold the tray in either the fully open or fully closed

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position.

To be mounted in R3 compartments for Pac Boards

- Two (2) Turtle Tile on roll tray. 32"
The tray shall have Turtle Tile matting.
- Two (2) Roll out tray 500 lb capacity. Alum tray. (44" wide compt)
ROLL OUT TRAY

There shall be two (2) roll out tray(s) provided. The tray shall be constructed of 3/16" aluminum. The tray shall have a 2" upward bent lip on all four sides of the tray, be 24" depth and 38" wide.

500 lb. total capacity heavy duty ball bearing type telescoping slides shall be provided.

A positive latching mechanism shall be provided to hold the tray in either the fully open or fully closed position.

One in R2 for Rescue tools and one in rear tailboard compartment for chain saws

- Two (2) Turtle Tile on roll tray. 44"
The tray shall have Turtle Tile matting.
- Four (4) Slidemaster SMT tip down tray/shelf. (requires full depth compts) alum tray
TIP DOWN TRAY(S)- SLIDEMASTER

There shall be four (4) tip down out tray(s) provided. The tray shall be constructed of 3/16" aluminum. The tray shall have a 2" upward bent lip on all four sides of the tray.

Slidemaster SMT 250 lb. total capacity heavy duty ball bearing type telescoping slides shall be provided. The tray shall capable of 90% extension at 30 degrees.

One in R2, R4, L4, L3

- Four (4) SMT IMS spring loaded latch
An IMS spring loaded pull latch with fully open or fully closed positions shall be provided.

- Four (4) Turtle Tile on roll tray.
The tray shall have Turtle Tile matting.

- One (1) SlidemasterSM3-MP 600lb 100% ext.SINGLE DIRECTION "Belle Style" (up to 60" D)
SLIDEMASTER EQUIPMENT TRAY

There shall be one (1) siingle direction equipment tray(s) provided. The tray(s) shall be constructed of 3/16" aluminum. The tray shall have a 2" bent lip on all four sides.

A Slidemaster SM3-MPP 600 lb. total capacity heavy duty ball bearing type telescoping slide system shall be provided. The tray shall capable of 100% extension in either direction.

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A positive latching mechanism shall be provided to hold the tray in either the fully open or fully closed position.

A full width vertical wall divider shall be provided and shall be centered on the tray from front to rear. The ends shall have support structures to hold the wall perpendicular to the tray. There shall be two unit-strut shelf brackets on each side of the wall. Two full body width adjustable shelves shall be provided, one each side of the wall.

Mounted in R3 compartment floor

One (1) Turtle Tile on roll tray. (60" depth or less)
The roll out tray shall have Turtle Tile matting on the floor.

Two (2) Turtle Tile on shelves. (60" depth or less)
Each shelf shall have Turtle Tile matting.

One (1) Intermediate aluminum treadbrite full width hosebed step.

INTERMEDIATE HOSEBED STEP

A full width aluminum treadbrite step shall be provided on the rear face of the apparatus. The step assembly shall be bolted into place using stainless steel fasteners.

One (1) 12 Volt Electrical System/Commercial rescue NEW
NFPA CERTIFIED 12 VOLT ELECTRICAL SYSTEM

The 12-volt apparatus body electrical system shall be provided and shall be in compliance with NFPA testing and certification procedures as follows:

One (1) NFPA minimum electrical load definition
NFPA MINIMUM ELECTRICAL LOAD DEFINITION

The NFPA defined minimum electrical load shall consist of the total amperage required to simultaneously operate the following in a stationary mode:

- Propulsion engine and transmission.
- The clearance and marker lights.
- Communication equipment (5 amp default).
- Illumination of all control and instrument panels.
- Illumination of all walking surfaces, the ground at all egress points, control and instrumentation panels and 50% of total compartment lighting.
- Minimum warning lights required for "blocking right of way" mode.
- The current to simultaneously operate and fire pump and all specified electrical devices.
- Anything defined by the purchaser, in the advertised specifications, to be critical to the mission of the apparatus.

One (1) 12 V. reserve capacity test
RESERVE CAPACITY TEST

A Reserve Capacity Test shall performed on the completed apparatus. All items listed in NFPA Minimum Load Definition shall be activated with the engine shut off. After 10 minutes of operation, those items

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shall be deactivated. After deactivation, the battery system shall have ample reserve to start the engine.

One (1)

Alternator performance test at idle

ALTERNATOR PERFORMANCE TEST AT IDLE

An "alternator performance test at idle" test shall be completed. The minimum continuous electrical load shall be activated with the engine running at idle speed. When the engine temperature has been stabilized at idle speed, the battery system shall be tested to detect any battery discharge current.

One (1)

Alternator performance test at full load test

ALTERNATOR PERFORMANCE TEST AT FULL LOAD

An "alternator performance test at full load" test shall be completed. The minimum continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed for a 2 hour period.

One (1)

Test conditions

TEST CONDITIONS

One (1)

All electrical testing shall be performed with the engine compartment at approximately 200 degrees. 12 volt wiring system

12-VOLT WIRING SYSTEM

All 12-volt electrical wiring shall be SXL cross link rated to carry 125% of the maximum current for which the circuit is protected. The wire shall be of sufficient size so that voltage drop in any electrical device does not exceed 10%. All wiring shall be color, number, and function coded with the number and function being printed every 3" along the entire length of all apparatus body wires (as required by NFPA). All wiring shall be routed through heavy duty PVC split loom securely attached and protected against heat, oil, and physical damage. All locations where the wire passes through a body panel shall be protected with electrical grommets.

All connections shall be made using mechanical connectors and be screwed to terminal or junction box with machine screws. Wire nut, insulation displacement, or piercing connections shall not be used.

All circuits shall be provided with properly rated low voltage over current protective devices of the automatic reset type.

One (1)

Removable access panels shall be provided to provide access to the wire and electrical components. Multiplexed electrical system. Commercial chassis 12/1/25

MULTI-PLEXED ELECTRICAL SYSTEM

The apparatus body electrical system shall incorporate a multiplexed electrical system. The multiplex system shall consist of all solid-state components contained inside weather resistant modules. The multiplex system shall use CAN SAE J1939 proprietary protocol, be field re-programmable and re-configurable by any authorized dealer or service center.

The system shall be capable of performing the following functions:

- Load management
- Sequencing
- Switch loads
- Receive digital and analog signals

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- Perform and report diagnostics
- Continuously report vehicle status
- The system shall be expandable.

One (1) Information display (formerly VFD). Center console mounted switches
INFORMATION DISPLAY PANEL

An interface display shall be provided on the center console just above the switch panel to report and display "Real Time" data such as:

- Door ajar information
- Electrical load shed information/circuit faults
- Park brake status
- Equipment rack/equipment deployed indicator (where applicable).

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- Equipment rack/equipment deployed indicator (where applicable).

One (1) Information Display subject to availability statement
The information display is subject to availability and compatibility with installed electrical system. If the display becomes unavailable or incompatible with the electrical system, the Department will be credited or reimbursed for the purchase price cost of the display. Any function dependent on the display will not be provided.

If the display becomes incompatible with requested mounting location, (listed previously in this specification), the Department can choose an alternate approved location or be credited or reimbursed for the purchase price cost of the display. If the display is removed, any function dependent on the display will not be provided. A flashing light shall be installed to provide common ajar or deployment indication function of the display.

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One (1) "As built" electrical system schematics - commercial chassis

ELECTRICAL SYSTEM SCHEMATICS

As-built wiring harness drawings and a master circuit list of electrical circuits that the apparatus builder installs shall be furnished in the delivery manuals. These schematics must show the electrical system broken down into separate functions, or small groups of related functions. Schematics shall depict circuit numbers, electrical components, harnesses, and connectors from beginning to end.

One (1) **A single drawing for all electrical circuits installed by the apparatus builder shall not be accepted.**
Auto-high idle WITH MANUAL HI IDLE SWITCH

AUTOMATIC HIGH IDLE FUNCTION WITH MANUAL SWITCH

An automatic high idle system shall be installed and will automatically activate whenever the system voltage drops below determined voltage. The high idle will remain on until adequate voltage is achieved.

One (1) A manual high idle switch shall also be provided on the cab switch panel to allow manual activation of high idle system.

Rear LED License plate light/bracket

REAR LICENSE PLATE LIGHT/BRACKET

A chrome plated LED license plate light shall be provided on the rear of the apparatus.

A license plate mounting bracket shall be provided that spaces the license plate away from the apparatus body.

One (1) License plate on LH side on rear.

The license plate shall be on the left side lower rear.

One (1) Clearance lights L.E.D.'s

CLEARANCE LIGHTS/REFLECTORS

All apparatus body clearance lights shall be LED style. All lower clearance lights and reflectors shall be mounted in a manner that provides protection from damage, and shall comply with FMVSS-108 regulations.

One (1) Side turn signal LED low profile.

MID-MOUNTED SIDE TURN SIGNAL - LED

One (1) An amber LED side turn signal shall be provided in the mid-section area of the apparatus on both sides.
ILI- LED track light 2 vertical ea compt

DUAL TRACK TYPE LED COMPARTMENT LIGHTING

Each apparatus body compartment shall have two track type LED lights vertically mounted in the

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compartment. The lights shall be constructed of an unbreakable type clear poly type flexible material housed in an aluminum extrusion.

A compartment that is considered a 'full height' compartment shall each have two 48" long light sections and a 'low height' or above wheel compartment shall each have two 18" long sections.

The lights shall function automatically and independently of other compartments when the compartment door is opened.

One (1) Apparatus body compartment light magnetic switches.

COMPARTMENT LIGHT SWITCHES

Each hinged apparatus body door compartment shall have a magnetic style reed indicator switch.

Each roll up door shall have an integral door open indicator magnet in the lift bar. If the bar is not properly closed, it shall activate the "Door Open" light in the cab.

One (1) The compartment lights shall function automatically when the door is opened. A master compartment light switch shall not be acceptable.

STD. LED door ajar indicator. (commercial)

DOOR AJAR INDICATOR - LED

A red LED flashing light shall be provided in clear view of the driver to warn of an open compartment or personnel door.

A label shall be provided that states "Do Not Move Apparatus When Light Is On".

One (1) 1" x 2" LED door ajar indicator. (supplemental to std)

SUPPLEMENTAL DOOR AJAR INDICATOR

In addition to the standard door ajar light, a 1" X 2" red LED flashing light shall be provided in clear view of the driver to warn of an open compartment or personnel door.

A label shall be provided adjacent to the light that states "Do Not Move Apparatus When Light Is On".

One (1) Audible door ajar indicator

AUDIBLE DOOR AJAR INDICATOR

In addition to the flashing door ajar indicator, an audible alarm shall be provided in the cab to warn of an open compartment or personnel door.

One (1) LH coffin compartment door ajar system

LEFT SIDE COFFIN COMPARTMENT DOOR AJAR INDICATOR

The left side coffin compartments shall be connected to the door ajar system to indicate of an open door.

One (1) RH coffin compartment door ajar system

RIGHT SIDE COFFIN COMPARTMENT DOOR AJAR INDICATOR

The right side coffin compartments shall be connected to the door ajar system to indicate of an open door.

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- One (1) Door ajar system disabled with park brake set.
DOOR AJAR INDICATOR PARK BRAKE DISABLE
- All apparatus body door ajar indicators shall be disabled when the park brake is set.
- Seven (7) TecNiq T44 4" dia LED ground lighting for commercial chassis and body - 4 DOOR
PERIMETER GROUND LIGHTING
- There shall be seven (7) 4" diameter underbody LED perimeter lights furnished and installed. The lights shall have an unbreakable polycarbonate lens and housing. The lights shall be sealed to help prevent moisture entry.
- The ground lights shall be activated with the parking brake.
- One (1) Apparatus body step lighting.
LED APPARATUS BODY STEP LIGHTING
- All apparatus steps and running boards shall be illuminated using chrome plated or stainless steel LED lights. The lights shall function automatically with the park brake.
- One (1) Ground/step lighting cut off switch in cab.
GROUND/STEP LIGHTING CUTOFF SWITCH
- A ground/step light cut off switch shall be provided in the cab to allow the driver to disable the ground lights and other lights that activate when the parking brake is set. The switch shall automatically re-set itself when the parking brake is released.
- One (1) Kussmaul Chief 4012 battery charger
KUSSMAUL CHIEF 4012 BATTERY CHARGER
- A Kussmaul Chief 4012 (091-266-12-40) fully automatic battery charger with 40 amp output shall be installed on the apparatus. Remote voltage sensing shall be provided to compensate the charger output for the voltage drop in the charging wires.
- One (1) A 20 amp DC auxiliary output circuit shall be provided on the charger.
Kussmaul Auto-Pump air compressor
KUSSMAUL AUTO-PUMP AIR COMPRESSOR
- A Kussmaul Auto-Pump 120-volt air compressor shall be provided on the apparatus. The compressor shall have a .76 cfm open flow with a maximum pressure of 100 psi. The pressure switch shall be pre-set at 70 psi cut in and 90 psi cut out.
- One (1) Kussmaul Auto-Drain for air compressor
KUSSMAUL AUTO-DRAIN
- A Kussmaul Auto-Drain model 091-9B-1-AD shall be provided on the apparatus. The Auto-Drain shall automatically drain the filter bowl on the air compressor.
- One (1) Kussmaul Auto-Eject shoreline connection. Deluxe cover w display
AUTO-EJECT SHORELINE CONNECTION WITH CHARGE DISPLAY
- A Kussmaul 120-volt Auto-Eject with charge display on cover shall be provided. The unit shall automatically eject the connecting plug when the engine is cranked.
- One (1) 120 volt shoreline connection under driver door

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- One (1) The connection shall be located under the driver's door.
Eject cover - yellow.
EJECT COVER - YELLOW
- One (1) The eject shall have a yellow spring loaded cover.
Eject 20 mating plug NEMA 5-20P
EJECT MATING PLUG
- One (1) A NEMA 5-20P mating female cord end shall be shipped loose with the apparatus to allow the Fire Department to connect the cord end to a Fire Department provided charging cord.
Whelen M6 LED S/T/T w LED backup 4x6". Quad--Cluster.
WHELEN M6 QUAD-CLUSTER TAILLIGHTS - LED
- Whelen M6BTT 4" x 6" LED taillights and M6T 4" x 6" LED turn signals shall be provided. The backup lights shall be M6BUW 4" x 6" clear LED's.
- An additional space shall be provided in the quad-cluster for the lower C warning lights.
- One (1) M6 Quad--Cluster chrome housing.
M6FCV4 polished trim housings shall be provided.
- One (1) Backup lights to function with park brake.
BACKUP LIGHTS PARK FUNCTION
- One (1) The backup lights shall automatically activate when the park brake is set to provide work lighting at the rear of the apparatus.
Toyne provided STD. backup alarm 97db.
BACKUP ALARM
- One (1) 97db backup alarm(s) shall be provided and shall automatically activate when the apparatus transmission is placed into reverse.
- The backup alarm(s) shall exceed all NFPA and SAE J994 Type D requirements and testing.
- One (1) Commercial chassis/center console/STD design
CONSOLE MOUNTED CONTROL PANEL
- One (1) A control console shall be provided between the driver's and officer's seats for all warning/auxiliary light controls and pump shift.
Single warning light switch
WARNING LIGHT SWITCH - SINGLE
- A single master optical warning device switch shall be provided that will activate all minimum optical warning lighting through a single switch. Individual switches shall not be provided for any minimum optical warning lighting to insure total compliance to the warning lighting requirements defined in NFPA 1901. All lighting controlled by this switch shall not be subject to load management.
- Any warning lights that are installed on the apparatus that are not required to meet the minimum optical warning lighting requirements shall be subjected to load management and shall have individual switches to activate/de-activate the warning light.

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- One (1) All switches shall be clearly labeled as to their function.
Shelf on back of console. 4 door cab only
CENTER CONSOLE SHELF
- A shelf shall be provided on the rear of the control console. The shelf shall be 16" long (side to side) x 6" wide (front to rear) and 1" depth. The shelf shall be constructed of aluminum treadbrite.
- One (1) Center console material - smooth alum/gray zolatone.. SPECIAL
CENTER CONSOLE CONSTRUCTION MATERIAL
- One (1) The console shall be constructed of 1/8" smooth aluminum with a textured gray outer finish.
Center console panel surface material - brushed stainless.
CENTER CONSOLE PANEL MATERIAL
- One (1) The console panel shall be constructed of brushed stainless steel.
Whelen Dynamic Variable Intensiity (DVI) light dimming system. (Commercial)
WHELEN DYNAMIC VARIABLE INTENSITY (DVI) SYSTEM
- The warning light system shall feature the Whelen Dynamic Variable Intensity system (DVI). The System shall sense and evaluate the surrounding environment for light/dark conditions using photo cell technology. If the conditions support activation, the DVI system will automatically adjust intensity of the warning light system and switch the flash pattern to "DVI" pattern.
- The system will only function in "Blocking right of way" mode (stationary). At any time the apparatus is in "Calling for right of way" mode (in motion), the warning light system will stay at maximum intensity.
- The system shall implement the following components:
- One (1) Whelen CC399 control module
One Whelen CC399 control module.
- One (1) Whelen CCT6 control head
One Whelen CCT6 control head.
- One (1) Whelen CEM16 expansion module
One Whelen CEM16 expansion module.
- One (1) Whelen 60" F4N0QLED r/r lightbar. CLEAR LENSES 16 lightheads
ZONE A UPPER WARNING LIGHTING
- A Whelen F4N0QLED lightbar shall be mounted on the top of the cab roof. The lightbar shall be 60" in length and mounted with low profile stainless steel brackets.
- The left and right sides of the lightbar shall both have one red end LED, two red front/rear corner LEDs and five front linear LED's.
- Total of 16 lightheads.

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The lenses on the Officer's and Driver's shall be clear.

- One (1) Whelen DVI enabled lightbar warning lights. (commercial)
WHELEN LIGHTBAR DVI ENABLED LIGHTING
- All warning lights in the lightbar will be programmed to allow the lights to dim when allowable through the Whelen Dynamic Variable Intensity (DVI) system.
- One (1) Whelen Dynamic Variable Intensity (DVI) enabled upper rear zone C warning lights
WHELEN UPPER REAR ZONE C DVI ENABLED LIGHTING
- The upper zone C warning lights will be programmed to allow the lights to dim when allowable through the Whelen Dynamic Variable Intensity (DVI) system.
- One (1) Whelen Dynamic Variable Intensity (DVI) enabled lower zones warning lights.
WHELEN LOWER ZONE DVI ENABLED LIGHTING
- All lower zone A, B, C and D warning lights will be programmed to allow the lights to dim when allowable through the Whelen Dynamic Variable Intensity (DVI) system.
- One (1) (4) M6R LED grille lights 2 red/2 white 4 TOTAL CLEAR LENS
FRONT GRILLE WARNING LIGHTS (4)
- Four Whelen model M6 LED lights shall be provided in the grille area on the apparatus. Two shall be red with clear lens (top) and two shall be white/clear with clear lens (bottom).
- The white lights shall automatically disable when the park brake is set.
- One (1) M6 grille chrome housing.
M6FC chrome trim housings shall be provided.
- One (1) M6RC LED intersection lights one ea side - red. Clear lens
INTERSECTION WARNING LIGHT - SIDES
- One Whelen M6RC red LED light with clear lens shall be provided on each side as low and far forward as possible on the apparatus.
- One (1) M6 intersection chrome housing.
M6FC chrome trim housings shall be provided.
- One (1) M6RC LED mid-section lights one ea side - red. Clear lens
MID-SECTION WARNING LIGHTS - SIDES

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One Whelen M6RC red LED light with clear lens shall be provided on each side in the mid-section of the apparatus.

One (1)

M6 mid-section chrome housing.

M6FC chrome trim housings shall be provided.

One (1)

M6RC LED side facing rear lights one ea side - red. Clear lens

SIDE FACING LOWER REAR WARNING LIGHTS

One Whelen model M6RC red LED light with clear lens shall be provided on each side of the apparatus as low and as far rearward as possible on the apparatus.

One (1)

M6 Lower BD rear chrome housing.

M6FC chrome trim housings shall be provided.

One (1)

M6RC LED lower rear facing lights (2) - red. Clear lens

REAR FACING LOWER WARNING LIGHTS

Two Whelen model M6RC red LED lights with clear lens shall be provided on the lower rear of the apparatus.

One (1)

M6 Lower C chrome housing.

M6FC chrome trim housings shall be provided.

One (1)

Whelen Dynamic Variable Intensity (DVI) upper zones B C D warning lights 3009

WHELEN UPPER ZONES B, C, D DVI ENABLED LIGHTING

All upper zones B, C and D warning lights will be programmed to allow the lights to dim when allowable through the Whelen Dynamic Variable Intensity (DVI) system.

One (1)

Whelen Upper "B/D" M9RC red/red LED CLEAR LENS 2 ea side

WHELEN M9RC UPPER ZONE B/D WARNING LIGHTING

Two Whelen M9RC red LED light heads with clear lens shall be mounted on each side of the apparatus above the side compartments.

Four (4)

M9 upper BD rear chrome housing.

M9FC chrome plated trim housings shall be provided.

One (1)

Whelen Upper "C" M9RC red/red L.E.D.'s (2) CLEAR LENS

WHELEN M9RC UPPER ZONE C WARNING LIGHTING

Two Whelen model M9RC red LED light heads with clear lens shall be mounted on the rear of the apparatus, one each side.

Two (2)

M9 upper C rear chrome housing.

M9FC chrome trim housings shall be provided.

One (1)

Whelen Dynamic Variable Intensity (DVI) pattern. (M9,M7,M6,M4 only)

WHELEN DVI-75 FLASH PATTERN

When the park brake is set, the selected warning lights shall automatically change to DVI-75 mode. The light intensity shall drop to 25% of the normal brightness and go to 75 flash per minute quad mode.

One (1)

DVI-75 selected lights

The following lights shall be DVI-75 capable:

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- One (1) Whelen 2240F WeCanX 42" LED arrowstick
WHELEN WECANX 2240F TRAFFIC ADVISOR
- A Whelen WeCanX 2240F 42" 8 lamp LED directional traffic advisor with two angled end caps shall be provided and mounted on the rear of the apparatus. The advisor shall be subject to load management shedding to comply with NFPA.
- One (1) Whelen TACTL5 control head
A Whelen TACTL5 controller shall be provided for the Traffic Advisor.
- One (1) Std. mounting bracket
The control head shall be mounted using the standard bail strap mounting bracket provided.
- One (1) Arrowstick mounted in/under INTERMEDIATE STEP on rear.
DIRECTIONAL LIGHT MOUNTING - INTERMEDIATE STEP
- The arrowstick/advisor shall be either recessed into or mounted under the rear intermediate step.
- One (1) Whelen 295SLSA1 100 watt siren.
WHELEN 295SLSA1 SIREN
- One (1) A Whelen 295SLSA1 siren shall be provided and mounted in the cab.
Single 100 watt electronic siren speaker
100 WATT SPEAKER
- A 100 watt speaker shall be provided and recessed into the front bumper.
- One (1) Federal Q RECESSED in bumper. Q2B-12NNSD CHROME
FEDERAL SIGNAL Q2B MECHANICAL SIREN - RECESS MOUNTED
- A Federal Signal Q2B-12NNSD chrome plated mechanical siren shall be provided. The motor portion of the siren shall be recessed into the the front bumper. The siren shall have a maximum sound output of 123 db. at 10'.
- One (1) Fed Q special bumper bracket
FEDERAL Q SIREN BRACKET
- One (1) A bracket shall be provided that will allow the Q siren to be pointed directly forward.
Two floor mounted mech siren activation switches. 1 RH/1LH
MECHANICAL SIREN ACTIVATION SWITCHES
- Two floor mounted pad switches shall be provided to operate the mechanical siren, one on the right side and one on the left side.
- One (1) Dash/console mounted siren brake button
MECHANICAL SIREN BRAKE

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A siren brake push button switch shall be provided on the dash or console.

- One (1) Whelen PFH2 Pioneer Plus LED browlight 12v.
WHELEN PIONEER BROW LIGHT - 12 VOLT

One (1) Whelen Pioneer PFH2 dual brow light(s) shall be mounted on the apparatus. The lighthouse(s) shall be a 150 watt 12 volt LED and shall draw 12 amps creating 14,000 lumens.

- One (1) Freightliner M2 brow brkt PBHM2 black
A PBHM2C brow mount bracket shall be provided. The bracket shall be black.

- One (1) BLACK LIGHTHEAD SPECIAL
The lighthouse shall be black.

- Two (2) Whelen PCPSM2C Pioneer scene/spot LED surface mt chrome trim 12v. LH
LEFT SIDE WHELEN PCPSM2C SCENE/SPOT LIGHT - 12 VOLT

Two (2) Whelen Pioneer PCPSM2C combination scene/spot light(s) shall be mounted on the left side of the apparatus using a surface mount chrome flange. The lighthouse(s) shall draw 12 amps creating 18,000 lumens in spot/flood.

- Two (2) Whelen PCPSM2C Pioneer scene/spot LED surface mt chrome trim 12v. RH
RIGHT SIDE WHELEN PCPSM2C SCENE/SPOT LIGHT - 12 VOLT

Two (2) Whelen Pioneer PCPSM2C combination scene/spot light(s) shall be mounted on the right side of the apparatus using a surface mount chrome flange. The lighthouse(s) shall draw 12 amps creating 18,000 lumens in spot/flood.

- Two (2) Whelen PCPSM2C Pioneer scene/spot LED surface mt chrome trim 12v. R
REAR WHELEN PCPSM2C SCENE/SPOT LIGHT - 12 VOLT

Two (2) Whelen Pioneer PCPSM2C combination scene/spot light(s) shall be mounted on the rear of the apparatus using a surface mount chrome flange. The lighthouse(s) shall draw 12 amps creating 18,000 lumens in spot/flood.

- One (1) RH/ LH/Rear individual 12v scenelights 3 switches - cab console and pump panel
12 VOLT SCENELIGHT ACTIVATION

All 12 volt body mounted scenelights shall be switched from dash console mounted switches as well as pump panel switches. The right side, left side and rear scenelights shall be individually switched.

- One (1) Kussmaul Freedom 2000X 12 to 120 Volt inverter system 2000 watt
KUSSMAUL FREEDOM 2000X POWER INVERTER SYSTEM

Crete Fire & Rescue

A Kussmaul Freedom 2000X inverter system shall be provided on the apparatus. The system shall convert 12 volt DC to 110 volt AC. The inverter shall produce 2,000 watts 110 volt AC power.

L1 compartment

One (1)

Inverter Auto off with ignition
INVERTER AUTO-OFF FUCTION

The inverter shall be automatically switched off when the chassis ignition is turned off to prevent battery drain.

One (1)

Inverter transfer relay
INVERTER TRANSFER RELAY

A transfer relay shall be provided that senses if offboard AC power is available and transfers the inverter load to the offboard power source (shoreline).

One (1)

Inverter mounted driver side forward compt.
INVERTER MOUNTING

One (1)

The inverter shall be mounted in the lower portion of the driver's side forward compartment.
Inverter function statement
INVERTER CERTIFICATION

Due to available alternator size limitations and limited battery capacity, 'length of use before shutdown' of the inverter system can not be predicted. Due to this uncertainty, the Power Source Specification Label shall state 500 watts total rated capacity. The load test on the system will performed based on this total rated capacity.

One (1)

Grounding, OCPD, wiring.
GROUNDING

Grounding shall be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems shall not be used. Only stranded or braided copper conductors shall be used for grounding and bonding. An equipment grounding means shall be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC. The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.

In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor. This conductor shall have a minimum amperage rating of 115 percent of the nameplate current rating of the source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements shall be permitted to be used.

MAIN OVERCURRENT PROTECTION DEVICE

A main overcurrent protection device shall be provided on the generator. The device shall be factory installed by the generator manufacturer.

WIRING METHODS

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All fixed wiring systems shall be either metallic or nonmetallic liquid tight conduit or shall be type SO or SEO with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit.

Electrical cord or conduit shall not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components or low voltage wiring.

All wiring shall be separated by a minimum of 12", or properly shielded, from exhaust piping and shall be separated from any fuel lines by a minimum of 6".

Electrical cord or conduit shall be supported within 6" of any junction box and at a minimum of every 24" of continuous run. Supports shall be made of nonmetallic materials or corrosion protected metal. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.

One (1) Shoreline/inverter powered outlets junction box (Multiple outlets).

SHORELINE/INVERTER JUNCTION BOX

All shoreline/inverter outlets shall be wired to a common single circuit junction box.

One (1) 120 volt outlets (Additional costs) Inverter

120 VOLT RECEPTACLES

All 120 volt receptacles shall be installed to current NFPA recommendations and NEC guidelines.

Receptacles installed in a wet location shall be of the grounding type with a wet location cover and installed not less than 24" from the ground. Receptacles on off-road vehicles shall be a minimum of 30" from the ground. The face of any wet location receptacles shall be installed in a plane from vertical to not more than 45 degrees off vertical.

Receptacles installed in a dry location shall be of the grounding type and installed not less than 12" from the ground or be installed in a face up position.

All wiring for both wet and dry locations shall be routed through liquid tight flexible conduit rated at not less than 194 degrees. Each receptacle shall be wired to the panel board which shall have separate adequately sized breakers for each receptacle.

Receptacles shall be provided in the following locations:

Two (2) 5-15 household in commercial cab (shoreline/inverter)
There shall be two (2) household type 5-15 shoreline/inverter receptacle(s) provided in the cab interior.

Side of front center console & rear center consolle

Two (2) 5-15 household in apparatus body compartment (Shoreline)
There shall be two (2) house hold type 5-15 shoreline/inverter receptacle(s) provided in apparatus body compartment(s).

R2 and L2

One (1) 6,000 psi 4 cylinder cascade system.

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6,000 PSI 4 CYLINDER CASCADE SYSTEM

One (1) A 6,000 psi 4 cylinder cascade system shall properly secured to the apparatus. All necessary hoses and fittings shall be provided to allow "banking" of the cascade system.

4-6000 psi ASME cylinders

ASME CYLINDERS (4)

One (1) The four cascade cylinders shall be ASME certified.

Space-Saver 100A dual cylinder fill enc. REQUIRES FULL DEPTH/FULL HEIGHT

SPACE-SAVER 100A FILL ENCLOSURE

A Space Saver model 100A two cylinder fill station enclosure shall be provided and incorporated into the apparatus body. The fill station shall be fully enclosed and designed for mobile applications. The enclosure shall be designed to contain an SCBA cylinder and metal fragments in the event of rupture during the fill process.

The enclosure shall be designed to rapidly vent expanding air caused by a cylinder failure. The vent shall be through a body floor opening. The fill station shall be designed to allow the filling of two SCBA cylinders either separately or simultaneously. Access to the enclosure for loading the SCBA cylinders shall be via a manually operated slide up and a tilt out bottle holder. The door shall be provided with an assisting device to assure smooth operation and reduced operator fatigue.

To insure operator protection, automatic safety interlocks that prevent SCBA cylinder filling until the door is completely closed shall be supplied. Two fill hoses with SCBA adapters shall be provided and located within the enclosure. A bottom rubber seal shall be provided to seal out road dirt. A polypropylene base plate shall be provided in the bottom perimeter footprint to frame in the rubber seal and protect from dissimilar metal corrosion to the body.

The fill enclosure shall be 43" high x 13" wide (not including fill panel) x 23 1/4" deep and shall weigh 400 lbs.

One (1) CGS347 standard fittings

ENCLOSURE FITTINGS

One (1) The enclosure shall have CGA347 fittings.

4 cylinder fill panel.

FILL PANEL - 4 CYLINDER

A fill panel shall be provided on the apparatus. The panel shall provide a 7500 psi liquid filled gauge for each storage cylinder and supply pressure side of the regulator. A 0-5000 psi pressure reducing regulator shall be provided on the outlet side. A 7500 psi liquid filled gauge shall be provided on the regulated side of the regulator with colored "pies" at 2216 psi and 4,500 psi. A soft seat valve shall be provided for each cylinder and also for a system refill port which shall be provided on the panel.

A connecting hose shall be provided from the fill panel to the fill station.

One (1) CONTACT TOYNE ON THIS APPLICATION FOR FINAL PRICE

CASCADE SYSTEM/FILL PANEL MOUNTING LOCATION

The cascade system shall be mounted two on each side in the coffin compartments.

The fill panel and fill enclosure shall be mounted in the driver's side DFW2 compartment.

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- One (1) ASA Voyager backup camera system - Color. ADDITIONAL COST
OBSERVATION SYSTEM DISPLAY
- An ASA Voyager observation system shall be provided on the apparatus. The system shall include a VOM718 7" flat panel color display.
- One (1) Rear color camera (VCMS24B)
A VCMS24-B color camera shall be provided and mounted on the rear of the apparatus. The camera shall have an integrated microphone.
- The camera shall activate automatically when the transmission is placed into reverse.
- One (1) Helmet mounting responsibility of Department.
FIRE HELMET MOUNTING
- The end user of the apparatus shall be responsible for insuring that all helmets are either stored in an exterior compartment or a securely mounted to NFPA standards inside the cab.
- One (1) Paint Procedure welded ss walkaround rescue
PAINT PROCEDURE - PPG DELFLEET BASE COAT/CLEAR COAT
- After the apparatus body has been fully assembled and all mounting holes, etc. have been either punched, machined, or drilled, the apparatus shall be fully disassembled for the paint process.
- Masking or taping off of any portion of the apparatus during the paint process shall not be acceptable. All compartment doors shall be painted separate from the apparatus body.**
- All seams or flanges on the apparatus body shall be caulked or properly sealed to prevent moisture accumulation in flanged areas.
- One (1) Apparatus body painted off the chassis
APPARATUS BODY PAINTED OFF CHASSIS
- The apparatus body shall be painted prior to being mounted on the chassis. Painting of the body off the chassis will prevent primer and paint overspray on the cab, frame rails and other critical components of the apparatus and drivetrain.
- One (1) There shall be no exception to this requirement.
Paint warranty - 10 years DETAILED
PPG CERTIFIED 10 YEAR LIMITED PAINT WARRANTY
- The apparatus body exterior finish paint shall have a 10 year limited warranty. The warranty shall be certified by the manufacturer of the paint. Documentation of this shall be provided to the end user. Any warranty that is not backed by the paint manufacturer will not be acceptable.

PPG Commercial OEM Product Warranty Coverage:

Warranty Inclusions:

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- Delamination of the topcoat and/or other layers of paint.
- Cracking or checking due to failure of the product.
- Excessive loss of gloss caused by cracking, checking and hazing.

Warranty Exclusions:

- Paint deterioration caused by blisters, bubbles, flaking or other degradation due to rust or corrosion originating from the substrate.
- Hazing, chalking or loss of gloss caused by improper care, abrasive polishes, cleaning agents, heavy-duty pressure washing, or aggressive mechanical wash systems.
- Paint deterioration caused by abuse, scratches, chips, gloss reduction, accidents, acid rain, chemical fallout, road treatment materials/chemicals or acts of nature.
- Any paint that was not applied by Toyne, Inc.
- Claims presented without proper Warranty documentation.
- Failure on finishes performed by Non-PPG Commercial Certified Technicians.
- Failure on finishes due to inadequate film builds.
- Failures due to improper cleaning or surface preparation or failure to follow the product use instructions.

These are the only warranties that PPG makes, and all other expressed or implied warranties, including, without limitations, any warranty of fitness for particular purpose or use are disclaimed by PPG.

One (1)

ECK Corrosion Control material

ELECTROLYSIS CORROSION CONTROL

The apparatus shall be assembled using ECK or electrolysis corrosion control, on all high corrosion potential areas, such as door latches, door hinges, trim plates, fenderettes, etc. This coating is a high zinc compound that shall act as a sacrificial barrier to help minimize electrolysis and corrosion between dissimilar metals. This shall be in addition to any other barrier material that may be used.

One (1)

Single color apparatus body paint (non-metallic)

SINGLE COLOR APPARATUS BODY PAINT

The portions of the apparatus body that are to be painted will have a single color non-metallic paint scheme.

One (1)

Apparatus body undercoating.

APPARATUS BODY UNDERCOATING

The apparatus body shall be undercoated after assembly is completed. A bituminous based automotive type undercoat shall be used. Care shall be taken to avoid undercoat application to items that would hinder normal maintenance.

One (1)

Gray "Texture" finish comp interior

APPARATUS BODY COMPARTMENT INTERIOR FINISH

The interior of all apparatus body compartments shall be finished with a gray textured coating. The compartment interior finish shall have a one year warranty.

Sixty (60)

4" EZ Gold Encapsulated Lettering black outline/shade (RJM)

EZ GOLD ENCAPSULATED LETTERING

A maximum of sixty (60) 4" maximum height EZ Gold simulated gold leaf, encapsulated, self-adhesive

Crete Fire & Rescue

letters/numbers with black outline and drop shadow shall be applied to the apparatus.

The layout of the lettering will be provided to the successful bidder at the pre-construction conference.

Thirty Two (32)

Signboard large letters (up to 12") EZ Gold w single color outline/shade (RJ M)

SIGNBOARD LETTERING – EZ-GOLD

Thirty Two (32) large scale (up to 12") EZ-Gold letters with single color black outline and shade shall be provided on the upper body area of the apparatus. The total quantity of letters shall be divided equally per side.

Thirty Two (32)

Signboard lettering shall read.....(Alter this).

The signboard shall read:

CRETE FIRE & RESCUE

One (1)

1-6-1 reflective stripe

1"-6"-1" NFPA REFLECTIVE STRIPE

A 6" reflective stripe shall be applied to the apparatus.

A 1" gap shall be provided on both the top and bottom of the 6" stripe followed by a 1" reflective stripe above and below the upper and lower gap.

A single 6" stripe shall be applied to the front if space does not permit for the 3 stripe pattern.

The striping shall be applied to a minimum of 50% of the length of the apparatus on each side and 25% across the front of the apparatus. The stripe shall comply with NFPA requirements.

One (1)

Primary reflective stripe 680-85 black

PRIMARY REFLECTIVE STRIPE COLOR - BLACK

The primary reflective stripe shall be 680-85 black.

One (1)

Secondary upper reflective stripe 680-85 black

SECONDARY UPPER REFLECTIVE STRIPE COLOR - BLACK

The secondary upper reflective stripe shall be 680-85 black.

One (1)

Secondary lower reflective stripe 680-85 black

SECONDARY LOWER REFLECTIVE STRIPE COLOR - BLACK

The secondary lower reflective stripe shall be 680-85 black.

One (1)

Reflective stripe applied in a REVERSE Z design (multiple stripes)

REFLECTIVE STRIPE - "REVERSE Z" DESIGN

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The reflective stripe shall be applied in a reverse "Z" design. The stripe shall angle upward on the forward compartment door on the apparatus body and then continue back to the end of the apparatus.

One (1) Cab door reflective material - 4 DOOR CAB
INNER CAB DOOR REFLECTIVE STRIPING - 4 DOOR

A minimum of 100 square inches of reflective material shall be provided on the inner door liner of each cab door.

One (1) Chevron red/fluorescent yellow green reflective
REAR CHEVRON STRIPING

A minimum of 50 percent of the rear vertical surface of the apparatus shall be covered with 6 inch alternating red and fluorescent yellow green retro-reflective striping. The striping shall slope downward away from the centerline of the apparatus at a 45-degree angle.

One (1) The retro-reflective material shall conform to the requirements of ASTM D 4956 "Standard Specification for Retro-Reflective Sheeting for Traffic Control", Type I or better.
Chassis to have horizontal exhaust as provided with chassis.
ENGINE HORIZONTAL EXHAUST

Shielding shall be provided between the apparatus body and the exhaust pipe if necessary to deflect heat away from the body. The exhaust system shall be designed and installed to comply with EPA equipment requirements and shall not be modified.

One (1) M2 4 Door cab step/fuel tank cover
CAB ENTRY STEP COVER

The OEM provided cab entry step on the side opposite the fuel tank shall be removed from the chassis provided brackets and replaced with a fabricated aluminum treadbrite step assembly.

FUEL TANK/STEP COVER

The OEM provided cab entry step on the same side as the fuel tank shall be removed from the chassis provided brackets and replaced with a fabricated aluminum treadbrite step assembly.

One (1) Compt under LH cab extension
UNDER CAB COMPARTMENT - LH

A compartment will be provided under the cab extension on the left side. The compartment shall be constructed of aluminum treadbrite.

The dimensions of the compartment will be determined by cab/frame mounted equipment.

One (1) Chassis provided front mudflap (106/SP Metro/Glad)
FRONT MUD FLAPS

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The front mud flap shall be provided on the chassis.

One (1) STD. rear mudflaps Toyne logo

REAR MUD FLAPS

Heavy duty black rubber mud flaps shall be provided on the rear wheels. The mud flaps shall be attached to the apparatus in the rear wheel well area using heavy duty stainless steel retention straps that are secured into place using stainless steel fasteners.

One (1) Nut covers, baby moons, single rear axle.

FRONT/REAR AXLE DRESS UP KIT

The front and rear axles shall have stainless steel nut covers and baby moons.

One (1) FD PROVIDED Detachable winch 12V.

FIRE DEPARTMENT PROVIDED DETACHABLE WINCH

A Fire Department provided detachable winch shall be installed on the apparatus. All winch receivers shall have the capacity for up to 9,000 lb. straight pull.

One (1) Rear receiver hitch for winch

REAR WINCH HITCH RECEIVER

A Class 3 (8,000 lbs) receiver shall be provided on rear of the apparatus for use with a removable winch connection. A quick connect battery power lead with dust cover shall be provided.

One (1) 2" RH Pass. receiver hitch for winch

RIGHT SIDE (PASSENGER) WINCH 2" HITCH RECEIVER

A 2" Class 3 receiver shall be provided behind the rear wheels on the right side of the apparatus under the lower body rubrail for use with a removable winch. A quick connect battery power lead with dust cover shall be provided.

One (1) Front 2" receiver hitch for winch

FRONT WINCH 2" HITCH RECEIVER

A 2" Class 3 receiver shall be provided on front of the apparatus for use with a removable winch. The receiver shall be mounted directly below one of the framrails.

One (1) A quick connect battery power lead with dust cover shall be provided.

Winch receiver 2.0 to 1 safety factor

WINCH RECEIVER SAFETY FACTOR

One (1) The winch receiver(s) shall have a 2.0 to 1 straight line pull no-yield safety factor.

2" LH Driver receiver hitch for winch

LEFT SIDE (DRIVER) WINCH HITCH RECEIVER

A 2" Class 3 receiver shall be provided behind the rear wheels on the left side of the apparatus under the lower body rubrail for use with a removable winch. A quick connect battery power lead with dust cover shall be provided.

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One (1)

Std. Rear tow eyes.

REAR PULLING EYES

Two rear 3/4" CRS pulling eyes shall be provided under the rear tailboard. The eyes shall have a minimum of a 3" clear opening for passing chains through the eye.

One (1)

Rear tow eyes/direct to framerail-CHROMED. (inside rear compt)

FRAME RAIL TOW EYES - CHROME PLATED

Two 3/4" chrome plated steel tow eyes shall be attached direct to the end of the frame rails on the rear of the apparatus. The eyes shall have a minimum of a 3" diameter pass through. Each eye shall be attached to the frame rail with a minimum of four 3/4" hardened steel bolts with locking nuts.

One (1)

Access to the tow eyes shall be through the rear compartment doors.

Rear crew console (between seats) 13678(AP)

REAR CREW AREA CONSOLE

A smooth aluminum console shall be provided between the rear crew seats. After fabrication, it shall be painted using gray texture coating.

The lower section shall be an open top box measuring 28.5" front to rear x 20.34" wide side to side x 6" depth. The section shall be mounted to the floor between the rear crew seat bottoms.

The upper section shall be an open top box measuring 14" front to rear x 16.34" wide side to side x 4" depth. The section shall be mounted to the rear of the lower section between the rear crew seat backs. A 17" wide x 12" high aluminum treadplate back riser shall be provided. The back riser shall be notched as required to fit the back wall.

A seatbelt type strap shall be provided on both the upper and lower box to secure contents.

One (1)

12v "ignition hot" power feed for radio equipment (cab)48" lead.(ignition hot)

12 VOLT "IGNITION HOT" RADIO POWER FEED(S)

One (1) 12 volt "ignition hot" power feed wire(s) shall be provided in the cab for customer supplied and installed radio equipment. 48" of wire shall be provided to allow the installer to trim to required length.

Note: Any equipment connected to this power feed will be powered only when ignition switch is in the on position.

One (1)

Power feed in center console

The power feed shall be located in the center console.

One (1)

Radio antenna roof base mount. (customer supplied antenna/Toyne provided base)

CUSTOMER PROVIDED RADIO ANTENNA MOUNTING(S)

One (1) radio antenna base mount(s) shall be provided and mounted for customer installation of radio antenna and related equipment.

The mount shall be a Motorola 3080384M48 3/4" thin wall mount with 17' of RG58A/U cable.

One (1)

Radio antenna routed to center console

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- One (1) The radio antenna wire shall be routed to the center console.
Dual USB port
DUAL USB PORT

one (1) dual USB port(s) shall be provided.

To be located in rear cab storage ? EMS compartment

- One (1) FAMA 01 Battery dangers label (USA)
BATTERY DANGERS LABEL - FAMA01

A permanent label shall be provided near the battery location that warns of potential injury or death that could be caused by the batteries. The label shall also state precautions that should be taken while working on or around the batteries.

- One (1) FAMA 02 Rotating shafts label (USA)
ROTATING SHAFTS DANGER LABEL - FAMA02

A permanent label shall be provided on each side of the frame rail and in any other location(s) where rotating shaft hazards are apparent. The label shall warn of potential injury or death that could be caused by the movement of the shaft(s) as well as precautions that should be taken while working on or around them.

- One (1) FAMA 03 Hot surface dangers label (USA)
HOT SURFACE DANGERS LABEL - FAMA03

A permanent label shall be provided near any hot surface that warns of potential injury or death that could be caused by contact with the surface. The label shall also state precautions that should be taken while working on or around the surface.

- One (1) FAMA 04 Hot Exhaust dangers label (USA)
HOT EXHAUST DANGERS LABEL - FAMA04

A permanent label shall be provided near any hot exhaust surface that warns of potential injury or death that could be caused by contact with the surface. The label shall also state precautions that should be taken while working on or around the surface.

- One (1) FAMA 05 Spinning engine fan label (USA)
SPINNING ENGINE FAN DANGER LABEL - FAMA05

A permanent label shall be provided on both sides of the engine fan. The label shall warn of potential injury or death that could be caused by the movement of the fan as well as precautions that should be taken while working on or around them.

- One (1) FAMA 07 Seated and Belted Label NFPA (USA)
SEATED AND BELTED WARNING LABEL - FAMA07

A permanent label shall be provided that is visible to all occupants that states that they should be seated and belted while the apparatus is in motion. The label shall also state potential injuries or death that could be caused if the safety belts are not used properly.

- One (1) FAMA 09 Air Conditioning Refrigerant Danger Label (USA)
AIR CONDITIONING REFRIGERANT WARNING LABEL - FAMA09

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If the apparatus is equipped with any type of air conditioning system, a permanent label shall be provided that is located in an area that would be visible to service personnel. The label shall state that the system contains R134A, the necessary precautions that should be taken and the dangers of working on or around the system.

- One (1) FAMA 10 Interior cab equipment mounting label NFPA (USA)
CAB INTERIOR EQUIPMENT MOUNTING DANGER LABEL - FAMA10

A permanent label shall be provided inside of the cab warning of the dangers of unsecured equipment inside the cab. The label shall state that all equipment shall be properly secured and also warn of potential injury or death that could be caused by failing to do so.

- One (1) FAMA 11 SCBA seat insert warning label. (USA)
SCBA SEAT DANGER LABEL - FAMA11

If the apparatus is equipped with SCBA seats in the cab, a permanent label shall be provided inside of the cab warning of the dangers of using the seat without the SCBA properly secured or seat insert in place. The label shall warn of potential injury or death that could be caused by improper use of the seat.

- One (1) FAMA 12 Fire Service Tire Rating label. NFPA (USA)
FIRE SERVICE TIRE RATING LABEL - FAMA12

A permanent label shall be provided inside of the cab in view of the driver while entering the cab warning of the dangers of improper use of the tires on the apparatus. The label shall also warn of potential injury or death that could be caused by improper tire use or condition.

- One (1) FAMA 13 Electronic Stability Control label. (if required) (USA)
ELECTRONIC STABILITY CONTROL LABEL - FAMA13

If the apparatus is equipped with an electronic stability control system, a permanent label shall be provided inside of the cab in view of the driver warning of the dangers of improper operation of the apparatus and the importance of safe driving. The label shall also warn of potential injury or death that could be caused by improper operation of the apparatus.

- One (1) FAMA 14 Cab seating maximum # of personnel label. (USA)
MAXIMUM OCCUPANCY LABEL - FAMA14

A permanent label shall be provided inside of the cab in view of the driver stating the maximum number of personnel that can ride in the apparatus. The label shall also warn of potential injury or death that could be caused by exceeding the stated capacity.

- One (1) FAMA 15 Do not wear helmet in cab label. NFPA (USA)
DO NOT WEAR HELMET LABEL - FAMA15

A permanent label shall be provided inside of the cab in view of all seated positions stating that helmets should not be worn in cab. The label shall also warn of potential injury or death that could be caused by wearing helmet in cab.

- One (1) FAMA 17 Operation in reverse label. (USA)
VEHICLE BACKING LABEL - FAMA17

A permanent label shall be provided inside of the cab in view of the driver advising of proper procedures to following when the apparatus is in reverse motion. The label shall also warn of potential injury or death that be caused by failing to follow proper procedures.

- One (1) FAMA 19 Do not mix brands/type of foam warning label. (USA)

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DO NOT MIX BRAND/TYPES OF FOAM LABEL - FAMA19

A permanent label shall be provided near the foam controls warning operator not to mix brands and types of foam. The label shall also warn of potential dangers, equipment failures or injury or death as a result of poor conditions.

One (1) FAMA 23 Proper apparatus boarding/ext procedure label. NFPA (USA)

APPARATUS ENTRY/EXIT LABEL - FAMA23

A permanent label shall be provided at any area of the apparatus where personnel will be boarding or exiting the apparatus. The label shall instruct the operator in the proper method of climbing into or onto the apparatus using only the 3 point of contact, facing the cab method and provide indication of potential injury or death that could occur in failing to do so.

One (1) FAMA 24 Riding on rear step prohibited warning label. NFPA (USA)

DO NOT RIDE ON REAR STEP WARNING LABEL - FAMA24

A permanent label shall be provided at the rear step area stating that riding in this area while the vehicle is in motion is prohibited and shall warn of the potential dangers, including injury or death, in doing so.

One (1) FAMA 25 Operation by trained personnel only label. (pump panel) NFPA (USA)

TRAINED OPERATOR ONLY LABEL - FAMA25

A permanent label shall be provided on the pump panel that states that only properly trained personnel should operate the apparatus and shall indicate that injury or death could occur as a result.

One (1) FAMA 26 No Step warning label. (USA)

NOT A STEP WARNING LABEL - FAMA26

A permanent label shall be provided in any horizontal location that a firefighter may feel tempted to use as a step but is not designed, constructed or intended to be a stepping, standing or walking surface. The label shall state that the surface is not intended for this purpose and indicate potential injury or death in doing so.

One (1) FAMA 26 No Step warning label. Top of body (USA)

BODY ROOF WARNING LABEL - FAMA26

A permanent label shall be provided on the top of the body warning that the area is not designed, constructed or intended to be a stepping, standing or walking surface. The label shall state that the surface is not intended for this purpose and indicate potential injury or death in doing so.

One (1) Hood tilt warning label (USA)

HOOD TILT WARNING LABEL

A permanent label shall be provided on each side of the engine hood near latch cautioning the person tilting the hood to only tilt from front, check for obstructions and to ensure that the hood is secured when the apparatus is in motion.

One (1) FAMA 42 Siren noise warning label (USA)

SIREN NOISE WARNING LABEL - FAMA42

A permanent label shall be provided inside the driver's door warning of potential injury that could be received from the noise of the siren. The label shall also state safety precautions that should be taken when the siren is in use.

One (1) FAMA 42 Siren noise warning label (USA)

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SIREN NOISE WARNING LABEL - FAMA42

A permanent label shall be provided inside the driver's door warning of potential injury that could be received from the noise of the siren. The label shall also state safety precautions that should be taken when the siren is in use.

One (1) Fluid Capacity Label - NFPA

FLUID CAPACITY LABEL

A permanent plate shall be mounted in the driver's compartment specifying the quantity and type of the following fluids used in the apparatus (if applicable) for normal maintenance:

- Engine oil.
- Engine coolant.
- Chassis transmission fluid.
- Pump transmission fluid.
- Pump primer fluid.
- Drive axle fluid.
- Air conditioning refrigerant.
- Air conditioning lubrication oil.
- Power steering fluid.
- Cab-tilt mechanism fluid (if applicable).
- Transfer case fluid (if applicable).
- Equipment rack fluid (if applicable).
- CAFS compressor system lubricant (if applicable).
- Generator system lubricant (if applicable).
- Front tire cold pressure.
- Rear tire cold pressure.
- Maximum tire speed ratings.

One (1) Length - height - weight Label NFPA

LENGTH, HEIGHT, WEIGHT LABEL

A permanent plate or label shall be provided in the cab in clear view of the driver stating the overall length, height and the gross vehicle weight rating (GVWR), in tons, of the completed apparatus.

The wording on this label shall indicate that the information on the plate/label was current at the time of manufacture and if the overall height of the apparatus changes while the vehicle is in service, the purchaser shall revise the height dimension on the plate.

One (1) NFPA foam system performance specification label - (injection) 20.9.3

FOAM SYSTEM PERFORMANCE SPECIFICATION LABEL - NFPA

A label shall be permanently attached to the apparatus near the operator's control panel. The label shall state the following information pertaining to the performance operating specifications of the foam system:

- Foam classification type.
- Maximum and minimum proportioning rates (%).
- Maximum and minimum water flow (GPM).
- Maximum and minimum operating pressures.
- The statement "Use only concentrates that are compatible with this foam proportioning system. Refer to the foam proportioning system manufacturer's operating manual".

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- One (1) NFPA Power source instructional label.
POWER SOURCE INSTRUCTIONAL LABEL - NFPA
- One (1) A label shall be permanently attached at any location on the apparatus that the AC power source may be activated. The label shall provide the operator with essential power source operating instructions including the power-up and power-down sequence.
NFPA Foam system test/certification - injection type.
FOAM SYSTEM TEST/CERTIFICATION
- One (1) The foam system shall be properly installed, tested and certified to NFPA 1901 20.11. The system manufacturer's certification of accuracy and the installer's certification shall be provided with the completed apparatus.
NFPA Optical warning light system certification
OPTICAL WARNING LIGHT CERTIFICATION
- One (1) The emergency warning light system shall be certified using one of the available methods provided for in NFPA.
NFPA Siren certification
SIREN CERTIFICATION
- One (1) The siren manufacturer shall certify the siren to NFPA.
NFPA 12v. electrical system performance test certification
ELECTRICAL SYSTEM PERFORMANCE CERTIFICATION
- A written load analysis and the results of the electrical system performance test shall be provided with the completed apparatus. The load analysis shall include the following:
- Nameplate rating of the alternator.
 - The alternator rating under the conditions specified in NFPA.
 - Each of the component loads specified in NFPA that make up the minimum continuous electrical load.
 - Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load.
 - Each individual intermittent electrical load.
- One (1) NFPA Water tank capacity certification
BOOSTER TANK CAPACITY CERTIFICATION
- One (1) The manufacturer shall certify the capacity of the booster tank. Certification shall be documented on the Manufacturer's Record of Construction document.
NFPA Foam tank capacity certification (A tank)
CLASS A FOAM TANK CERTIFICATION
- One (1) Certification of class A foam tank capacity shall be provided.
NFPA slip resistance certification
NFPA SLIP RESISTANCE CERTIFICATION
- One (1) Any materials used as a stepping, standing or walking surface shall be certified to be compliant with NFPA. Documentation shall be provided with the completed apparatus.
NFPA breathing air system certifications etc.
BREATHING AIR SYSTEM CERTIFICATION

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The following certifications shall be provided for the air system:

- Air cylinder certification per NFPA.
- Fill station certification per NFPA.
- Air system installation test per NFPA.

One (1) NFPA Weight scale documentation (without tank)
WEIGHT CERTIFICATION

Documents from a certified scale showing actual loading on the front, rear and overall apparatus shall be provided. The apparatus shall be scaled without personnel, equipment and hose.

One (1) Vehicle Rollover Stability - CHASSIS PROVIDED SYSTEM
VEHICLE ROLLOVER STABILITY

The apparatus chassis shall be equipped with a stability control system and shall be certified to NFPA Rollover Stability requirements.

One (1) Manufacturer's Record Certification NFPA 2024 Short Version
MANUFACTURER'S RECORD OF APPARATUS CONSTRUCTION

All information required to comply with NFPA shall be provided with the completed apparatus.

One (1) Operations and Service documentation NFPA 2024 Short version
OPERATIONS AND SERVICE DOCUMENTATION

The apparatus shall be complete with all operation and service documentation covering the apparatus as delivered and accepted. The documentation shall address the inspection, service and operations of the apparatus and all major components as required in NFPA.

One (1) Online accessible owner's manual
"ON-LINE" APPARATUS BODY OWNER'S MANUAL

Upon delivery, the end user shall be instructed on how to access applicable documentation pertaining to the operation of the apparatus and components included on the apparatus body through an on-line web based secure site.

One (1) FAMA Fire Apparatus Safety Guide
FAMA FIRE APPARATUS SAFETY GUIDE

One (1) FAMA Fire Apparatus Safety Guide(s) shall be provided with the completed apparatus.

NFPA miscellaneous equipment exception
STATEMENT OF EXCEPTION - NFPA MISCELLANEOUS REQUIRED EQUIPMENT

The customer shall be responsible for providing all NFPA required miscellaneous equipment that is not contained within these specifications. All required equipment must be properly installed on the apparatus and in working condition prior to the apparatus being placed into service.

One (1) Familiarization and demonstration information (short version) NFPA 24
FAMILIARIZATION AND DEMONSTRATION

Upon completion of the new apparatus, an authorized properly trained representative of the manufacturer shall provide a "Familiarization and Demonstration" course of the apparatus and related components.

The Department shall provide the representative with a written list, by full proper names, of the individual(s) that are to receive the overview. Upon completion of the overview, each person in

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attendance will be required to acknowledge, by signature, that they understand the operation of the apparatus and all related components.

One (1) Items to be included in the course shall include all items listed in NFPA 1900 7.19.2.7.2.2.
General chassis familiarization and demonstration

CHASSIS FAMILIARIZATION

Familiarization of the apparatus shall include the following:

- How to locate gauges or indicators and check all fluid levels and operational use of the apparatus.
- How to tilt the chassis cab or hood assembly for access to the engine, fire pump (if applicable), or aerial control (if applicable), or any other device to allow access to fluids or for required maintenance.
- Interior cab controls, instruments, mirrors, safety devices or alarms, brake operations, transmission control, pump controls (if applicable) exhaust regeneration (if applicable), seat adjustments, warning light engagement and other operational equipment.

One (1) Foam system familiarization and demonstration

Foam System:

- Start up, operation and shut down of the foam system.
- Setting of foam percentages and other operational settings.
- Proper flushing and draining of the system.

One (1) Post acceptance training requirements

POST ACCEPTANCE TRAINING REQUIREMENTS

After apparatus acceptance, the Department shall be responsible for ongoing training of personnel. The Department shall not allow untrained or undertrained personnel to operate the apparatus or any included feature of the apparatus.

One (1) Worden HWG heavy duty alum wheel chocks (2) w brkts

WHEELCHOCKS

One set (2 chocks) of Worden HWG heavy duty extruded aluminum wheel chocks shall be provided. One set of UO815 under body brackets shall be provided.

Mounted in wheel well driver rear