Customer: E-ONE, INC

Tradition ES Base Model

Compliant Apparatus

An apparatus being compliant to NFPA and ULC (as applicable) shall be provided. The apparatus shall include an officer side assembly with adjustable ladder storage.

TESTING COMPLIANCE STANDARD

NFPA Compliance

The OEM supplied components of the apparatus shall be compliant with NFPA 1901, 2009 edition. All dimensions and components are subject to minor variations.

INSPECTIONS AND PENALTIES

Penalty Clause

The unit shall have a penalty clause.

CHASSIS MODEL

Chassis

The commercial chassis shall be an International 4400 four (4) door and supplied with the following equipment:

GVW Rating

The gross vehicle weight rating shall be 35,000 lbs.

Wheel Base 226”.

Frame

The chassis frame rails shall be channel type, 10.375” x 3.705” x .438”. The frame rails shall be formed from 120,000 PSI yield, heat-treated alloy steel.

Tow Hooks

Two (2) frame-mounted, painted front tow hooks shall be supplied.

Front Axle

The front axle shall be an ”I” beam type, made from forged steel. The axle shall be an International model I-120SG, 12,000 lb capacity.

Front Suspension

The front suspension shall be spring parabolic, taper leaf, with a 12,000 lb capacity and double acting shock absorbers. The front suspension shall include maintenance-free rubber bushing spring pins. Tapered leaf springs provide ride improvement over standard straight spring systems.

Front Tires

Front tires shall be Goodyear 11R22.5 G tubeless type 14 ply radial tires with highway tread.

Black hard rubber mud flaps shall be provided behind the front tires.

Rear Axle

The rear axle shall be single reduction Dana Spicer, model 23090S with a capacity of 23,000 lbs and a ratio of 5.29.

Rear Suspension

The rear suspension shall be spring-mounted, 23,500 lb capacity with 4,500 lb auxiliary rubber spring.

Rear Tires

Rear tires shall be Goodyear 11R22.5 G tubeless type 14 ply radial tires with mud and snow tread.

Brake System

The vehicle shall be equipped with a dual air brake system with ABS.

The ABS shall provide anti-lock braking control on both the front and rear wheels. It shall be a digitally-controlled system that utilizes microprocessor technology to control the anti-lock braking system. Each wheel shall be monitored by the system. When any wheel begins to lock-up a signal shall be sent to the control unit. This control unit shall then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system shall eliminate the lock-up of any wheel to help prevent the apparatus from skidding out of control.

The brake system air compressor shall be a Bendix Tu-Flo 550, 13.2 cfm with a Bendix AD-9 dryer with heater.

Front Brakes: S-Cam, 16.5” x 5.0” with 20” sq. in. MGM long stroke brake chambers

Rear Brakes: Cam, 16.5” x 7” with MGM TR3030 long stroke brake chamber and heavy-duty spring-actuated parking brake.

The brake system shall include the following:

Color-coded nylon brake lines
Front and rear brake dust shields
Front and rear automatic slack adjusters
Automatic drain valve with heater
Parking brake valve with yellow knob located on the instrument panel

Cooling System

The radiator shall be 816 sq. in with 313 sq. in charge air cooler. The radiator shall include a deaeration tank and sight glass and premium rubber radiator hoses. The cooling system shall be provided with anti-freeze protection to -40 degrees Fahrenheit.

Exhaust System

The exhaust shall be a single aluminized steel horizontal muffler and tailpipe. The tailpipe shall exit on the right side ahead of the rear wheel.

A switch shall be provided in the cab that shall allow the exhaust regeneration process to be overridden when applicable

Fuel Tank

A fifty (50) gallon fuel tank shall be mounted right side at the front cab door. The tank shall be constructed of welded steel and include a quick-connect outlet. Fuel lines shall be Nylon tubing with O-ring, snap-on, quick-connect fittings at both ends.

A fuel/water separator with dash mount warning light shall be provided.

Transmission

An Allison EVS3000 automatic 5 speed transmission shall be provided. The shift control shall be located within easy reach of the driver and shall be indirectly lit for after-dark operation. A label shall be provided within easy view of the driver to indicate the chassis transmission shift selector position to be used for pumping.

The transmission shall automatically shift to neutral when the parking brake is set by the operator.

A transmission water-to-oil cooler shall be provided in the radiator end tank.

A five (5) year/unlimited miles parts and labor warranty shall be provided as standard by Allison Transmission.

Steering

The steering shall be a hydraulically-driven Sheppard, model M100, tilt steering system. A two (2) spoke, 18” diameter, black steering wheel shall be provided.

Battery System

A single start battery system shall be provided consisting of three (3) maintenance-free, 12 volt, 1950 CCA total batteries.

Alternator

The alternator shall be a Leece-Neville 4949PA, 12 volt 320 amp alternator with a self-diagnostic regulator system.

Ember Separator

An ember separator shall be provided for the engine air intake in accordance with NFPA.

Cab

The cab shall be a conventional, engine forward design, constructed of welded steel with fiberglass front tilting hood. Cab accessories shall include:

• Tinted glass in all windows.
• Five (5) flush-mounted DOT clearance/marker lights.
• Deluxe grey interior trim with vinyl upholstery.
• Black rubber floor mat.
• Interior grab handles on the ”A” and ”B” pillar on the passenger side.
• Interior grab handle on the ”A” pillar on the driver side.
• Electric windshield washer.
• Electric windshield wipers with 2 speed switch integral with turn signal switch with wash and intermittent feature.
• Chrome front grille.
• 18” x 1.28” diameter extruded aluminum handrails with anti-slip rubber inserts at each cab door.
• Two (2) steps at each cab door.
• International Blend-Air heater with defroster.
• Interior overhead console with dual storage pockets.
• Interior center-mounted dome light, door-activated and timed theater dimming.
• Two (2) padded sun visors integral to the overhead console.
• Long life halogen headlights with daytime running lights.

The following cab instruments shall be provided:

• Ignition switch - keyless.
• Cigar lighter.
• Engine oil pressure gauge.
• Odometer display with miles, trip miles, engine hours, trip hours, and fault code readout.
• Warning system with low fuel, low oil pressure, high engine coolant temperature, low battery voltage (visual and audible).
• Water temperature gauge
• Tachometer
• Voltmeter
• Air cleaner restriction gauge
• Air 1 and Air 2, Air pressure gauge located in the instrument cluster
• Fuel gauge
• Illuminated rocker, master light switch to allow pre-selected switches to be turned on or off at one time
• International Blend-Air air conditioner with integral heater and defroster.

Chassis Preparation

The following items shall be installed on the commercial chassis in preparation for fire apparatus application:

Exhaust Extension

The chassis exhaust pipe shall be extended to the front of the right rear wheel.

High Idle

A high idle switch shall be provided inside the cab on the instrument panel. The switch will automatically maintain a preset engine RPM and shall be installed for activation/deactivation.

Rear Tow Eyes

Two (2) tow eyes made of 3/4" thick steel having 2.5" diameter holes shall be mounted below the frame at the rear of the vehicle to allow towing (not lifting) of the apparatus without damage. The tow eyes will be welded to the lower end of a 5" steel channel that is bolted to the frame.

Master Light Switch

The master light switch shall consist of one (1) illuminated rocker switch wired through a solenoid to accessory switches to allow pre-selected switches to be turned on or off at one time.

Master Battery Switch

A heavy-duty on/off single battery master disconnect switch shall be mounted in the cab within easy reach of the driver. The master battery switch shall be wired between the starter solenoid and the remainder of the electrical loads on the apparatus. A green "battery on" indicator light visible from the driver’s position shall be provided.

Air Inlet

There shall be a 1/4" male plug end air hose inlet mounted outside below the driver door area. The air hose connection shall provide for capability of filling the chassis air brake system with air from an outside air supply source in accordance with NFPA. The air inlet shall be connected to the chassis air brake system wet tank with a 1/4" inline check valve to prevent back flow of air.

Battery Charger

There shall be a 20 amp battery charging system installed and connected directly to the shoreline receptacle. The system shall provide a signal if the battery voltage drops below 11.5 volts. The microprocessor shall be continuously powered from the battery to provide a charge status. Equalization charge shall only occur when necessary, not with every cycle. The system shall fully charge batteries while allowing up to 8 amps of parasitic load. The shoreline receptacle and remote charge indicator panel shall be mounted outside below the driver door area.

BUMPERS

Front Bumper

An International single piece chrome front bumper shall be provided.

Mirrors

There shall be two (2) West Coast (Lang Mekra) mirrors provided.

The mirrors shall be door-mounted with bright finish and include heat, remote control, clearance lights and lower convex mirror below primary mirror.

WHEEL OPTIONS

Rims - Painted Steel

The chassis rims shall be 22.5" x 8.25" 10 hub piloted 2-hand steel disc wheels. The rims shall be painted job color.

TIRE OPTIONS

Tire Pressure Monitor

The apparatus shall be provided with tire pressure indicating valve stem caps. The indicators shall be installed on each tire and be a heavy duty design manufactured specifically for trucks with a 12K front axle and 23K rear axle.

When a tire is properly inflated, the indicator inside the cap shall be green, and when the tire is underinflated by 10%, the indicator inside the cap shall be red.

ENGINES & TRANSMISSIONS

Vehicle Speed

The maximum speed shall be electronically limited to 68 MPH as required by NFPA 1901.

Engine

The chassis shall be equipped with an International Maxx Force 570 HEUI turbocharged, six-cylinder, electronic engine, 330HP @ 2200 RPM.

Engine accessories shall include:

MT-37 12 volt starting motor
Air cleaner restriction gauge
Cruise control with controls integral to the steering wheel
Spin-on type engine oil filter
Engine-mounted fuel filter

Engine Warranty

The engine shall come with a 5 year/100,000 mile warranty, provided by International.

CHASSIS OPTIONS

NFPA Chassis Pre-Wiring

The commercial chassis shall have the seat belts and chassis pre-wired for NFPA seating indicator and vehicle data recorder.

Chassis Trim Package

A diamond plate trim package shall be provided for an International four (4) door cab.

All stepping surfaces on the trim package shall be in accordance with NFPA by including a multi-directional aggressive gripping surface incorporated into the aluminum diamond plate. This surface shall extend vertically from the diamond plate a minimum of a 1/8" (0.125") and shall be 1" in diameter in design with a minimum of 4" on center. **(NO EXCEPTIONS)**

The driver side trim shall include an upper and lower full width step. The driver side shall include battery access and a mounting surface for the battery charger receptacle and air inlet. The officer side trim shall be two (2) pieces with the forward being for use with the OEM fuel tank and the rear being an upper and lower full width step.

Air Horn

Two (2) hood-mounted OEM SUPPLIED air horns shall be provided. The air horns shall be mounted one (1) each side of the hood and shall include two (2) foot operated switches- one (1) driver and one (1) officer side.

SEATS

Cab Seating

A Universal 911 Seating Package shall be provided.

The package shall include one (1) hi-back air ride suspension driver seat, one (1) hi-back fixed SCBA officer seat, and three (3) fixed SCBA rear seats.

Seat belts shall be in compliance with DOT and current NFPA.

Seating Capacity and Warning Tags

A tag shall be provided in view of the driver that states the maximum seating capacity of the cab is five persons.

Four (4) warning tags shall be provided in the cab noting the requirement that all occupants are to be seated with seatbelts fastened when the vehicle is in motion.

MISC INTERIOR CAB OPTIONS

Chassis Gauge Cluster

The chassis cab gauge cluster shall have English dominant readings.

CAB ELECTRICAL OPTIONS

Cab Interior and Exterior Lighting

The cab shall have incandescent lighting to provide interior and exterior lighting at each cab door in accordance with NFPA requirements (**USE OF OEM SINGLE INTERIOR DOME LIGHT SHALL NOT BE ACCEPTABLE**).

The interior and exterior ground lights shall be wired through the master power switch to provide automatic illumination of the cab and ground area when the corresponding cab door is opened (**NO EXCEPTION**).

BODY MODEL

Main Body

The main body shall be constructed of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.

The main body corners shall be extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be aluminum tubing with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The main body hosebed side shall be made of 3" x 3" slotted aluminum extrusion and 3/16" (.188") smooth aluminum plate.

The main body shall be completely sanded and deburred to ensure a smooth finish and painted job color.

Driver Side Compartments

The three (3) driver side compartments shall be constructed from smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheels. The compartment shall be approximately 34” wide x 68” high x 24” deep in the lower 28” high section and 12” deep in the upper 40” high section. The compartment shall contain approximately 22.66 cu. ft. of combined storage space.

There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56” wide x 40” high x 12” deep and contain approximately 16 cu. ft. of storage space.

There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 54” wide x 68” high x 24” deep in the lower 40” wide x 28” high section and 12” deep in the upper 40” high section. The enhanced extended rear portion of the compartment shall

be approximately 14” wide x 28” high x 23” deep in the lower section and 14” wide x 40” high x 12” deep in the upper section. The total combined storage space shall be approximately 36 cu. ft. The lower forward area of this compartment shall be transverse through to the rear compartment(s).

Each compartment seam shall be sealed using a silicone caulk. The walls of each compartment shall include louvers for adequate ventilation. An externally-mounted compartment top shall be provided and constructed of aluminum tread plate.

Body Mainframe

The body mainframe shall be constructed of aluminum extrusions welded together using aluminum alloy welding wire. **(NO EXCEPTIONS)**

The cross members of the body mainframe shall be designed to support the compartment framing and shall be welded to an aluminum frame sill extrusions. The frame sill extrusions shall be shaped to contour with the chassis frame rails and shall be protected from contact with the chassis frame rails by fiber-reinforced rubber strips to prevent wear and galvanic corrosion caused when dissimilar metals come in contact.

Body Mounting System

The main body shall be attached to the chassis frame rails with steel U-bolts. The rear of the body shall be spring mounted to allow for chassis flex. This body mounting system shall be used to allow easy removal of the body for major repair or disassembly.

Water Tank Mounting System

The main body design shall allow the booster tank to be completely removable without disturbing or dismounting the apparatus body structure. The water tank shall rest on top of a frame assembly covered with rubber shock pads and corner braces formed from angled aluminum plate to support the tank. The booster tank mounting system shall utilize a floating design to reduce stress from road travel and vibration. To maintain low vehicle center of gravity the water tank bottom shall be mounted within 5" of the frame rail top.

Stepping Surfaces

Designated exterior stepping surfaces shall be provided with an aggressive slip-resistant surface. The stepping surfaces shall be in accordance with current NFPA requirements and shall include a multi-directional aggressive gripping surface incorporated into the diamond plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (0.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". **(NO EXCEPTIONS)**

Hosebed

The hosebed area shall be 18" deep x 65.5 wide x 138" long. The hosebed shall be constructed from maintenance-free extruded aluminum slats. All sharp edges shall be removed to protect hose stored in the hosebed. The hosebed shall be designed to prevent the accumulation of water and allow for ventilation of wet hose.

The hosebed shall include an open area for the fill tower(s).

The hosebed shall be easily removable to allow access to the booster tank below.

Rear Body

The rear body shall be constructed of aluminum extrusions and interlocking aluminum plates and includes enhanced extended side compartment rear frame work.

The rear body and enhanced extended side compartments frame shall be aluminum extrusions with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius and 1/8" (0.125") aluminum plate. The rear extrusions shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

Rear Body Compartment

The full height center rear compartment shall be constructed from smooth aluminum plate. The compartment shall be modular in design and shall not be a part of the body support structure.

The compartment shall be approximately 38" wide x 59" high x 24" deep in the lower 38" high section and 21" deep in the upper 21" high section and contain approximately 30.6 cu. ft. of combined storage space. The lower area of this compartment shall be transverse through to the side rearward side body compartments.

The compartment seams shall be sealed using a silicone caulk. The wall shall include louvers for adequate ventilation.

Rear Compartment Door

The rear body compartment shall be supplied with one (1) ROM Robinson Roll-Up Door with a satin finish.

The roll-up door shall be double wall box frame and manufactured from anodized aluminum. The slats shall have interlocking end shoes on each slat with interlocking joints with a PVC/vinyl inner seal to prevent metal to metal contact and inhibit moisture and dust penetration. The tracks shall be anodized aluminum with a finishing flange incorporated to provide a finished look around the perimeter of the door without additional trim or caulking. The tracks shall have a replaceable side seal to reduce water and dust from entering the compartment in the closed position. The roll-up door receiver drum shall reduce the interior compartment space by 2.20 cubic feet.

The door shall be counterbalanced for ease in operation with a full width latch bar for easier operation with one gloved hand. The door shall be secured in the closed position with a positive latch device with an electrical magnetic switch wired to the door ajar indicator light in the cab per NFPA.

Drip Rail

A drip rail shall be mounted over the compartment opening to assist with water runoff.

Tailboard Step

A tailboard step shall be provided at the rear of the body. The maximum step height shall not exceed 24" in accordance with NFPA requirements.

The tailboard step and enhanced extended compartment top steps shall be formed aluminum tread plate. The tailboard and enhanced extended compartment top steps shall be in accordance with current NFPA requirements and shall include a multi-directional aggressive gripping surface incorporated into the diamond plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (0.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". **(NO EXCEPTIONS)**

The tailboard step and enhanced extended compartment top steps shall be bolted on and shall be easily removable for replacement in the case of damage.

Hosebed Access Steps

Three (3) heavy-duty folding meeting NFPA compliance shall be provided.

The steps shall be mounted two (2) low and one (1) high on the driver side. The steps shall provide increased access to items located in/or on the upper body and pump module.

Handrails

Four (4) handrails shall be installed on the rear of the body for ground personnel accessing the tailboard step and hosebed area.

Each handrail shall be constructed of aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between stanchions.

There shall be two (2) handrails, one (1) on each side, mounted vertically on the trailing edge of the body, one (1) handrail mounted horizontally below the rear hosebed opening and one (1) driver side upper hosebed area.

BODY COMPT RIGHT SIDE

Officer Side Body and Ladder Storage

The officer side body shall be constructed of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.

The officer side body corners shall be extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be aluminum tubing with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The officer side hosebed side shall be made of 3" x 3" slotted aluminum extrusion and 3/16" (.188") smooth aluminum plate.

The officer side body and hosebed side shall be completely sanded and deburred to assure a smooth finish and painted job color.

Officer Side Compartments

The two (2) officer side compartments shall be constructed from smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheels. The compartment shall be approximately 34" wide x 28" high x 24" deep. The compartment shall contain approximately 13.22 cu. ft. of storage space.

There shall be (1) compartment located behind the rear wheel. The compartment shall be approximately 54" wide x 28" high x 24" deep in the forward 40" wide section. The enhanced extended rear portion of the compartment shall be approximately 14" wide x 28" high x 23" deep. The total combined storage space shall be approximately 20.82 cu. ft. The forward area of this compartment shall be transverse through to the rear compartment(s).

Each compartment seam shall be sealed using a silicone caulk. The walls of each compartment shall include louvers for adequate ventilation. An externally-mounted compartment top shall be provided and constructed of aluminum tread plate.

Ladder Storage

Ladder storage shall be provided over the officer side compartment top.

There shall be two (2) adjustable ladder tracks vertically-mounted. There shall be two (2) adjustable ladder brackets provided with spring-loaded hold-down handles mounted in the adjustable ladder tracks.

The ladder brackets and hold-downs shall be capable of storing and securing an Alco-Lite brand 24’ extension and 14’ roof ladder.

DOORS

Officer Side Roll-Up Door Package

The officer side compartments shall be supplied with two (2) ROM Robinson Roll-Up Doors with a satin finish.

Each door shall be double wall box frame and manufactured from anodized aluminum. The slats shall have interlocking end shoes on each slat with interlocking joints with a PVC/vinyl inner seal to prevent metal to metal contact and inhibit moisture and dust penetration. The tracks shall be anodized aluminum with a finishing flange incorporated to provide a finished look around the perimeter of the door without additional trim or caulking. The track shall have a replaceable side seal to reduce water and dust from entering the compartment in the closed position. Each roll-up door receiver drum shall reduce the interior compartment space by 2.20 cubic feet.

The doors shall be counterbalanced for ease in operation with a full width latch bar for easier operation with one gloved hand. Each door shall be secured in the closed position with a positive latch device with an electrical magnetic switch wired to the door ajar indicator light in the cab per NFPA.

Drip Rail

A drip rail shall be mounted over each compartment opening to assist with water runoff.

Driver Side Roll-Up Door Package

The driver side compartments shall be supplied with three (3) ROM Robinson Roll-Up Doors with a satin finish.

Each door shall be double wall box frame and manufactured from anodized aluminum. The slats shall have interlocking end shoes on each slat with interlocking joints with a PVC/vinyl inner seal to prevent metal to metal contact and inhibit moisture and dust penetration. The tracks shall be anodized aluminum with a finishing flange incorporated to provide a finished look around the perimeter of the door without additional trim or caulking. The track shall have a replaceable side seal to reduce water and dust from entering the compartment in the closed position. Each roll-up door receiver drum shall reduce the interior compartment space by 2.20 cubic feet.

The doors shall be counterbalanced for ease in operation with a full width latch bar for easier operation with one gloved hand. Each door shall be secured in the closed position with a positive latch device with an electrical magnetic switch wired to the door ajar indicator light in the cab per NFPA.

Drip Rail

A drip rail shall be mounted over each compartment opening to assist with water runoff.

COVERS

Main Hosebed Hose Restraint

An NFPA compliant hose restraint device shall be provided for the main hosebed area.

The restraint device shall be constructed of a vinyl coated polyester and shall be red in color for increased visibility **(NO EXCEPTIONS).**

The restraint device shall be mechanically attached to the forward body. The sides of the restraint device shall run the full length of the hosebed area and shall utilize heavy duty velcro strips with mechanical attachments at the ends **(NO EXCEPTIONS).**

The restraint shall provide access to fill tower(s) through a secured flap at the forward area of the hosebed.

The restraint device shall have an integral endflap that extends down to cover the rear of the hosebed area. The endflap shall be secured in the down position by manually released restraints. The endflap shall have no integral openings in which items stored in the hosebed could be loaded or removed from the hosebed when the endflap is in the down/secured position **(NO EXCEPTIONS).**

Crosslay Cover

A vinyl double crosslay cover shall be provided. The cover shall include mechanical hold-downs on top outer corners and quick release side flap hold downs. Cover color shall be red.

PUMP MODULE

Main Lower Module

The main lower module shall be provided and shall be constructed of aluminum extrusions and interlocking aluminum plates. The module design and mounting shall be separate from the body to allow the pump module and body to move independently of each other in order to reduce stress from frame twisting and vibration.

The module shall have sanded finish that shall be easily maintained in the field **(no swirled finish shall be accepted).**

Upper Pump Module

An upper module shall be provided and shall be constructed of aluminum extrusions and aluminum plates. The upper module design and mounting shall be separate from the body to allow the pump module and body to move independently of each other in order to reduce stress from frame twisting and vibration.

The upper module shall have sanded finish that shall be easily maintained in the field **(no swirled or painted finish shall be accepted).**

Double Preconnect Crosslay

The upper module design shall include a rearward area for a double stacked double crosslays. Each crosslay area shall have a capacity of 200` of 1.75" double jacket hose. The crosslay floor shall be constructed of smooth aluminum plate and shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose.

One (1) smooth aluminum plate non-adjustable divider with a sanded finish shall be provided to separate the two (2) hose storage areas.

Storage Area

The forward area of the upper module shall have an area for storage of small light weight tools and/or equipment.

Main Module Running Boards

Running boards shall be provided along each side of the main pump module and be in accordance with NFPA for stepping surface and stepping height.

Each running board shall be formed from aluminum tread plate and shall include a multi-directional, aggressive gripping surface incorporated into the tread plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". **(NO EXCEPTIONS)**

The running boards shall be bolted to the pump module and shall be easily removable for replacement in the case of damage.

PUMP PANELS

Pump Panels

Pump panels for use with side mount pump module shall be provided.

The driver side shall include a fixed main and bleeder panel and swing down upper gauge panel with latching and hold-open cables.

The officer side shall include fixed lower(s) panels and a swing down removable upper panel with latchings.

WATER TANK

Tank

A 970 gallon (U.S.) booster tank with a 30 gallon (U.S.) integral foam cell shall be supplied and shall be completely removable without disturbing or dismounting the apparatus body structure.

The booster tank top, sides, and bottom shall be constructed of 1/2" (0.50") black UV-stabilized copolymer polypropylene. The copolymer polypropylene material shall be used for its high strength and corrosion resistance for a prolonged tank life. The copolymer polypropylene tank material shall be welded together utilizing thermoplastic welding technology. Thermoplastic welding technology, using a clean hot air temperature controlled process, shall ensure that each weld reaches its plasticized state without cold or hot spots.

The booster tank shall include longitudinal and latitudinal baffles. The baffles shall be interlocking and thermo welded to the shell of the tank to minimize water surge during travel and provide enhanced road handling stability. The baffle design shall allow water flow in accordance with NFPA during tank filling or pump operations.

The booster tank shall be tested which shall include an electronic spark and tank fill test after both the internal and external tank shell welds are completed.

The booster tank shall have two (2) fill towers with hinged lids. The fill towers shall be located in the forward driver side area of the tank. The fill towers shall include a removable 1/4" (0.25") thick polypropylene screen.

The booster tank shall have two (2) tank plumbing openings on the forward lower tank wall. One (1) for a 3" tank-to-pump suction line with an anti-swirl plate, and one (1) for a 2" tank fill line. A 3" cleanout plug shall be shall be provided at the bottom of the tank sump.

WATER TANK OPTIONS

Tank Plug

Tank Plug shall be installed in rear tank inlet hole.

TANK PLUMBING

Tank-To-Pump

3” Tank-To-Pump

One (1) manually-operated 3” valve shall be installed between the pump intake side of the pump and the booster tank in order to pump water from the booster tank.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the ball when in a throttle position with water flowing through it.

The tank-to-pump connection on the pump shall flow the water capacity per current NFPA standards.

The valve control lever shall be a chrome push-pull locking ”T” handle located at the pump operator`s panel and shall visibly indicate the position of the valve at all times. The control lever shall be connected directly to the valve by a rod to form a direct linkage control system. The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting current NFPA 1901 standards, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The Akron valve shall come with a ten (10) year warranty supplied by the manufacturer.

MISC BODY OPTIONS

Body Compartment Flooring Finish

The interior flooring of the body compartments shall be aluminum diamond plate. **(NO EXCEPTIONS)**

Body Compartment Interior Finish

The smooth plate panels of the body interior compartments shall have a natural material finish. **(NO EXCEPTIONS)**

Wheel Well

The body wheel well frame shall be constructed from aluminum extrusion with a slot the full length to permit an internal fit of aluminum treadplate. **(NO EXCEPTIONS)**

The wheel well trim shall be constructed from formed aluminum extrusion with a sanded finish. The wheel well liners shall be constructed of a composite material and be maintenance-free and provide a damage-resistant surface.

Mudflaps shall be provided and shall be mounted directly to the body wheel well liner.

The mudflaps shall be made of black linear low density polyethylene (proprietary blend) and shall include corrugated ridges on the inboard side to distribute water evenly.

The mudflaps shall include reflective logos for increased visibility at night.

Double Hardsuction Storage

The officer side of the body shall have a storage area(s) for two (2) 6"x10` hardsuction hoses (not included).

The storage shall include NFPA compliant hose restraints.

Long Hosebed Divider

One (1) long adjustable divider shall be provided for the hosebed.

The hosebed divider shall be constructed of smooth aluminum plate with an aluminum base. The rear upper end of the divider shall have a 3" radius corner to protect personnel.

The divider shall be deburred to prevent damage to the hose stored in the hosebed area.

Body Rubrail Package

The main body of the apparatus shall have a rubrail package installed on all the lower outboard painted structural surfaces of the body. Each rubrail shall include a white reflective surface.

SCBA BOTTLE STORAGE

SCBA Bottle Storage

Storage for four (4) SCBA bottles shall be provided in the body wheel well area.

Each storage area shall include a hinged door with a positive latch to secure the bottle in the compartment. The storage door shall include an inner door seal for increased protection of the SCBA from the elements. The internal storage tube shall be made of a high strength polyethylene to provide additional protection to the surface of the SCBA bottles.

PUMPS

Hale QFLO Pump

The pump shall be a midship-mounted Hale QFLO 1250 GPM single stage centrifugal pump. The pump shall be mounted on the chassis frame rails and shall be split-drive driven.

The entire pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI (207 MPa). All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be horizontally split in two (2) sections for easy removal of impeller assembly, including wear rings and bearings from beneath the pump without disturbing pump mounting or piping.

The pump impeller shall be hard, fine grain bronze of the mixed flow design and shall be individually ground and hand balanced. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.

The pump shaft shall be heat-treated corrosion-resistant stainless steel and shall be rigidly supported by three (3) bearings for minimum deflection. The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure-balanced to exclude foreign material. The remaining bearings shall be heavy-duty, deep groove ball bearings in the gearbox and shall be splash-lubricated. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of the gearbox.

A three (3) year pump warranty shall be provided as standard by Hale Products.

Pump Intakes

Two (2) 6" diameter suction ports with 6" NST male threads shall be provided and located one (1) on each side of the pump. Inlets shall include two (2) long-handle chromed caps (shipped loose).

Mechanical Seal

A mechanical seal shall be provided on the inboard side of the pump. The mechanical seal shall be 2" diameter and shall be spring-loaded, maintenance-free, and self-adjusting.

Priming System

The electrically-driven priming pump shall be a positive displacement vane type. One (1) priming control, located at the pump operator`s position, shall open the priming valve and start the priming motor. The primer shall be oil-less type. The priming valve shall be electronically interlocked to the Park Brake circuit to allow priming of the pump before the pump is placed in gear.

Pump Shift

The pump shift shall be pneumatically-controlled using a power shifting cylinder.

The power shift control valve shall be mounted in the cab and be labeled "PUMP SHIFT".

The apparatus transmission shift control shall be furnished with a positive lever, preventing accidental shifting of the chassis transmission.

A green indicator light shall be located in the cab and be labeled "PUMP ENGAGED". The light shall not activate until the pump shift has completed its full travel into pump engagement position.

A second green indicator light shall be located in the cab and be labeled "OK TO PUMP". This light shall be energized when both the pump shift has been completed and the chassis automatic transmission has obtained converter lockup (4th gear lockup).

One (1) pump panel-mounted green indicator light shall be positioned above the throttle control on the pump operator`s panel. The light shall be energized when the pump shift has been completed, chassis automatic transmission has obtained converter lockup (4th gear lockup), and the chassis parking brake is set.

Pump Certification

The pump, when dry, shall be capable of taking suction and discharging water in accordance with certification requirements. The pump shall be tested at the manufacturer`s facility by an independent third-party testing service. The conditions of the pump test shall be as outlined by certification requirements.

The pump shall deliver the percentage of rated capacities at pressures indicated below:

100% of rated capacity at 150 PSI net pump pressure;
70% of rated capacity at 200 PSI net pump pressure;
50% of rated capacity at 250 PSI net pump pressure.

A test plate, installed at the pump panel, shall provide the rated discharges and pressures together with the speed of the engine as determined by the certification test and the no-load governed speed of the engine.

A Certificate of Inspection certifying performance of the pump and all related components shall be provided at time of delivery. Additional certification documents shall include, but not be limited to: Certificate of Hydrostatic Test, Electrical System Performance Test, Manufacturer`s Record of Pumper Construction, and Certificate of Pump Performance from the pump manufacturer.

Test Plugs

Two (2) test plugs shall be pump panel-mounted for third party testing of vacuum and pressures of the pump.

Auxiliary Engine Cooler

An engine cooler used to lower engine water temperature during prolonged pumping operations and controlled at the pump operator`s panel shall be provided.

The engine cooler shall be installed inline with the engine coolant system in such a manner as to allow cool pump water to circulate around engine water, thus forming a true heat exchanger action. Cooler inlet and outlet shall be continuous, preventing intermixing of engine coolant and pump water.

PLUMBING KITS

Side Mount Plumbing Kit

Plumbing assemblies for a side mount with double preconnects and a Hale pump shall be provided and shall include the following:

Governor and Engine Gauges

A Class 1 ”TOTAL PRESSURE GOVERNOR” (TPG) Integrated Pump Control System shall be provided. The TPG shall have a weatherproof color display. The TPG shall operate as an engine/pump pressure governor/throttle system that is connected directly to the Electronic Control Module (ECM) mounted on the engine. The TPG is to operate as a pressure sensor (regulating) governor (PSG).

The TPG shall display engine RPM, oil pressure, engine temperature and voltage along with providing critical warnings.

The warning levels for oil pressure, high engine temperature, low voltage and high voltage shall be independently programmable.

2” Tank Fill

One (1) manually-operated 2” valve shall be installed between the pump discharge and the booster tank in order to fill the tank.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the ball when in a throttle position with water flowing through it.

The valve control lever shall be a push/pull handle located at the pump operator panel and shall visibly indicate the position of the valve at all times. The control lever shall be connected directly to the valve by a 7/8” rod to form a direct linkage control system.

The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting NFPA 1901, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

2.5” Left Side Intake

One (1) manually-operated 2.5” intake valve shall be installed to the left intake side of the pump in order to have an auxiliary pump intake.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the ball when in a throttle position with water flowing through it. The valve shall come equipped with a brass inlet strainer, 2.5” NST female inlet swivel with a rocker-lug plug with a retainer device.

The valve control lever shall be a locking swing handle located at the pump operator panel and shall visibly indicate the position of the valve at all times. The control lever shall be connected directly to the valve by a 7/8” rod to form a direct linkage control system.

The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting NFPA 1901, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

The intake shall be supplied with a 3/4” bleeder valve assembly. The bleeder valve shall allow air or water to be drained from a connected line. The drain shall be controlled with a on the pump operator panel.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

2.5” Left Side Discharges

Two (2) manually-operated 2.5” discharge valves shall be installed to the left discharge side of the pump.

The valves shall be Akron 8800HD series with 316 stainless steel balls and dual polymer seats for ease of operation and increased abrasion resistance. The valves shall have self-locking ball

features using an automatic friction lock design to balance the balls when in a throttle position with water flowing through them.

The valves shall be of the unique Akron Swing-out design to allow the valve bodies to be removed for servicing without disassembling the plumbing.

The discharges shall extend out beyond the pump panel with a 30 degree downward angle integral droop. Each droop shall terminate with 2.5” male NST threads and include a rocker-lug cap with a retainer device.

The valves control levers shall be a locking swing handles located at the pump operator panel and shall visibly indicate the position of the valves at all times. The control levers shall be connected directly to the valves by a 7/8” rod to form a direct linkage control system.

The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting NFPA 1901, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

Each discharge shall be supplied with a 3/4” bleeder valve assembly. The bleeder valves shall allow water to be drained from the gauge pressure line to prevent freezing of the line and to drain water and relieve pressure from the discharge plumbing. The drains shall be controlled with valves on the pump operator panel.

2.5” Left Side Rear Discharge

One (1) manually-operated 2.5” discharge valve shall be provided for use with the left side rear discharge.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The discharge shall include a 45 degree downward angle droop. The droop shall terminate with 2.5” male NST threads and include a rocker-lug cap with a retainer device.

The valve control lever shall be a push/pull handle located at the pump operator panel and shall visibly indicate the position of the valve at all times. The control lever shall be connected directly to the valve by a 7/8” rod to form a direct linkage control system.

The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting

NFPA 1901, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

The discharge shall be supplied with a 3/4” bleeder valve assembly. The bleeder valve shall allow water to be drained from the gauge pressure line to prevent freezing of the line and to drain water and relieve pressure from the discharge plumbing. The drain shall be controlled with a valve on the lower pump panel.

Fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

3” Deck Gun Discharge

One (1) manually-operated 3” discharge valve shall be installed to the top of the discharge side of the pump.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the ball when in a throttle position with water flowing through them. The valve shall be equipped with a device that limits the opening and closing speeds to comply with the current NFPA 1901 standards.

The valves shall be of the unique Akron Swing-out design to allow the valve bodies to be removed for servicing without disassembling the plumbing.

The discharge piping shall be constructed of a 3” diameter stainless steel and routed to the top of the pump module area. The discharge pipe shall be rigidly braced and installed securely so that no movement develops when the pipe is charged. The discharge pipe shall terminate with 3” male NPT threads.

The valve control lever shall be a push/pull handle located at the pump operator panel and shall visibly indicate the position of the valve at all times. The control lever shall be connected directly to the valve by a 7/8” rod to form a direct linkage control system.

The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting NFPA 1901, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

The discharge shall be supplied with a 3/4” bleeder valve assembly. The bleeder valve shall allow water to be drained from the gauge pressure line to prevent freezing of the line and to drain water and relieve pressure from the discharge plumbing. The drain shall be controlled with a valve on the pump operator panel.

Fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Preconnect Discharges

Two (2) manually-operated 2” discharge valves shall be installed on the pump manifold.

The valves shall be Akron 8800HD series with 316 stainless steel balls and dual polymer seats for ease of operation and increased abrasion resistance. The valves shall have self-locking ball features using an automatic friction lock design to balance the balls when in a throttle position with water flowing through them.

Each preconnect discharge shall terminate with a 2” swivel with 1.5” male NST threads.

The valves control levers shall be push/pull handles located at the pump operator panel and shall visibly indicate the position of the valves at all times. The control levers shall be connected directly to the valves by a 7/8” rod to form a direct linkage control system.

The valve controlled shall be clearly marked by a nameplate recessed into the control lever handle. The nameplate shall be affixed using an industrial grade adhesive backing meeting NFPA 1901, eliminating the need for pop rivets or screws to be installed into the stainless steel panel or control handle.

The valves shall be of the unique Akron Swing-out design to allow the valve bodies to be removed for servicing without disassembling the plumbing.

The discharges shall be supplied with a 3/4” bleeder valve assembly. The bleeder valves shall allow water to be drained from the gauge pressure line to prevent freezing of the line and to drain water and relieve pressure from the discharge plumbing. The drain shall be controlled with a valve on the pump operator`s panel.

Fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

PUMP OPTIONS

Manifold

The manifold shall be for use with a side mount or top mount pump modules and foam system

DISCHARGES AND PRECONNECTS

Officer Side Panel Discharge

A 2.5" officer side discharge (forward of steamer) with NFPA droop with cap shall be provided.

GAUGES

Panel Guage Readings

The pump module main and discharge gauges shall be English dominant.

Water Level Gauge

An LED Water Tank Level Gauge shall be provided. The gauge shall be located on the pump operator panel.

Foam Level Gauge

An LED Foam Tank Level Gauge shall be provided. The gauge shall be located on the pump operator panel.

FOAM SYSTEMS

Dealer Installed Foam System

The unit shall be prepared by the OEM for dealer installed foam system capability. This shall include an integral foam cell and foam level gauge on the pump operator panel. Final manifold and/or discharge applications for use with the foam system are to be determined by the dealership to customer specifications.

ELECTRICAL SYSTEMS

Vehicle Data Recorder and Occupant Seating Indicator

A vehicle data recorder system shall be provided to comply with NFPA 1901, 2009 edition. The following data shall be monitored:

- Vehicle speed MPH
- Acceleration (from speedometer) MPH/Sec.
- Deceleration (from speedometer) MPH/Sec.
- Engine speed RPM
- Engine throttle position % of full throttle
- ABS Event On/Off
- Seat occupied status Occupied Yes/No by position
- Seat belt status Buckled Yes/No by position
- Master Optical Warning Device Switch On/Off
- Time 24 hour time
- Date Year/Month/Day

Occupant Detection System

There shall be a visual and audible warning system installed in the cab that indicates the occupant buckle status of all cab seating positions that are designed to be occupied during vehicle movement. The display shall be located on the cab dash area above transmission shifter.

LIGHT BARS

Upper Forward Warning Lighting

A Whelen Justice series 56” all LED light bar shall be installed. The light bar shall consist of four (4) corner facing LIN6 red LED modules, six (6) forward facing CON3 Linear LED modules, four (4) red / two (2) white with MKEZ7 mounts.

The white LEDs shall be switched off in blocking right of way mode.

The lightbar shall be installed per current NFPA.

WARNING LIGHT PACKAGES

Cab Lower Level Warning Lighting

Four (4) Whelen LIN3 Super LED light heads with all red LEDs shall be provided.

The light heads shall be located as follows (NO EXCEPTIONS):

- Two (2) Whelen LIN3 Super LED Red light heads on the front of the apparatus facing forward
- Two (2) Whelen LIN3 Super LED Red light heads shall be mounted one (1) each side at the forward most hood (as practical).

All warning devices shall be mounted in compliance with NFPA standards.

Body Lower Level Warning Lighting

Six (6) Whelen LIN3 Super LED light heads with red LEDs shall be provided.

The light heads shall be located as follows (NO EXCEPTIONS):

- Two (2) Whelen LIN3 Super LED Red light heads shall be mounted one (1) each side on the rear of the apparatus facing rearward
- Two (2) Whelen LIN3 Super LED Red light heads shall be mounted one (1) each side of the lower body centrally located to provide midship warning lighting.
- Two (2) Whelen LIN3 Super LED Red light heads shall be mounted one (1) each side at the rearward most lower body (as practical).

All warning devices shall be mounted in compliance with NFPA standards.

WARNING LIGHTS

Upper Rearward Warning Lighting

Two (2) upper rearward warning lights shall be provided.

The lights shall be two (2) Whelen Model RB6 with 110 FPM.

The light dome colors shall be red driver side and amber officer side.

The lightbar shall be installed per current NFPA.

DOT LIGHTING

Electrical System

Electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standard, the latest Federal DOT standards, and the requirements of the applicable NFPA Apparatus Standard.

The wiring harness shall conform to SAE J-1128 with GXL temperature properties. Exposed wiring shall be run in loom(s) with a minimum 289 degree Fahrenheit rating. Wiring looms shall be properly supported and attached to body members as applicable. At points where wiring or looms must pass through structures the use a protective material must be used in accordance with NFPA.

Wiring shall be mounted so as to provide protection from water and heat. Connections shall be crimp type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

Wiring shall be individually and permanently function and color-coded every three (3) inches on the insulation to allow for easy identification. Twisted pair shielded wire shall be provided within the electrical system for noise reduction.

The main low voltage chassis to body interface point and distribution panel shall be provided at the front of the body in a location providing easy service access. The distribution panel shall be labeled and shall contain body electrical relays and wire connection bar. The distribution panel shall be located so as not to reduce useable compartment space. An electrical harness quick-disconnect shall be provided to facilitate removal of the body in the future. All circuits shall be protected with automatic reset circuit breakers to ensure reliability of the system.

Electrical equipment switches (as applicable) shall be mounted in the cab and be easily accessible. Switches shall be appropriately identified as to their function.

Pump Module and Body DOT Lighting

Incandescent DOT clearance lights and reflectors shall be installed in conformance to the latest Federal DOT standards.

DOT Stop/Tail/Turn and Back-Up Lighting

The rear body DOT taillights shall be 4" round LED.

The lights shall be two (2) red for stop/tail/turn and two (2) clear for back-up lighting wired through the chassis transmission.

LIGHTS - COMPARTMENT, STEP & GROUND

Rear Body Step Lighting

There shall be three (3) incandescent lights provided to illuminate the rear tailboard and hosebed access steps in accordance with NFPA requirements. (NO EXCEPTIONS)

The lights shall be activated with the work lights switch in the cab once the park brake is set.

Compartment Interior Lighting

There shall be nine (9) incandescent lights provided to illuminate the body compartments in accordance with NFPA.

All compartment lighting shall be wired to a master switch in the cab and each compartment’s lights shall be activated through the door ajar indicator switch.

Ground Underbody Lighting

Four (4) incandescent ground lights with clear lenses shall be provided to illuminate the ground area below the rear body and pump module area in accordance with NFPA requirements.

The ground lights shall be activated with the work lights switch in the cab once the park brake is set.

LIGHTS - NON-WARNING

Work Light Package

Lighting shall be provided in work areas in compliance with NFPA.

The lighting shall be provided two (2) at rear of body and one (1) at forward area of the hosebed.

Pump Panel Lighting Package - Side Mount

Pump panel lighting shall be provided for a side mount pump module in accordance with NFPA.

The driver side pump control panel shall have one (1) incandescent light mounted under a protective cover that is above the driver side pump panel. The officer side shall have one (1) incandescent light mounted under a protective cover that is above the officer side pump panel.

The lights shall be activated by the work light switch in the cab when the park brake is set.

MISC ELECTRICAL

Siren and Speaker Package

A siren and speaker package shall be provided in compliance with NFPA.

The siren shall be a Federal Signal PA300 solid state electronic siren with an attached noise-canceling microphone. Selectable operating modes shall include Hi-Lo, yelp, wail, P.A., air horn and radio re-broadcast.

The speaker shall be one (1) Federal Signal 100 watt speaker mounted to the officer side of the front bumper and in-line with OEM bumper cut-out.

The speaker shall produce a minimum sound output of 120 db(A) at 10 feet to meet current NFPA 1901 requirements.

MISC LOOSE EQUIPMENT

NFPA Defibrillator

The NFPA required defibrillator shall be dealer or customer supplied.

DOT Drive Away Kit

Three (3) triangular warning reflectors with carrying case shall be supplied to satisfy the DOT requirement.

EXTERIOR PAINT

Commercial Cab Paint - Single Color

The apparatus cab shall be painted from the chassis supplier. The cab shall be painted FLNA 3225 Red. Paint shall be warranted by the cab/chassis manufacturer.

Paint Body

The apparatus body shall be painted Akzo-Nobel FLNA 3225 Red.

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

The aluminum body exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body.

Paint process shall feature Akzo-Nobel's high solid LV products and be performed in the following steps:

- Corrosion Prevention - all raw material shall be pre-treated with the Weather Jacket Corrosion Prevention system to provide superior corrosion resistance and excellent adhesion of the top coat.
- Akzo-Nobel Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Akzo-Nobel High Solid LV (Top coat) - a lead-free, chromate-free high solid acrylic urethane top coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Akzo-Nobel High Solid LV (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where aluminum is penetrated, after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment. The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated.

All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter.

STRIPING

Dealer Supplied NFPA Stripe

There shall be a dealer-supplied NFPA stripe.

GRAPHICS

Rear Body Chevron Striping

Chevron "A" style 6" printed sheet Scotchlite striping shall be provided on rear of body (outboard rearward facing smooth plate panels of the rear compartment door and the rear driver and officer compartment face).

The colors shall be red and yellow.

WARRANTY / STANDARD & EXTENDED

Warranty - One Year Standard

The apparatus manufacturer shall provide a full 1 year standard warranty. All components manufactured by the apparatus manufacturer shall be covered against defects in materials or workmanship for a 1 year period. All components covered by separate suppliers such as engines, transmissions, tires, and batteries shall maintain the warranty as provided by the component supplier. A copy of the warranty document shall be provided with the proposal.

Warranty - Structural

The apparatus manufacturer shall provide a comprehensive 10 year/100,000-mile structural warranty. This warranty shall cover all structural components of the cab and/or body manufactured by the apparatus manufacturer against defects in materials or workmanship for 10 years or 100,000 miles, whichever occurs first. Excluded from this warranty are all hardware, mechanical items, electrical items, or paint finishes. A copy of the warranty document shall be provided with the proposal.

Warranty - Polypropylene Tank

The apparatus manufacturer shall provide a full lifetime polypropylene tank warranty. This warranty shall cover all defects in materials or workmanship of the polypropylene tank for the lifetime of the covered apparatus with its original owner. A copy of the warranty document shall be provided with the proposal.

Warranty - Stainless Steel Plumbing

The apparatus manufacturer shall provide a full 10 year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

Warranty - 10 Year Paint

The apparatus manufacturer shall provide a 10-year limited paint and corrosion perforation warranty. This warranty shall cover paint peeling, cracking, blistering, and corrosion provided the vehicle is used in a normal and reasonable manner.

The paint shall be prorated for 10 years as follows:

Topcoat & Appearance: Gloss, Color Retention, Cracking		Coating System, Adhesion & Corrosion: Includes Dissimilar metal corrosion, Flaking, Blistering, Bubbling	
0 to 72 months	100%	0 to 36 months	100%
73 to 120 months	50%	37 to 84 months	50%
		85 to 120 months	25%

Corrosion perforation shall be covered 100% for 10 years.

The warranty period shall begin upon delivery of the apparatus to the original user-purchaser. A copy of the warranty document shall be provided with the proposal.

UV paint fade shall be covered in a separate warranty supplied by Akzo Nobel (Sikkens) and shall be for a minimum of 10 years.

SUPPORT, DELIVERY, INSPECTIONS AND MANUALS

Manuals

Manuals - Operator, Service, Parts

Two (2) copies of all operator, service, and parts manuals shall be supplied at the time of delivery in electronic format (CD-ROMs) The electronic manuals shall include the following information:

Operating Instructions, descriptions, specifications, and ratings of the cab, chassis, body, installed components, and auxiliary systems.

Warnings and cautions pertaining to the operation and maintenance of the fire apparatus and fire fighting systems.

Charts, tables, checklists, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.

Instructions regarding the frequency and procedure for recommended maintenance.

Maintenance instructions for the repair and replacement of installed components.

Parts listing with descriptions and illustrations for identification.

Warranty descriptions and coverage.

The CD-ROM shall incorporate a navigation page with electronic links to the operator`s manual, service manual, parts manual, and warranty information, as well as instructions on how to use the manual. Each copy shall include a table of contents with links to the specified documents or illustrations.

The CD must be formatted in such a manner as to allow not only the printing of the entire manual, but also the cutting, pasting, or copying of individual documents to other electronic media, such as electronic mail, memos, and the like.

A find feature shall be included to allow for searches by text or by part number.

These electronic manuals shall be accessible from any computer operating system capable of supporting portable document format (PDF). Permanent copies of all pertinent data shall be kept on file at both the local dealership and at the manufacturer`s location.

NOTE: Engine overhaul, engine parts, transmission overhaul, and transmission parts manuals are not included.