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Bidder Complies

One (1) == 100' METZ SINGLE AXLE BODY NO WATERWAY - == Y__N__

One (1) HORIZONTAL EXHAUST AHEAD OF RIGHT REAR WHEELS Y__N__
CC-02-0300

HORIZONTAL CHASSIS EXHAUST

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

One (1) MUD FLAPS - REAR WHEELS (1 PAIR) Y__N__
CC-50-6000

REAR MUD FLAPS

Heavy duty black rubber mud flaps shall be furnished and installed behind the rear wheels of the vehicle. Mud flaps shall extend the full width of the rear duals, and are to be attached to heavy stainless steel angle support brackets with stainless steel threaded fasteners and Ny-Lok nuts.

One (1) AIR HORNS SUPPLIED WITH CHASSIS Y__N__
CC-70-2200

AIR HORNS

The air horns shall be supplied by the chassis manufacturer.

One (1) HALE DSD 1500 GPM SINGLE STAGE PUMP Y__N__
DH-02-6200

HALE DSD-1500 GPM SINGLE STAGE FIRE PUMP

The centrifugal type fire pump shall be a Hale model DSD midship mounted with a rated capacity of 1500 GPM. The pump shall meet NFPA 1901 requirements.

SINGLE STAGE FIRE PUMP

A Hale model DSD single stage centrifugal fire pump shall be midship mounted on the frame rails of the chassis.

At time of delivery the pump shall be UL tested and rated as follows:

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

The entire pump shall be cast, manufactured and tested at the pump manufacturer's factory. The pump shall be driven by a driveline from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

The entire pump, both suction and discharge passages shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined by the latest NFPA Standard 1901.

Pump shall be free from objectionable pulsation and vibration. The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.

Pump body shall be vertically split, on a single plane, for easy removal of impeller assembly, including clearance rings. Pump shaft to be rigidly supported by two bearings for minimum

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deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

The pump shaft shall have only one mechanical seal. The mechanical seal shall be spring loaded, maintenance free and self-adjusting. The pump shaft shall be heat-treated, electric furnace, corrosion resistant, stainless steel. Pump shaft must be sealed with double lip oil seal to keep road dirt and water out of gearbox.

Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground and individually balanced. The vanes of the impeller intake eye shall be hand-ground and polished to a sharp edge, and be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. Impeller clearance rings shall be bronze, easily renewable without replacing impellers or pump volute body.

PUMP TRANSMISSION

The pump transmission shall be cast, manufactured and tested at the pump manufacturer's factory. Pump transmission shall be of sufficient size to withstand up to 16,000 lbs. Ft. of torque of the engine in road operating condition. The pump transmission shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.

The transmission drive shafts shall be of heat-treated chromium steel and at least 2 3/4 inches in diameter, on both the input and output drive shafts. They shall withstand the full torque of the engine in both road and pump operating conditions.

All gears, both drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated, crown-shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

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

The pump transmission shall be equipped with a power shift. The shifting mechanism shall be a heat treated, hard-anodized aluminum power cylinder, with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in Road or Pump.

For automatic transmissions, three green warning lights shall be provided to indicate to the operator when the pump has completed the shift from Road to Pump position. Two green lights to be located in the truck driving compartment and one green light on pump operator's panel adjacent to the throttle control. All lights to have appropriate identification/instruction plates.

PNEUMATIC PUMP SHIFT

The pump shift shall be air operated and shall incorporate an air built with double action piston to shift from road to pump and back. A manual or electric operated pump shift mechanism is not acceptable.

The pump shift switch shall be mounted in the cab and identified as AIR PUMP SHIFT and include instructions permanently inscribed on the pump shift switch plate. The In-Cab operating valve uses a spring loaded locking collar to prevent it from accidentally being moved.

The pump shift control assembly shall incorporate an indicating light system which will notify the operator when the shift has been completed to PUMP and when the chassis transmission is

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in correct pumping gear. The switch that activates the lights must be mounted on the pump transmission and positioned so that the pump shift arm activates the switch only when the shift arm has completed its full travel into PUMP position.

An additional green indicator light shall be provided adjacent to the throttle control at the pump operators panel to indicate a completion of the pump shift.

PRIMING PUMP

The priming pump shall be a positive displacement vane type, electrically driven, and conform to standards outlined in NFPA Pamphlet no. 1901. One priming control shall both open the priming valve and start the priming motor.

One (1)
DH-04-3000

HALE OILESS PRIMER

Y__N__

One (1)
DH-04-3002

The pump shall be furnished with the Hale ESP oil-less priming system.

HALE MANIFOLD DRAIN

Y__N__

MINIFOLD DRAIN

A Hale manifold drain valve shall be furnished with all pump drains connected to it so that the entire pump system may be drained by one control. Drain valve assembly shall consist of a stainless steel plunger and a bronze body. A push-pull control with handle is to be provided and located at the drivers side pump panel properly identified PUMP DRAIN.

One (1)
DH-14-5000

THERMAL RELIEF VALVE (NO INDICATOR LIGHT)

Y__N__

THERMAL PROTECTION

The pump shall be equipped with a thermal protection device which monitors the water temperature of the pump and relieves water when the temperature inside the pump exceeds 120 degrees Fahrenheit.

One (1)
DH-20-1000

MANUFACTURERS "UL" TEST

Y__N__

UL TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per Class A requirements of NFPA #1901 prior to delivery of the completed pumper.

One (1)
DH-20-4000

HEAT EXCHANGER GATED LINE (SPARTAN, HME & RBA)

Y__N__

HEAT EXCHANGER DISCHARGE

A gated discharge line shall be installed to provide water from the fire pump to the chassis supplied heat exchanger to assist in engine cooling during pumping operations. The heat exchanger line shall be controlled at the pump operator's panel.

One (1)
EE-02-1000

SUCTION RELIEF VALVE (ELKHART)

Y__N__

INTAKE RELIEF VALVE

A 2-1/2" intake relief valve preset at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 300 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

Discharge side of the intake relief valve shall be plumbed away from but, visible to the pump operator, and shall terminate with a 2-1/2" NST male chrome threaded adapter, marked with an engraved tag "Intake pressure relief outlet - Do Not Cap".

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One (1)
EE-02-5020

SUCTION MANIFOLD (SST) S100, DSD & CXY PUMPS

Y__N__

SUCTION MANIFOLD

A suction manifold shall be provided and fabricated with type 304, schedual 10 stainless steel. The suction manifold shall be pressure tested prior to installation. The suction manifold assembly shall be bolted to the pump and have stabilizer arms attached for reinforcement.

One (1)
EE-02-6500

The suction manifold assembly shall have a ten (10) year warranty.
TWO (2) - 6" STEAMER INLETS

Y__N__

STEAMERS

There shall be two (2) steamer inlets furnished. Steamer inlets shall be located, one on the right side and one on the left side of the pump panel. The suction inlets shall have 6" NST threads. The suction inlets shall have a removable strainer provided inside each external inlet.

One (1)
EE-03-0000

GATED PUMP SUCTIONS

Y__N__

PUMP SUCTIONS

Each gated suction inlet shall include a Class One 3/4" cast bronze 1/4 turn drain valve complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 psi. A chrome plated zinc handle shall be provided on each drain valve, complete with a 1" X 1 1/2" recessed ID label and located adjacent to the intake fitting.

Each 3" and larger gated pump suction intake shall have an operating mechanism which will not permit changing the position of the flow regulating element of the valve from full close to full open, or vice versa, in less than 3 seconds.

One (1)
EE-04-1000

All specified suction intake caps shall be capable of withstanding a minimum of 500 psi.
2-1/2" GATED SUCTION INTAKE(S)

Y__N__

2 1/2" GATED SUCTION INTAKE

The following 2-1/2" independent gated suction intakes shall be provided. Intakes shall be provided with Elkhart quarter turn valves which shall be **LOCATED WITHIN THE PUMP COMPARTMENT**. No Exception. Gated suction inlets shall be provided with 1/4 turn bronze flange mounted Class One drain valves with a chrome plated handle, chrome plated female swivel adapters having an internal screen, and a chrome plated plug type cap with end chain.

One (1)
EE-04-2000

Intakes shall be located:
2 1/2" GATED SUCTION LEFT SIDE

Y__N__

2 1/2" GATED SUCTION LEFT SIDE

One (1)
EE-20-1500

One (1) 2-1/2" gated suction on the left side of the pump.
LONG HANDLED SUCTION CAP LEFT & RIGHT SIDES

Y__N__

SUCTION CAPS

The right and left suction arms shall be equipped with a chrome plated long handled design caps capable of withstanding 500 psi.

One (1)
FA-01-0000

GATED DISCHARGES

Y__N__

PUMP DISCHARGES

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All gated discharge outlets other than the deck gun and front bumper discharges shall include a Class One 3/4" cast bronze 1/4 turn drain valve complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 psi. A chrome plated zinc handle shall be provided on each drain valve, complete with a 1" X 1 1/2" recessed ID label. Drains shall be **ALIGNED IN A STRAIGHT HORIZONTAL ROW** at the lower edge of the corresponding pump panel so as to allow for ease of identification and operation. Each drain shall be labeled and numbered to correspond to the respective discharge outlet and coloring.

Front bumper discharges and deck gun discharges shall be provided with a Class 1 automatic drain valve.

All 3" or larger discharge valves shall have an operating mechanism which will not permit changing the position of the flow regulating element of the valve from full close to full open, or vice versa, in less than 3 seconds.

Individual discharge control handles are to be aligned in a straight horizontal row across the pump operators control panel, directly inline with, and below the corresponding discharge outlet line pressure gauges. No exceptions will be allowed to this requirement.

One (1)
FA-01-0400

STAINLESS STEEL DISCHARGE MANIFOLD & PLUMBING

Y__N__

STAINLESS STEEL DISCHARGE MANIFOLD & PLUMBING

A discharge manifold and rigid plumbing shall be provided and fabricated with type 304, 1/4" thick stainless steel. The discharge manifold shall be pressure tested prior to installation. The stainless steel discharge manifold assembly shall be bolted to the pump and have stabilizer arms attached to reinforce the discharge manifold.

One (1)
FA-10-0000

The stainless steel discharge manifold assembly shall have a ten (10) year warranty.
SIDE MOUNT DISCHARGES

Y__N__

SIDE MOUNT PLUMBING ASSEMBLIES

One (1)
FE-20-0000

2" ELKHART ELECTRIC DISCHARGES

Y__N__

2" GATED DISCHARGES, ELKHART ELECTRIC

Elkhart 2" ball valve gated discharge lines shall be furnished, operators panel controlled with the valves located within the enclosed pump compartment and plumbed using 2" I.D. wire reinforced, high pressure hose coupled with stainless steel fittings. Valves shall be operated with Elkhart electric actuators with opening and closing speed preset to comply with current NFPA 1901 guidelines to minimize the effects of water hammer. To include a panel mounted valve controller with open/close switches, position indicator lights, with solid state controls and with all electronics mounted on panel for easy access. Valves shall be provided with emergency manual overrides. Control assemblies shall be aligned in a straight horizontal row directly below the corresponding line pressure gauge.

One (1)
FE-20-6210

Outlet(s) located;
(2) 2" ELKHART ELECT. FRONT BUMPER CROSSLAY DISCH 1 1/2" NS

Y__N__

Two (2) discharges located at the front bumper, plumbed using 2" I.D. wire reinforced, high pressure hose coupled with stainless steel fittings, provided with a 2" NPT X 1 1/2" NST male brass 90 degree swivels.

One (1)
FE-25-0000

2 1/2" ELKHART ELECTRIC DISCHARGES

Y__N__

2 1/2" GATED DISCHARGES, ELKHART ELECTRIC

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Elkhart 2 1/2" ball valve gated discharge lines shall be furnished, operators panel controlled with the valves located within the enclosed pump compartment. Valves shall be operated with Elkhart electric actuators with opening and closing speed preset to comply with current NFPA 1901 guidelines to minimize the effects of water hammer. To include a panel mounted valve controller with open/close switches, position indicator lights, with solid state controls and with all electronics mounted on panel for easy access. Valves shall be provided with emergency manual overrides. Control assemblies shall be aligned in a straight horizontal row directly below the corresponding line pressure gauge.

One (1)
FE-25-1500
Outlets located;
(1) 2 1/2" ELKHART ELEC RIGHT SIDE DISCH
Y__N__

One (1)
FE-30-0000
One (1) discharge on the right side pump panel with chrome plated 2 1/2" NST adapter, extending thru the pump panel with rubber extrusion trim around the opening. Discharge shall be provided with chrome plated 30 degree discharge elbow, chrome cap and chain.
3" ELKHART ELECTRIC DISCHARGES
Y__N__

3" GATED DISCHARGES, ELKHART ELECTRIC

Elkhart 3" ball valve gated discharge line(s) shall be furnished, operators panel controlled. Valves shall be operated with Elkhart electric actuators with opening and closing speed preset to comply with current NFPA 1901 guidelines to minimize the effects of water hammer. To include a panel mounted valve controller with open/close switches, position indicator lights, and solid state controls and with all electronics mounted on panel for easy access. Valves shall be provided with emergency manual overrides. Control assemblies shall be aligned in a straight horizontal row directly below the corresponding line pressure gauge.

One (1)
FE-30-3000
Outlet(s) located;
(1) 3" ELKHART ELEC. RIGHT SIDE DISCH 4" STRZ
Y__N__

One (1)
FE-30-4500
One (1) discharge on the right side pump panel with rubber extrusion trim around the opening. Discharge shall be provided with a 30 degree discharge elbow, and adapter to 4" Storz with cap and chain.
(1) 3" ELKHART ELEC. REAR DISCHARGE 4" STORZ
Y__N__

One (1)
FM-26-2000
One (1) discharge at the left side rear of the apparatus body with rubber extrusion trim around the opening. Discharge shall be provided with a 30 degree discharge elbow, and adapter to 4" Storz with cap and chain.
FOAM SYSTEM FOAM PRO #2001
Y__N__

FOAM SYSTEM

The apparatus shall be equipped with a FoamPro 2001, electronic, fully automatic, direct injection, discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrates and most Class B foam concentrates. The foam proportioning operation shall be based on direct measurement of water flows with no water flow restriction. The proportioning system shall meet NFPA Standards for foam proportioning systems and the design shall have passed testing against SAE automotive reliability standards appropriate for the application. The foam system shall be installed in accordance with the manufacturers recommendations.

The system shall be equipped with a digital electronic control display, suitable for installation on the pump panel.

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The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

1. Activate the foam system.
2. Provide foam concentrate proportioning rates from 0.1% to 3.0% in 0.1% increments.
3. From discharges plumbed after the paddlewheel type flow meter: show current flow in gpm, show total volume of water pumped, show total amounts of foam concentrate used.
4. Provide simulated flow for manual operation.
5. Perform set-up and diagnostic functions.
6. Flash a "low concentrate" warning for two minutes when the foam concentrate tank(s) run low of concentrate.
7. Flash "no concentrate" warning if foam concentrate tank was not changed or foam concentrate was not added to the low tank and shut down foam concentrate pump.

The display shall have the capabilities when using a Hypro/FoamPro manual or electronic dual tank switching system of the following additional functions;

1. Display which foam concentrate tank is selected (tank A: PA or tank B: PB)
2. Separate default setting for foam concentrate injection rate.
3. Total amount of foam concentrate used from selected tank.
4. Dual foam concentrate foam pump calibration.

The foam system shall have a 12 volt 1/2 h.p. "TENV" electric motor designed for wet and high humidity environments, direct coupled to a positive displacement piston type foam concentrate pump with a rated capacity of .01 to 2.6 gpm with operating pressures up to 400 psi.

The foam injection system shall be plumbed to the onboard foam concentrate tank or tanks and to the discharge or discharges as specified.

The FoamPro system must be installed by a FoamPro Certified Dealer.

The Foam Pro shall be plumbed to the front bumper crosslays as well as (1) 2 1/2" discharge.
(1) FOAM TANK 20 GAL. POLY

Y__N__

One (1)
FM-27-2000

FOAM CONCENTRATE TANK

One (1) 20 gallon polypropylene foam concentrate tank shall be provided and installed within the main booster water tank, unless otherwise specified, to allow easy access for filling. Tank shall be plumbed to the on board foam system.

FRC INCONTROL PSG & ENGINE/PUMP MONITOR WITH AUD. ALARM

Y__N__

One (1)
GG-05-4000

PRESSURE GOVERNOR AND ENGINE-PUMP MONITORING

One (1) Fire Research InControl series TGA400 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure

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

The following continuous displays shall be provided:

- 1) Pump discharge; shown with four daylight bright LED digits more than 1/2" high
- 2) Pump Intake; shown with four daylight bright LED digits more than 1/2" high
- 3) Pressure / RPM setting; shown on a dot matrix message display
- 4) Pressure and RPM operating mode LEDs
- 5) Throttle ready LED
- 6) Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- 7) Check engine and stop engine warning LEDs
- 8) Oil pressure; shown on a dual color (green/red) LED bar graph display
- 9) Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- 10) Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- 11) Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be

displayed with the push of a button. It shall monitor inputs and support audible and visual

warning alarms for the following conditions:

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

The program features shall be accessed via push buttons and a control knob located on

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the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be

electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

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 light 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)
GG-06-1000

UL TEST CONNECTIONS

Y__N__

UL TEST CONNECTION

An Elkhart Brass model #471 pump pressure and vacuum checking assembly shall be provided and mounted at the pump operators control panel. Assembly shall include plug type caps.

One (1)
GG-07-0500

DATA PLATE AND SAFETY PLACARDS

Y__N__

DATA PLATE AND PLACARDS

General Safety Equipment, LLC will provide at time of delivery the following placards and signage as specified by the purchaser and required by the specified governing bodies.

A test data plate will be provided at the pump operators position which gives the rated discharges and pressures together with the speed of the engine as tested for the proposed unit. Plate will comply with requirements of NFPA #1901.

A permanent data plate will be affixed in the drivers compartment specifying the quantity and type of the following fluids used in the completed vehicle when equipped with the specified component.

1. Engine Oil
2. Engine Coolant
3. Chassis Transmission Fluid
4. Pump Transmission Lubrication Fluid when applicable
5. Pump Primer Fluid when applicable
6. Drive Axle Lubrication Fluid
7. Air Conditioning refrigerant
8. Air Conditioning lubrication oil
9. Power steering fluid
10. Cab tilt mechanism fluid when applicable
11. Transfer case fluid

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12. Hydraulic ladder rack fluid when applicable
13. Air compressor system lubricant
14. Generator system lubricant when applicable

Permanent placards will be affixed and visible to all seated occupants instructing the occupants to wear their seat belts.

A permanent placard will be affixed to the rear step area to instruct that riding on the rear step is prohibited.

All warning placards required by NFPA 1901 standards and required by the purchasers specifications for the apparatus will be provided and installed.

One (1)
GG-07-1000

COLOR CODED TAGS

Y__N__

PUMP PANEL IDENTIFICATION TAGS

All discharges shall be provided with color coded labels. Identification labels shall be provided at the discharge control, the discharge outlet, and at the discharge drain valve control, colored according to NFPA recommended standards.

One (1)
GG-07-1600

ALUMINUM EXTRUDED PUMP HOUSE

Y__N__

EXTRUDED ALUMINUM PUMP HOUSE STRUCTURE

The pump house structure shall be fabricated of extruded aluminum. The structure shall be welded together and have gusset plates on each corner. The pump house shall be mounted separate from the body and chassis and be bolted to the chassis frame rails.

The exposed areas of the pump house structure shall be over layed with polished aluminum treadplate.

One (1)
GG-16-1000

SIDE MOUNT PUMP PANEL (44" WIDE)

Y__N__

LEFT SIDE MOUNTED OPERATOR'S CONTROL PANEL

All pump suction and discharge controls are to be mounted on the left side pump operator's panel so as to permit operation of the pump from a central location.

All linkage rods from the pump operators control panel to the pump components shall be heavily cadmium plated to resist rust and sticking. Plain or painted steel control rods that are susceptible to rust and corrosion are not acceptable.

All linkage rods shall be attached using threaded fittings or clevis connectors. Rods that are provided with welded fittings or connections are not acceptable.

All of the pump controls shall be clearly identified with permanently engraved plate type labels.

A full panel width extruded aluminum bolted in place and removable light hood with a minimum of three (3) sealed light assemblies shall be provided to illuminate the entire pump operators control panel. Lighting shall be provided with a pump operator's panel mounted switch.

One (1) pump operator's panel light shall illuminate whenever the Fire Pump is engaged.

An additional extruded aluminum bolted in place and removable light hood with a minimum of two sealed light assemblies shall be provided to illuminate the right side pump panel. Lights shall be controlled by the operators panel light switch.

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GAUGE PANEL

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

One (1)
GG-16-3100 BLACK THERMO PLASTIC PUMP PANELS Y__N__

PUMP PANELS

The right and left side pump panels shall be constructed entirely of aluminum, and be coated with black thermo-plastic material.

One (1)
GG-16-3200 HINGED PUMP PANEL Y__N__

HINGED PUMP PANEL

The right side pump panel shall be provided with thumb latches and shall be hinged to provide easy access to the pump/plumbing and valves for service.

One (1)
GG-16-4000 PUMP COMPT INSPECT./ACCESS DOOR, (RGT SIDE) Y__N__

PUMP COMPARTMENT ACCESS DOOR

The right side pump panel shall be provided with a full panel width horizontally hinged access door located in the upper portion of the panel. This door shall be approximately 18" high and as wide as possible, and shall be constructed of the same material as the pump panel. A large D-handle stainless steel latch and dual pneumatic door props shall be provided on the access door.

One (1)
GG-16-5000 DEAD LAY Y__N__

DEAD LAY

There shall be a dead lay located directly rearward of the pump house. The deadlay shall be capable of holding 200' of 1.75" hose.

One (1)
GG-16-6000 ENCLOSURE DOOR FOR LEFT SIDE PUMP PANEL Y__N__

ENCLOSED LEFT SIDE PANEL

The left side pump panel shall be fully enclosed with a full height painted body color roll up door. The door shall protect the operators panel from road spray and debris.

One (1)
GG-16-7000 ENCLOSURE DOOR FOR RIGHT SIDE PUMP PANEL Y__N__

ENCLOSED RIGHT SIDE PANEL

The right side pump panel shall be fully enclosed with a full height painted body color roll up door. The door shall protect the pump panel from road spray and debris.

One (1)
HH-00-0200 UPF BOOSTER TANK Y__N__

UPF BOOSTER TANK

One (1)
HH-01-0600 BOOSTER TANK POLY 180 GALLON Y__N__

A 180 gallon capacity polypropylene booster tank shall be provided.

The booster tank shall be of a specific configuration and is so designed to be completely

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independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity.

The transverse swash partitions shall be manufactured of polypropylene and extend from approximately 4" off the floor to just under the cover. The longitudinal swash partitions shall be constructed of polypropylene and extend from the floor of the tank 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 interlock with one another and are welded to each other as well as to the walls of the tank.

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of polypropylene and with a minimum dimension of 8" x 8" outer perimeter. The tower shall be located in the left front corner of the tank. The tower shall have a polypropylene screen and a polypropylene hinged cover. Inside the fill tower, shall be fastened a combination vent overflow pipe. The vent overflow shall be polypropylene pipe that is designed to run through the tank and shall be piped behind the rear wheels.

A forward mounted sump shall be provided in the tank. The sump shall be constructed of polypropylene and be located in the left front quarter of the tank. A polypropylene pipe shall be installed that will sweep from the front of the tank to the sump location. The sump shall have a 3" N.P.T. threaded coupling on the bottom for a plug. This shall be used as a combination clean out and tank drain. An anti-swirl plate shall be located above the sump.

There shall be two standard tank outlets; one for tank-to-pump suction lines, and one for a tank fill line which shall be a 1 1/2" N.P.T. coupling. All tank couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

The tank shall carry a lifetime warranty from its manufacturer.
TANK TO PUMP 3" ELECTRIC

Y__N__

One (1)
HH-03-3200

BALL VALVE TANK TO PUMP

A 3" electric operated suction valve with control on pump operators panel shall be furnished from the tank to the pump, complete with a flexible connection and enclosed in the pump compartment.

A check valve shall be provided and installed in the line between the tank and the pump to prevent the possibility of backfilling the booster tank thru the tank to pump suction line.

Tank suction shall be located in a sump assembly located below the bottom of the tank, properly baffled to prevent surging of water. A 3" cleanout plug shall be provided in the bottom of the tank sump.

TANK FILL/RECIRCULATING LINE 2" ELKHART ELECTRIC

Y__N__

One (1)
HH-03-9700

TANK FILL/COOLING LINE

One (1) 2" Elkhart electrically operated tank refill and pump recirculating line.
CAB MTD. TANK LEVEL LIGHTS (WHELEN PSTANK)

Y__N__

One (1)
HH-05-0700

TANK LEVEL LIGHTS

There shall be one (1) Whelen model PSTANK (LED) tank level light mounted on each side of the cab. The lights shall be 1-3/8" wide X 11-1/2" long in diameter and connected to the water tank sending unit. The lights shall activate with the park brake switch.

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The lights shall be wired to read the tank level as follows:

- All four lights illuminated: Tank Full
- Three lights illuminated: Tank 3/4 Full
- Two lights illuminated: Tank 1/2 Full
- One light illuminated: Tank 1/4 Full

One (1) FIRE RESEARCH TANK VISION FOAM LEVEL GAUGE Y__N__
HH-05-4100

TANK LEVEL GAUGE

A Fire Research "Tank Vision" foam tank level gauge shall be provided on the pump panel of the apparatus. Ultra-brite LED's can be seen in bright sunlight and the wide-viewing lens gives you a full 180 degrees of visibility. The operator is warned with flashing lights when the volume is below 25%.

One (1) FIRE RESEARCH TANK VISION WATER GAUGE "PUMP PANEL" Y__N__
HH-O5-4200

TANK LEVEL GAUGE

A Fire Research "Tank Vision" water tank level gauge shall be provided on the pump panel of the apparatus. Ultra-brite LED's can be seen in bright sunlight and the wide-viewing lens gives you a full 180 degrees of visibility. The operator is warned with flashing lights when the volume is below 25%.

One (1) METZ AERIAL GROUND LADDER STORAGE Y__N__
JJ-04-6005

GROUND LADDER STORAGE

Ground ladders and pike poles shall be accessed from the rear of the apparatus. All ladders shall be mounted on adjustable, individual brackets and slide on composite material so as not to damage the main beams of the ladders. Pike poles and the folding ladder shall be stored in individual storage areas. Ladders shall have stops provided on the front of all slides so ladders will not slide forward during emergency braking conditions. A quick release type strap shall be provided at the rear to retain the ladders from sliding rearward.

One (1) A fourway aluminum treadplate D-handled door shall be provided for the rear storage area. Y__N__
JJ-05-0000
----GROUND LADDERS----

GROUND LADDERS

One (1) EXTENSION LADDER 28' TWO SECTION #1200A Y__N__
JJ-05-0200

One (1) 28 foot two (2) section, aluminum, Fire Department extension ladder, DUO-SAFETY Model 1200-A shall be provided and mounted in the ground ladder storage area.

One (1) EXTENSION LADDER 35' THREE SECTION #1225A Y__N__
JJ-05-2500

A 35 foot, 3 section fire department extension ladder, DUO-SAFETY Model 1225A, in which the side rails also act as guides for the fly ladder, shall be furnished.

One (1) ROOF LADDER 14'W/FOLDING HOOKS PRL-14 Y__N__
JJ-05-3700

One (1) fourteen foot (14ft.) roof ladder with folding hooks, ALCO-LITE model PRL-14.

One (1) FOLDING ATTIC LADDER 10' ALUMINUM #585A Y__N__
JJ-05-5500

A 10 foot DUO-SAFETY Model #585A aluminum folding ladder with mounting brackets shall be furnished.

One (1) ----PIKE POLES---- Y__N__
JJ-06-0000

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One (1) JJ-06-5100	PIKE POLES (2) PIKE POLES 6' FIBERGLASS HANDLE	Y__N__
One (1) JJ-06-5600	Two (2) 6 foot pike poles with fiberglass handles, steel hooks and mounting brackets. (2) PIKE POLES 8' FIBERGLASS HANDLE	Y__N__
One (1) JJ-06-6100	Two (2) 8 foot pike poles with fiberglass handle, steel hooks and mounting brackets. (2) PIKE POLES 10' FIBERGLASS HANDLE	Y__N__
One (1) KB-00-3600	Two (2) 10 foot pike poles with fiberglass handles, steel hooks and mounting brackets. 105' SINGLE AXLE REAR MOUNT AERIAL METZ BODY	Y__N__
One (1) KB-02-2500	ALUMINUM EXTRUDED APPARATUS BODY (AERIAL)	Y__N__

APPARATUS BODY MATERIALS

STRUCTURAL DESIGN

To prevent possible interaction of dissimilar metals and to reduce the weight of the completed apparatus, the body and ALL STRUCTURAL SUPPORTS shall be constructed entirely of aluminum sheet and aluminum extrusions.

Aluminum extrusions or sheet aluminum of smaller thicknesses or lesser grades to those specified herein are not acceptable.

All extrusions utilized in the body super-structure, sub-structure and framing shall be 6061-T6 alloy aluminum of the specified thickness and size.

For strength and rigidity, all aluminum sheet utilized in the apparatus body, hose body and compartment sides shall be a minimum of 1/8" 5052-H32 alloy aluminum sheet.

All extrusions shall be beveled at each joint and all seams shall be electrically seam welded using #5356 alloy aluminum wire.

FASTENERS

All threaded fasteners used in the apparatus body shall be attached with with Ny-Lok type nuts.

All aluminum and stainless steel components shall be attached using stainless steel fasteners. Zinc or cadmium plated fasteners are not acceptable for use with any aluminum or stainless steel components on the vehicle.

Compartment door hinges, handrails, and runningboards shall be attached using minimum 1/4" diameter machine screw fasteners.

3/16" diameter fasteners shall only be used in non-structural areas such as; door locks, trim mouldings, gauge mountings, etc.

One (1) KK-01-5000	TOW EYES THRU REAR FACE OF BODY / PAINTED (AERIAL)	Y__N__
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TOW EYES

Two (2) tow eyes shall be furnished at the rear of the body and attached directly to the chassis frame rails. Tow eyes are to be constructed of 1/2" plate steel with a 3" I.D. hole, large enough for passing through a tow chain end hook.

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One (1)
KK-22-2000
Tow eyes shall be painted black.
ALUMINUM GRATINGS MAIN HOSEBED

Y__N__

HOSEBED FLOORING

Floors of the specified hosebeds are to be provided with removable slat style extruded aluminum hosebed gratings, spaced 1/2" apart for proper hose ventilation. Hosebed gratings are easily lifted out of the main hosebed for access to the top of the specified booster water tank.

One (1)
KK-26-4000
HOSEBED COVER HINGED ALUMINUM WITH END FLAPS

Y__N__

HINGED ALUMINUM HOSEBED COVERS

Polished aluminum treadplate hosebed covers shall be furnished, extending the full length and width of the main hosebed.

Covers shall be fabricated of .125" polished aluminum treadplate with cross bracing for maximum strength, and to support the weight of a firefighter standing on the covers when closed. The covers shall be of the sloped design for proper water runoff. Each cover to be equipped with a full length stainless steel piano hinge with chrome plated grab handles at front and rear of each cover. Hosebed covers shall include heavy duty stops to support them when in the opened position.

One (1)
KK-30-4500
Covers shall include weighted vinyl end flaps at the rear hosebed openings.
(2) CROSSLAY HOSEBEDS 1 3/4 FRONT BUMPER MTD.

Y__N__

1 3/4" BUMPER MOUNTED CROSSLAY HOSEBEDS

Two (2) crosslay hosebeds at least 3.5 cu. ft., designed to carry 150 feet of 1 3/4" double jacket fire hose shall be provided and mounted in the chassis front bumper extension. Crosslays shall be plumbed from the specified discharge valves on the fire pump using high pressure flexible hose with stainless steel end couplings. Crosslays shall be provided with recess mounted 1 1/2" NST **long neck** swivel discharges, and aluminum flooring.

One (1)
LA-03-0500
An aluminum treadplate lid shall be provided for the crosslays able to handle the weight of a firefighters.
SUPER STRUCTURE/ALUMINUM BODY

Y__N__

BODY SUPERSTRUCTURE

All vertical and horizontal structural members of the outer apparatus body shall be constructed of no less than 4.00" by 12.00", 6061-T6 aluminum extrusions with a minimum .200" wall thickness fully welded together forming a unitized support system for the body and compartments. In order to provide a complete internal and integrated body super-structure, full height extruded structural members shall be provided at each corner of the apparatus and between each exterior equipment compartment.

One (1)
LA-05-0500
Bidder is to provide with their bid proposal illustrations and drawings of the body structure to show compliance with this requirement. No Exception.
BODY WIRING RACEWAYS

Y__N__

BODY WIRING RACEWAYS

Due to the possibility of damage by shifting equipment, exposed wiring shall not be permitted in the equipment compartments. The main body wiring harness shall not be routed beneath the

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Bidder Complies

apparatus body where it may be exposed to road debris and the elements of weather.

The body shall be designed to provide easily accessible recessed raceways to fully protect all body wiring. Bolted on access panels shall be provided for all wiring routed through the body. Access panels shall be removable with common hand tools. Hollow tubes with wiring routed through the same that is only accessible by disconnecting wiring and manually pulling the same through the tube does not meet the intent nor the technical requirements of this specification in providing accessible wiring. Open faced channels with wiring held in place by clips or tie downs does not meet the intent nor technical requirement of providing protected wiring.

One (1)
LA-06-0500

SHELVING TRACKS / ALUMINUM BODY

Y__N__

SHELVING TRACKS

The vertical extrusions forming the framework of the side exterior compartmentation shall be designed to incorporate FULLY RECESSED adjustable shelving standards. Shelving tracks shall run full height of **ALL** side exterior equipment compartment.

The intent of this requirement is to allow full use of the available storage areas without the interference of shelving tracks extending into and reducing the interior widths of the compartments which will allow equipment to be stored within the full width of the compartment interiors.

Shelving, when specified, shall have a width of no less than .25" of the overall compartment width.

Adjustable shelving tracks welded or bolted onto interior walls of the compartments do not meet the intent of these specifications.

One (1)
LA-07-0500

RECESSED COMPARTMENT LIGHTING

Y__N__

RECESSED COMPARTMENT LIGHTING

All side exterior equipment compartments shall be provided with one (1) fully recessed rubber shock mounted sealed and weathertight clear compartment light. The light shall be totally enclosed (not exposed to the environment) and side wall recessed mounted within 12.00" of the compartment ceiling. When two (2) compartment lights are specified, the second light shall be mounted approximately one half the distance between the upper light and the compartment floor.

The lights shall be a minimum of 4.00" diameter and shall not protrude into the compartment, use recessed wiring, and are to be equipped with Deutsch type wire plugs for ease of removable or replacement.

Compartment shelves shall be capable of being moved up or down without having to remove or relocate the compartment lights. No Exception.

Eight (8)
LA-07-0555

ADDITIONAL COMPARTMENT LIGHTS

Y__N__

Additional sealed compartment lights shall be provided and installed in the compartments as directed by the Purchaser.

One (1)
LA-09-4000

ALUMINUM PAINTED WHEEL WELL AREA & SS FENDERETTES

Y__N__

WHEEL WELL LINER AND FENDERETTES

For ease of accessibility and maintenance, wheel well panels shall be double break formed .125" painted smooth aluminum plate that is fully gasketed and bolted in place with stainless

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Bidder Complies

fasteners. Wheel wells shall be of the removable design so as to provide replacement in the event of damage. There shall be no visible bolt heads, retention nuts or fasteners on the exterior surface of the panel. Wheelwell panel shall be isolated from the apparatus body utilizing .25" nylon spacer blocks.

To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 24.00") radius wheel well liner constructed of exterior grade .25" black polyethylene sheet shall be provided. For ease of removal, the liner shall be held in place via means of a self-tension retention system. Due to possible corrosion and contamination by road debris in the wheel well area, mechanical fasteners shall not be used to secure the wheel well liner.

The rear wheel wells shall be radius cut for a streamlined appearance. A polished type 304 stainless steel radius fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless steel fasteners with nylon isolators to prevent contact of the fastener with the wheelwell housing panel. A black rubber gasket shall be installed between the stainless fenderette and the apparatus body sides. Silicone caulking does not meet the intent nor the technical requirement of a solid gasket material in this area and is not acceptable.

One (1)
LA-12-0500

FOURWAY COMPT. TOPS AND DRIP RAILS

Y__N__

APPARATUS COMPARTMENTATION

There shall be large enclosed compartments on both sides of the body, starting at the front of the hosebody and continuing to the rear of the apparatus. These compartments shall be as large as possible, using all available space.

The aluminum treadplate compartmentation tops on each side of the body shall be extended out and downward a minimum of .50" over the compartment doors forming a drip rail. Corners shall be TIG welded.

Lower or rear face compartments, if specified shall be provided with polished aluminum drip rails.

One (1)
LA-13-0500

All high side compartment tops shall be NFPA approved non-slip treadplate.
HINGED COMPARTMENT DOORS

Y__N__

SIDE BODY HINGED COMPARTMENT DOOR CONSTRUCTION

All hinged compartment doors shall be of the overlapping style so that the entire door fits flush against the apparatus body sides. Doors shall be designed, in the closed position, to have the painted edges protected from damage on the tops by forming the treadplate compartment tops into a extended drip edge, on the bottoms by the rub rail and on the front and rear by extending the front and rear vertical scuff plates into protective edges. There shall be no visible painted door edge surfaces when the doors are in the closed position. Doors shall not extend into the compartments thereby reducing the usable compartment depths.

Doors shall be a minimum 1.50" thick, fabricated of a minimum of .125 smooth aluminum. Full panel inner compartment door liners shall be provided and constructed of .125" smooth aluminum material. Exterior door panels shall be smooth with no welds or fasteners visible on the exterior skin. Double door compartments shall not require nor be equipped with a secondary latch to hold the same in position. No Exception.

All compartment door hinges shall be full length piano type constructed of a minimum 14 gauge type 304 polished stainless steel with 1/4" stainless steel hinge pin with dual directional

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bolt holes for ease of adjustment. Door hinges shall be fully recessed and protected from the environment by the door gasket. The door hinges shall not be visible from the outside of the body when the doors are in the closed position. No Exception.

Striker plates shall be a minimum of 12 gauge stainless steel and posts shall be positioned so they do not interfere with the clear door openings by pointing down. Door retention studs or posts on striker plates that extend into the clear door frame opening do not meet the technical intent of these specifications and are not acceptable. Door hinges and striker plates shall be attached with minimum 5/16" stainless steel nuts and bolts.

When horizontally hinged lift-up doors are specified, they shall be equipped with heavy duty gas filled props to hold them in the open position. All other hinged doors shall be equipped with gas shocks specifically designed for use on vertically hinged doors. Door holders shall be bolted in position. Door closures utilizing chains, mechanical stops or spring loaded hardware are not acceptable.

The door ajar switches shall be fully enclosed within structural members and shall not extend into the clear door opening.

All compartment doors shall be provided with double hollow core weather stripping to provide a double seal at the door opening to prevent road spray and debris from entering the compartment. **Door openings shall match the compartment sizes.** No Exception.

On vertically hinged double door compartments, the secondary door shall have a nylon door holders, top and bottom of the interior of the door to hold the door in place when closed.
EXTERIOR DOOR LATCHES (HINGED DOORS)

One (1)
LA-14-0500

Y__N__

EXTERIOR DOOR LATCHES

Side exterior compartment doors shall be furnished with a large Hanson model #102 solid STAINLESS STEEL spring loaded D-handle with slam type latches. D-handles shall have the large style "bent" D-ring for ease of grabbing the handle even when wearing mits or gloves. Chrome plated standard steel D-handles are not acceptable.

Door handles shall be held in place with four stainless steel stud fasteners secured on the interior of the door skin to eliminate bolt heads on the exterior latch ring. To prevent possible interaction between dissimilar metals, the studs shall not break any painted surface. A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

Handles which are held in place with visible fasteners, two sided tape or glue do not meet the intent of this requirement.
FRONT/REAR OVERLAYS / SMOOTH ALUMINUM

One (1)
LA-14-5500

Y__N__

SIDE AND REAR OVERLAYS

.125" polished aluminum treadplate overlays and panels shall be provided and installed in the following areas:

The front face of each side compartment and center rear panel of the apparatus body.

Overlays shall be bolted in place and sealed to prevent any moisture entry between the overlay and the body structure.
RUNNINGBOARDS

One (1)
LA-15-0500

Y__N__

RUNNINGBOARDS

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Runningboards shall be provided on both sides of the body at the pump panel areas and shall be fabricated from NFPA approved non-slip .190" bright aluminum treadplate. The runningboards shall be flange down a minimum of 3.00" for added strength and to match the specified apparatus body rubrails.

Runningboards shall be bolted in place and removable for ease of repair or replacement. No Exception.

One (1)
LA-16-0600

RUB RAILS (ALUMINUM EXTRUDED)

Y__N__

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the right and left body sides. The rub rails shall extend outward beyond the body sides for protection of the compartments and doors. There shall be a bolt on aluminum corner casting on each rear corner to blend the rear tail board assembly with the side rub rails.

One (1)
LE-04-0500

The side rub rails shall be a heavy extruded aluminum "C" channel.
COMPT. CONSTRUCTION / ALUMINUM BODY AERIAL

Y__N__

AERIAL LADDER BODY SIDE EXTERIOR COMPARTMENT CONSTRUCTION

Compartment sides and walls shall be welded to the super-structure described elsewhere herein. Seams shall be sealed using an engineered grade polyurethane adhesive-sealant. The compartments shall be designed to provide protected raceways for vertically hinged door fastener retention elements. This requirement shall eliminate the possibility of door hinge hardware from being damaged by or damaging equipment stored in the compartments. The raceways shall be designed to allow door hardware removal by a single person with simple hand tools. As described elsewhere herein, full height access panels fastened with stainless steel fasteners shall be provided to access all wiring routed through vertical super-structure extrusions. A minimum of forty-five square inches of removable louvered ventilation shall be provided in each compartment.

Compartment flooring shall be no less than 3/16" 3003-H14 alloy aluminum treadplate welded in place to the extruded aluminum framework. Due to the high useage and wear and tear caused by removal of equipment, only treadplate aluminum with a raised pattern will be acceptable for compartment flooring. Bolted or welded in smooth raw aluminum or painted aluminum does not meet the intent nor technical requirement of raised pattern treadplate. There shall be no floor welds visible from the interior of the equipment compartments.

The tops of the side exterior compartments shall be constructed of 3003-H14 alloy aluminum treadplate fastened to the body with stainless steel fasteners. Compartment tops that are welded in place do not meet the servicability intent of this requirement.

One (1)
LE-08-0500

ALUMINUM HOSE BODY CONSTRUCTION AERIAL

Y__N__

AERIAL LADDER HOSE BODY CONSTRUCTION

To maintain strength and rigidity, the main hose body shall be completely framed with a minimum of 2.00" X 3.00" 6061-T6 alloy aluminum extrusions with a .281 nominal wall thickness. The hose body extrusions shall be welded to the super-structure framework, becoming an integral portion of a complete unitized support system. Sheet metal or sheet aluminum with double or triple formed breaks, does not meet the technical requirement of the specification in providing a complete hosebody framework. Sides shall be constructed of no less than 1/8" 5052-H32 alloy aluminum sheet welded to the framework. There shall be no visible welds on the exterior of the hose bed side sheets. To provide immediate access to and

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rapid removal of the booster tank, neither the hose bed nor the hose bed flooring shall be located above the booster tank. This is a maintenance requirement and as such it shall not be compromised.

One (1)
LE-08-5500

SIDE BODY HOSE STORAGE FOR AERIAL AERIAL Y__N__

HOSEBED STORAGE AREA

The apparatus hosebody is to be properly reinforced without the use of angles or structural shapes, and free from all projections which might injure the fire hose.

The main apparatus hosebody shall run the full length left side of the apparatus body from behind the pump panel to the rear face of the body. The width of the hosebed shall be from the side wall of the aerial torquebox to the side sheet of the apparatus body. Hosebed flooring shall be fabricated aluminum grating which provides ventilation for the hose.

The inside rear surface of the hosebed shall be furnished with "DA" finished material to protect the surface from damage by hose couplings.

The hosebed shall hold 800' of 4" hose.

One (1)
LE-10-0500

INTERFACE ALUM. AERIAL BODY & CHASSIS AERIAL Y__N__

CHASSIS AND AERIAL BODY INTERFACE

The exterior side equipment compartments shall be bolted to no less than three (3) vertical formed steel channels welded directly to the aerial torque box. The channels shall be no less than 3.00" X 3.00" X .25" with a return lip of no less than 1.50" and shall be formed to "receive" the vertical aluminum extruded I-beams incorporated into the body sub-structure system, described elsewhere herein. The upper and lower portions of the vertical I beam shall be bolted to the vertical structural channels. All interface areas between the steel channels and aluminum extruded channels shall be isolated by an elastomeric isolator.

One (1)
LE-11-0500

SUBSTRUCTURE FOR ALUMINUM AERIAL BODY AERIAL Y__N__

AERIAL LADDER BODY COMPARTMENT SUB-STRUCTURE

A minimum of six (6) 4.00" high by 2.50" wide tubular "I" beam horizontal crosstubes with a .375" vertical wall thickness shall be provided on each side of the body in pairs, one (1) located above the other. Crosstubes shall run from within 1.00" of the aerial torque box outward and shall be routed through and fully welded to the vertical and horizontal structural extrusions forming the body super-structure.

Vertical intermediate structural "I" beams 4.00 X 2.50" with .375" vertical wall thickness shall be interconnected to and welded to each upper and lower crossmember forming a fully welded support grid. These vertical structural "I" beams shall be sized to fit the steel structural channels welded to the chassis torque box.

One (1)
LE-30-1800

METZ BODY 100' HL/HR FRONT COMPT. SINGLE Y__N__

APPARATUS COMPARTMENTATION

COMPARTMENTATION LEFT AND RIGHT SIDES

There shall be one (1) compartment above the forward outriggers each side. The compartment shall be 18" wide x 35" high x 12" deep.

There shall be one (1) compartment directly behind the pump on the right side. The compartment shall be 22" wide x 44" high x 24" of useable depth.

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There shall be one (1) compartment ahead of the rear wheels on the right side. The compartment shall be 44" wide x 44" high x 24" of useable depth.

There shall be one (1) compartment ahead of the rear wheels on the left side. The compartment shall be 44" wide x 27" high x 24" of useable depth.

There shall be two (2) compartments above the rear wheels on the right side. The compartments shall be 45-1/2" wide x 13" high with 22" of useable depth.

There shall be one (1) compartment directly behind the rear wheels each side. The compartments shall be 20" wide x 27" high with 24" of useable depth.

There shall be one (1) rear most compartment on the right side. The compartments shall be 26" wide x 44" high with 24" of useable depth.

There shall be one (1) rear most compartment on the left side. The compartments shall be 26" wide x 27" high with 24" of useable depth.

One (1)
LE-50-0500

TURNTABLE ACCESS STEPS (LEFT SIDE) METZ

Y__N__

ACCESS TO TURNTABLE

An access ladder with handrails shall be provided as a means of egress to and from the aerial device turntable. The ladder shall have four (4) (7") steps leading to the turntable. A fifth (5th) out and down step shall be provided for access to the turntable when the outriggers are in the down position.

One (1)
LE-60-4000

REAR BUMPER (AERIAL)

Y__N__

REAR BUMPER

A single piece rear bumper shall be furnished that is a minimum of 2.00" deep and full width of the apparatus body, from rub rail to rubrail. It shall be spaced away from the rear edge of the body approximately 1/2" by means of a nylon spacer to allow proper drainage. The rear bumper shall be provided with mitered edges that are "TIG" welded for a pleasing appearance.

Eight (8)
LL-14-2000

The rear bumper shall incorporate provisions for the mounting of five (5) recessed clearance light fixtures.

SHELF, ALUM. ADJ. (EA)

Y__N__

ADJUSTABLE SHELVES

Eight (8) compartment shelve(s) shall be provided and constructed of .190" smooth Aluminum, and are to have formed upward breaks on front and rear with TIG welded corners for added strength. Shelve(s) shall be fully adjustable within the compartments. Lighter gauge shelf materials are not acceptable.

Three (3)
LL-16-1000

Shelve(s) shall extend full width of the compartments, within .25" of the overall width, and adjust up and down in the integral shelf tracks.

SLIDE-OUT TRAY 250 LB. ALUMINUM

Y__N__

SLIDE-OUT TRAY

Three (3) heavy duty 250 lb. capacity slide-out tray(s) shall be installed per Fire Department instructions. Slide-out tray(s) shall be constructed of .125 aluminum material, complete with heavy duty roller bearing slides, and a gas prop to hold the tray in the "open" and "closed"

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Bidder Complies

Two (2) LL-18-5000	positions. COMPT DOORS ROBINSON ROLL UP (EA)	Y__N__
	ROLL UP DOORS	
	R.O.M. Robinson brand extruded aluminum shutter style doors with lift bar latch mechanisms and associated hardware shall be provided and installed as specified.	
Two (2) LL-18-5100	PAINTED ROLL UP DOORS	Y__N__
	PAINTED ROLL UP DOORS	
	The specified roll up doors shall be painted to match the apparatus body.	
One (1) LL-18-5200	DOOR LOCKS FOR ROLL UP DOORS	Y__N__
	EXTERIOR DOOR LOCKS	
	A keyed cylinder lock shall be provided in the bottom portion of each roll-up door. All locking roll-up doors shall be keyed alike.	
One (1) LL-18-5300	DOOR LOCKS FOR HINGED DOORS	Y__N__
	EXTERIOR DOOR LOCKS	
	The hinge door(s) shall be equipped with a keyed locking device.	
One (1) LL-22-5000	HANDRAILS FOR FOLDING STEPS	Y__N__
	Access rails shall be provided on both the right and left topsides of the apparatus body, starting at the front of the hosebed and continuing to the rear of the truck. Rails shall be aligned with the rear access rails and mounted on the outboard edge of the compartment tops. Chrome plated mounting brackets shall be provided which are spaced to provide a safe and stable railing.	
One (1) LL-24-7000	SLIDE-OUT PLATFORM BELOW LEFT PUMP PANEL	Y__N__
	SLIDE-OUT PUMP OPERATOR'S PLATFORM	
	A slide-out pump operators platform shall be provided below the left side pump panel runningboard. The slide-out platform is to include a Grip-Strut step aggressive tread to comply with NFPA 1901.	
	The step shall be constructed in a manner that does not utilize rollers or ball bearings to seize up or jamb when operating.	
One (1) LL-26-1000	ONE (1) FOLDING STEP	Y__N__
	FOLDING STEP	
	One (1) Cast Products Model # FT44503 cast aluminum folding step with built in hand hold shall be provided and mounted on the drivers side rear exterior wall of the pump compartment. Folding step shall meet all applicable NFPA standards at time of installation and shall withstand a minimum 500 lb. load.	
One (1) LL-26-1200	TWO (2) REAR FOLDING STEPS, OFFICER SIDE	Y__N__
	REAR FOLDING STEPS	
	Two (2) Cast Products Model # FT44503, cast aluminum folding step with built-in hand hold shall be provided and mounted on the rear of the apparatus, on the officer side. Folding steps shall meet all applicable NFPA standards at time of installation and shall withstand a minimum	

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Bidder Complies

One (1)
LL-26-2430

500 lb. load.
OUT AND DOWN STIRRUP STEP

Y__N__

OUT AND DOWN STEP

One (1)
LL-30-6000

One (1) out and down stirrup step constructed of smooth aluminum and non-slip step rungs shall be provided and mounted below the running board or tailboard for access to the hosebed.
FUEL FILL DOOR W/REAR FUEL TANK

Y__N__

FUEL FILL

One (1)
LL-30-6800

One (1) cast aluminum fuel fill housing complete with a spring loaded hinged door and a gasketed polished trim ring shall be provided in the rear wheelwell area of the apparatus body with large engraved identification label.
(3) SCBA COMPTS. IN REAR WHEELWELLS

Y__N__

AIR BOTTLE COMPARTMENTS IN WHEELWELLS

Three (3) SCBA storage compartments shall be provided and located in the rear wheelwells of the apparatus body, two on the right side and one on the left side of the rear wheels.

SCBA bottle compartments shall be constructed entirely of aluminum, gasketed between compartment and body side, bolted in-place and removable for repair or replacement. No Exception.

Compartments shall be provided with SCBA bottle scuff protection. Each compartment shall be provided with brushed aluminum spring loaded doors with push button trigger latches and polished aluminum surrounds. Compartment doors are to be provided with an O-ring gasket seal to prevent moisture and debris from entering compartments.

One (1)
MM-01-0000

PAINTING (BODY)

Y__N__

PAINT PROCESS

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

Tacked free of any dust particles, the body and all parts shall be individually sprayed using the following minimum procedure and materials:

- One (1) coat of self etching primer
- Two (2) coats of urethane primer
- Two (2) color coats of the specified color
- Three (3) coats of clear urethane

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

All aluminum parts shall be bolted to the body using stainless steel fasteners. Zinc or Cadmium plated fasteners are not acceptable.

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

One (1)
MM-01-1000

D/A INTERIORS W/HINGED DOORS (ALUM BODY)

Y__N__

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DOORS AND INTERIOR COMPARTMENT FINISH

The compartment doors shall be thoroughly sanded and washed with solvent.

Tacked free of any dust particles, the doors shall be individually sprayed using the following minimum procedure and materials:

- One (1) coat of self etching primer
- Two (2) coats of urethane primer
- Two (2) color coats of the specified color
- Three (3) coats of clear urethane

The interior compartments shall be left unpainted and have D/A finish.

One (1)
MM-01-3140

WATER PUMP VALVES AND PLUMBING (PAINTED)

Y__N__

FIRE PUMP

The pump and plumbing shall be painted gray in color for a more pleasing appearance.
TOUCH-UP PAINT

One (1)
MM-01-7000

Y__N__

TOUCH-UP PAINT

One quart of touch-up paint shall be furnished with the completed truck at final delivery.
AERIAL SIGN PANEL

One (1)
MM-02-1300

Y__N__

AERIAL SIGN PANEL

An aerial sign panel shall be provided one (1) each side of the aerial to hold up to fifty (50) letters).

One (1)
MM-02-2500

LETTERING (SCOTCHLITE REFLECTIVE)

Y__N__

LETTERING

Lettering shall be done in Scotchlite reflective lettering. Lettering to be placed on each cab door as directed by fire department.

One (1)
MM-02-2800

INSTALLATION OF CUSTOMER FUR. DOOR DECALS

Y__N__

INSTALL CUSTOMER SUPPLIED DECALS

Factory installation of the purchasers supplied decals shall be provided as specified.

One (1)
MM-02-8015

6" "Z" PATTERN REFLECTIVE STRIPE

Y__N__

STRIPING

A 6" wide 3M brand Scotchlite #680-10 reflective stripe shall be affixed to the perimeter of the vehicle. Striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 60% of the perimeter length of each side and width of the rear, and at least 40% of the perimeter width of the front of the vehicle shall have reflective stripe.

The side stripe shall be applied in a "Z" design.

One (1)
MM-02-8016

The stripe shall be white in color.
REFLECTIVE STRIPE (RUB RAIL)

Y__N__

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REFLECTIVE STRIPE RECESSED INTO RUB RAIL

One (1)
MM-02-8017

There shall be a reflective stripe recessed into the rub rail on each side of the body.
CHEVRON STRIPE RED/BLACK (REAR FACE) Y__N__

CHEVRON STRIPING

One (1)
MM-02-8019

The rear treadplate face of the body between the beavertails shall be replaced with smooth aluminum plate and shall have a 3M reflective red and black chevron style striping installed and placed at a 45 degree angle in an "A" pattern towards the center upper portion of the rear face.
CHEVRON STRIPE RED/BLACK (FRONT BUMPER) Y__N__

CHEVRON STRIPING

One (1)
NN-00-0000

The front bumper shall have 3M reflective red and black striping installed. The chevron style striping shall be applied at a 45-degree upward angle pointing towards the center upper portion of the rear panel.
ELECTRICAL (CUSTOM) Y__N__

ELECTRICAL

The apparatus shall have the ability to function in an electromagnetic environment most common to fire ground operations. The electrical system shall be designed for full compatibility with low level control frequencies and any high powered two-way radio systems.

All wiring shall be protected by circuit breakers or fuses. Circuit breakers shall be the automatic reset type unless operational requirements and/or safety concerns dictate manual reset type. Automotive type fuses shall be used when required to protect delicate electronic equipment. All circuit protection devices shall conform to the Society of Automotive Engineers (SAE) standards. All circuit protection devices shall be sized according to 125% of the anticipated load to prevent any wire and/or component damage when subjected to extreme current overload.

All apparatus builder supplied wiring (excluding battery cables) shall be GXL high temperature (250 degrees minimum) type, color and number coded and imprinted with circuit function every 2 inches. Wiring connectors shall be the crimp type with plastic sleeve or shrink tube insulation covering the crimped area to prevent accidental grounding. In-line connectors shall also utilize shrink tubing for a weatherproof connection.

All externally exposed, non-plug type, electrical connections shall be given a hand applied or sprayed application of an industrial standard insulation coating with a minimum rating of 2100 volts per mil thickness. Insulation shall protect the connection from water induced electrical corrosion and accidental short-circuiting. Should the connection be loosened or removed during the manufacturing process another coating shall be applied after it has been refastened or replaced.

All solenoids, relays, terminal blocks and circuit breakers shall be protected against corrosion, excessive heat, vibration, physical damage and water spray.

Any electrical component or device installed in an exposed area on the outside of the cab or body shall be mounted in such a manner, or protected by a gasket, caulking or other means, so that moisture will not accumulate in it.

All exposed electrical wiring shall be run in an automotive type split plastic conduit or woven

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fabric type loom and shall have rubber grommets installed wherever the harness passes through any sheet metal panels.

An operational test shall be conducted to ensure that all installed electrical equipment is properly connected and is in working order. Additionally all warning lights shall be run continuously for not less than three (3) hours.

Wiring data shall be provided with the completed apparatus.

Exposed wiring will be not be allowed in compartment interiors. No Exception.

The following electrical equipment and lights shall be provided and installed:

REAR STEP LIGHTS

Two (2) KD Lamps model #856-3360 chrome plated lights shall be provided and installed on the rear face of the body to illuminate the rear step area. Lights shall be wired to the panel light switch at the pump operators panel.

One (1)
NN-00-0052

D.O.T. LED LIGHTS

Y__N__

CLEARANCE LIGHTS

Truck-Lite LED vehicle clearance marker lights with reflectors mounted in accordance with Highway Safety Standards shall be furnished and installed. Clearance and marker lights shall be recess mounted within the center tailboard/step.

MID BODY TURN SIGNALS

Mid mounted body LED turn signals shall be installed recess mounted in the vehicle rub rails.
12 VOLT ELECTRICAL SYSTEM TEST

One (1)
NN-00-0100

Y__N__

12 VOLT ELECTRICAL CERTIFICATION

The low voltage electrical system shall be tested and certified per NFPA 1901 requirements.

A certificate of compliance shall be provided with the completed vehicle upon delivery.

Minimum electrical load consists of the total amperage required to simultaneously operate the following in a stationary mode at the incident scene.

- The propulsion engine and transmission.
- All Clearance and marker lights.
- The communication radio. (Default of 5.0 amps used for testing).
- Illumination of all walking surfaces, the ground at all egress points, controls and instrument panels and 50% of the total compartment lighting load.
- Minimum warning lights required for "Blocking Right of Way" mode.
- The current to simultaneously operate any fire pump, aerial device & hydraulic pumps.
- Anything defined by the purchaser to be critical to the mission of the apparatus.

The first test for the electrical system is the **Reserve Capacity Test**. All the above listed components operate with the engine shut off. After 10 minutes all electrical loads are shut off and the battery system must have adequate reserve power to start the engine.

The second test is the **Alternator Performance Test at Idle**. All the above listed components operate with the engine at an idle. There can be no current draw from the batteries of the

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apparatus.

The third test is the **Alternator Performance Test at Full Load**. All electrical components shall be activated with the engine operating at governed RPM for two hours. During the test the system voltage can not drop below 11.7 volts or have excessive battery discharge for more than 120 seconds. Any loads not listed in the minimum electrical load may be load managed in order to pass the test.

All of the above tests must be conducted with the engine compartment at approximately 200 degrees.

One (1)
NN-00-2400 STOP/TAIL LIGHTS WHELEN 600 SERIES (LED) Y__N__

TAIL AND BACKUP LIGHTS

Two (2) Whelen 600 series LED rectangular RED stop/tail lights shall be provided and mounted at the rear of the body, one on each side.

One (1)
NN-00-3700 DIRECTIONAL LIGHTS WHELEN 600 SERIES (LED) Y__N__

Two (2) Whelen 600 series LED amber arrow directional signal lights shall be provided and mounted at the rear of the body, one on each side, and below the stop/tail lights.

One (1)
NN-00-5000 BACKUP LIGHTS WHELEN 600 SERIES (HAL) Y__N__

Two (2) Whelen Model 600 series rectangular clear backup lights shall be provided and mounted, one on each side at the rear of the body. The backup lights shall be mounted below the rear stop/tail and directional lights.

One (1)
NN-00-5300 FOUR (4) LIGHT POLISHED BEZEL (PR) Y__N__

TAIL/WARNING LIGHT TRIM

A polished cast aluminum four hole tail/warning light bezel/housing shall be provided. The specified rear lighting units shall be installed in the bezel/housing and secured. The completed assembly is to be bolted to the apparatus body, one assembly each side.

One (1)
NN-00-6400 MULTI-PLEX SYSTEM (SPARTAN CABS) Y__N__

MULTI-PLEX ELECTRICAL SYSTEM

A multiplex electrical system shall be supplied.

The Multiplexed wiring system shall include the following:

- * Solid state switching
- * Peer to Peer network architecture
- * Weatherproof Nodes
- * Sequences & sheds electrical loads (**Replaces Load Management System**)

All wiring to be appropriate gauge cross link with 311 degree F. insulation. All wires in the body shall be circuit numbered and function coded, in addition the SAE wiring will be color coded. The wiring shall be protected by 250 degree F. minimum high temperature flame retardant loom as required.

One (1)
NN-01-3505 OPEN DOOR WARNING LIGHT TIED TO VISTA SCREEN Y__N__

OPEN COMPARTMENT WARNING LIGHT ON VISTA SCREEN

The cab and body doors shall be wired to activate a light on the Multi-Plex Vista screen located in the cab to indicate which door is specifically open when the parking brake is released.

One (1)
EMERGENCY LIGHTS (HEADER) Y__N__

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NN-04-0000

NFPA REQUIRED LIGHTING

One (1)
 NN-04-3800 FEDERAL FV2653 VIEWPOINT LIGHTBAR

Y__N__

LIGHTBAR

A Federal Signal Model LED 535NFPA6P2 ViewPoint three pod per side light system shall be provided and mounted on the cab roof. Lights to be mounted on permanent mounts with switch in the chassis cab.

One (1)
 NN-06-1000 Lens color on each side shall be Red, Clear, Red.
 WHELEN PACKAGES

Y__N__

The following warning lights shall be provided and installed on the apparatus to meet NFPA requirements:

One (1)
 NN-06-1050 LOWER FRONT WARNING LIGHTS W/CHASSIS

Y__N__

LOWER FRONT WARNING

The lower front warning lights shall be furnished with the chassis.
 INTERSECTION LIGHTS SUPPLIED WITH CHASSIS

One (1)
 NN-06-1060

Y__N__

FRONT INTERSECTION LIGHTS

The intersection lights shall be furnished with the chassis.
 NO UPPER LEVEL SIDE WARNING REQUIRED

One (1)
 NN-06-1070

Y__N__

One (1)
 NN-06-1083 WHELEN TIR 6 SUPER RED LED (2) EA. SIDE (LOWER LEVEL BODY SI

Y__N__

LOWER ZONE B & D SIDE LIGHTS

There shall be two (2) Whelen TIR 600 series red Super LED flashing light furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. The lights shall be connected to a flasher and be activated through the master emergency light switch located on the electrical console.

One (1)
 NN-06-1085 FEDERAL MICROESCAPE LEDS

Y__N__

UPPER REAR LIGHTS

Two (2) Federal Signal MicroEscape LED Beacons shall be provided one each side on the rear of the truck.

One (1)
 NN-06-1094 WHELEN 600 SUPER RED LED (LOWER REAR)

Y__N__

LOWER ZONE C REAR LIGHTS

There shall be two (2) Whelen 600 series red Super LED flashing lights furnished on the rear of the apparatus body to meet the NFPA Zone C lower level lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console.

One (1)
 NN-22-3205 TRAFFIC ARROW WHELEN TAM65 SUPER LED REAR FACING

Y__N__

TRAFFIC DIRECTION BAR

A Whelen Model TAM65, 36" long all SUPER LED Traffic Advisor light bar shall be provided with the control head surface mounted on the dash of the truck cab.

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One (1) NN-22-5300	SURFACE MOUNT TRAFFIC ADVISOR MOUNTING OF TRAFFIC ADVISOR The traffic advisor shall be surface mounted on the rear face of the apparatus.	Y__N__
One (1) NN-29-1500	PUMP COMPARTMENT LIGHT (EA) PUMP COMPARTMENT WORK LIGHT One (1) Truck-Lite model #80351 pump compartment work light(s) shall be provided and installed within the pump compartment area complete with a push button activation switch mounted on each light head.	Y__N__
One (1) NN-29-2000	UNDERBODY LIGHTS EACH SIDE UNDERBODY LIGHTS Truck-Lite model 40003, underbody lights meeting NFPA requirements shall be provided and mounted below runningboard level, each side of the body controlled by the park brake switch. Lights are to be a minimum 4" diameter sealed and weathertight. Fixtures are to be mounted in bolt on brackets using shock absorbing rubber grommet mounts for ease of repair or replacement.	Y__N__
One (1) NN-29-4000	LICENSE PLATE LIGHT WITH MNTG. BRACKET LICENSE PLATE BRACKET A license plate mounting bracket shall be provided complete with a chrome plated shielded indirect type light. Bracket shall be mounted at the rear of the apparatus body.	Y__N__
One (1) NN-29-7403	ASA REAR & SIDE VISION SYSTEM REAR & SIDE VIEW SYSTEM An Audiovox rear and side vision system shall be installed on the apparatus. There shall be a camera installed on each side of the apparatus facing rearward as well as a camera installed on the rear face of the apparatus. All cameras shall display on the MultiPlex screens located at the driver and officer positions. The rear camera shall display automatically when the truck is placed into reverse. The side cameras shall automatically display on the screens when their respective turn signal is activated.	Y__N__
One (1) NN-35-1915	All cameras shall have the ability to be displayed manually through the multiplex. 12 PLACE CIRCUIT PANEL & 110/220 VOLT WIRING CIRCUIT BREAKER PANEL A twelve (12) place circuit breaker box shall be provided and mounted as close to the generator as possible with manual reset circuit breakers properly labeled. The generator shall be connected to the circuit breaker panel. 120/240 VOLT WIRING SYSTEM The complete wiring and electrical installation shall conform to present National Electrical Code and the National Fire Protection Association standards. The wiring, electrical fixtures and components shall be to the highest industry quality standards available on the market. The equipment shall be the type as designed for mobile type installations subject to vibration, moisture, and severe continuous usage. The following	Y__N__

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electrical components and wire shall be the minimum acceptable standard for this type of apparatus.

Wiring: All electrical wiring shall be fine stranded copper type THHN. The wire shall be sized to load and circuit breaking rating. Wiring shall be color coded.

Labeling of Equipment: All circuit breakers shall be labeled as to usage. Metal engraved or plastic coded labels shall be provided for all exterior and interior outlets indicating output amperage.

One (1)
NN-35-1922

110 VOLT ELECTRICAL SYSTEM TEST

Y__N__

110 VOLT ELECTRICAL TEST

The apparatus 110 volt electrical system shall be tested and certified by the manufacturer. The certification shall be delivered to the Fire Department with the apparatus.

The generator output shall be tested at 100% of its nameplate rating for a minimum of two (2) hours. The following information is recorded of the generator and its power supply at thirty (30) minute intervals: during the test, voltage, amperage and frequency output of the generator, as well as the oil pressure, water temperature, hydraulic temperature, and battery charge rate, as applicable.

One (1)
NN-36-3400

10KW ONAN HYDRAULIC GENERATOR

Y__N__

GENERATOR

A 10 kW PTO driven hydraulically powered generator system shall be supplied and installed. The genset shall be an Onan model CMHG. The genset system shall be capable of producing the nominal output power of 10 kW, 120V, 240V, 60 Hz.

The genset shall be installed per the manufacturer recommendations and shall be capable of supplying full power at engine high idle. The genset shall be capable of being switched on or off at any time, with or without electrical loads applied. The genset field and armature windings shall be of copper magnet wire, coated with a class 200 film insulation. The genset alternator shall be capable of accepting a zero power factor load of 200% rated kVA and recover to 90% of rated voltage within ½ second.

A Chelsea, Muncie or equal transmission PTO adapter shall be used. The gear ratio of the PTO shall be selected to provide required genset pump speeds with respect to engine speeds. The hydraulic pump can be directly mounted to the PTO using standard SAE flange or the pump can be remote mounted utilizing a driveshaft. Direct mount pumps on the PTO shall have supports per the manufacturer instructions to avoid stress damage to the PTO mounting face. Remotely mounted pumps shall have adequately sized and configured mounting brackets, driveshafts and guarding to prevent entangling injuries.

The compartment or installation location for the genset module shall be made per the manufacturer recommendations. Proper cooling air control, service panel access and exhaust air venting shall be demonstrated. The compartment or location shall have an under tray and adequate structure to support the genset module.

The hydraulic system reservoir shall be mounted at least 2 above the pump and shall have access for fluid filling, draining and viewing the sight glass fluid level indicator. Clearance of at least 10" above the reservoir shall be provided for hydraulic fluid filter service. The system reservoir shall be labeled with the type and approximate amount of fluid required. The fluid shall be Dextron III hydraulic fluid.

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All connecting hydraulic hoses & fittings shall be of the size and pressure rating specified by the manufacturer. The hoses shall be adequately protected from chafing or abrasion during operation.

A display meter consisting of 4 numeric LED displays shall be used. The meter shall simultaneously display system voltage, frequency and amperage in each of the two 120V legs. The meter shall also have provisions for toggling to total hours run and oil temp via a mode switch. The display shall be mounted in an area clear for operator observation and near the on/off switch.

The genset shall be capable of being switched on or off by one or multiple switches as required. The on/off control switch (s) shall be mounted in an area convenient for the driver and/or pump operator as required.

The Onan limited warranty covers virtually everything except routine maintenance for the first five years that you own your generator set, or the first 1,000-hours of operation, whichever comes first. In addition, it includes a free 90-day adjustment policy, which provides that Onan will make minor adjustments to your new genset during the first three months you own it - free of charge!

TRAVEL TIME REPAIR ALLOWANCE: In addition to the five-year, 1,000-hour warranty, travel time repair allowance of 2 hours and mileage shall be included for the first 2 years.

One (1)
NN-37-0500

110V L5-15 RECEPT. 1 EA. SIDE RR WHEELWELL AREA

Y__N__

110 VOLT RECEPTACLES

Two (2) NEMA L5-15, 15 amp 110 volt twist lock receptacles shall be provided with weather proof covers. One receptacle shall be mounted on each side in the rear wheelwell area of the apparatus body.

One (1)
NN-37-1200

110V RECEPT. L5-15 1 EA. SIDE REAR BODY PANEL

Y__N__

110 VOLT RECEPTACLES

Two (2) NEMA L5-15, 15 amp 110 volt twist lock receptacles shall be provided with weatherproof covers. One (1) receptacle shall be installed on each side of the rear vertical panel of the apparatus body.

One (1)
NN-37-4000

CORD REEL, ELEC. REWIND HANNAY ECR-1616-17-18

Y__N__

ELECTRIC CORD REEL

One (1) Hannay Model ECR1616-17-18 electric rewind cord reel(s) shall be supplied and installed in a compartment on the apparatus body, location to be determined at preconstruction conference. The cable reel(s) shall be a 12 volt electric rewind type complete with a four way roller assembly and a push button rewind switch, properly labeled.

One (1)
NN-37-6700

ELECTRICAL CORD 12/3, ON CORD REEL (200')

Y__N__

200 Feet of 12/3 cord shall be installed on each reel complete with a HS-3 ball stop and female receptacle.

One (1)
NN-37-9105

GFE FOUR (4) L5-20 OUTLET BOX W/LIGHT

Y__N__

MULTI-OUTLET JUNCTION BOX WITH LIGHT

A GFE manufacturing four (4) outlet, lighted junction box shall be provided and installed on the end of the electrical cable with a strain relief provided at the cable inlet to the junction box. NEMA L5-20, 20 amp twist lock receptacles shall be provided.

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One (1) TWO (2) HAVIS SHIELDS QUARTZ LIGHTS 750 WATT STATIONARY MOUN Y__N__
NN-40-1800

QUARTZ LIGHTING

Two (2) 750 watt Magnafire 3000 quartz lights shall be provided and stationary mounted one each side of the pumphouse area of the apparatus body, wired to the 220 volt power source.

Lights shall be controlled through the VISTA.
Three (3) SWITCH REMOTE FOR QUARTZ LIGHT, CAB (EACH) Y__N__
NN-40-6500

The quartz light(s) shall be controlled by individual, lighted rocker switch located in the chassis cab and wired through a 110 volt relay.

Three (3) SWITCH REMOTE FOR QUARTZ LT PUMP PNL (EACH) Y__N__
NN-40-6800

The quartz light(s) shall be controlled by individual, lighted rocker switch located at the pump operator's panel and wired through a 110 volt relay.

One (1) ADDITIONAL EQUIPMENT Y__N__
OO-00-0000

ADDITIONAL EQUIPMENT

The following equipment shall be provided on the completed apparatus by the apparatus manufacturer.

One (1) OPERATION AND SERVICE DOCUMENTATION Y__N__
OO-00-0100

OPERATION/SERVICE MANUALS

The following applicable documentation shall be supplied upon delivery:

Two (2) copies of Operation/Service manual of the apparatus operations and service manuals supplied by components manufacturers.
Pump certification when applicable including manufactures record of apparatus construction details.

Certificate of compliance to Electrical Warning System Low Voltage test.

Water tank capacity certificate when applicable.

Line Voltage Electrical System test certificate.

(NFPA 19-14.4.1 - 19.14.4.2)

Certificate of approval for stationary pumping when applicable.

One (1) WHEEL CHOCKS PR ZICO #SAC-44 W/MTS (NFPA) Y__N__
OO-07-1502

WHEEL CHOCKS

One (1) pair of Zico Model SAC-44 Quic-Chok NFPA compliant wheel chocks shall be provided and mounted under the apparatus runningboards in model SQCH-44-H horizontal mounting brackets.

One (1) REQ EQUIP FOR AERIALS Y__N__
TA-01-0000

EQUIPMENT TO BE PROVIDED AND INSTALLED

24" x 24" outrigger bearing pads shall be provided and mounted in slide-out brackets near each of the aerial device stabilizers.

An Elkhart Model 40 relief valve shall be provided and installed in the discharge water piping from the pump to the aerial waterway.

A 1 1/2" NRS screw valve drain with control at the rear face of the body for the aerial waterway.

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Four (4) Class I life safety harnesses shall be provided.

Wiring connection provided between the generator system and the aerial device 120 volt electrical system if aerial device is equipped with 110 volt wiring.

Outrigger control valves shall be located one on each side of the body in a location to allow the operator to view the outriggers when setting them.

A rear bubble level indicator shall be installed on the rear body, suitably located, in easy sight of the operator to indicate the levelness of the device when on outriggers.

Safety warning labels shall be installed per the recommendations of the aerial device manufacture.

One (1)
TA-01-0100

CHASSIS EQUIPMENT FOR AERIALS

Y__N__

CHASSIS REQUIREMENTS FOR AERIAL APPARATUS

The following items shall be included with the chassis to operate the aerial device:

- Truck chassis with a selectable high idle system. High idle to be set at 1,200 R.P.M.
- A red warning light installed in the driving compartment and visible to the driver to indicate if any outrigger is not in the stowed position.
- There shall be a (hot shift) PTO system mounted to the chassis transmission. The PTO assembly shall supply power to the hydraulic pump for all aerial operations. Electrical safety wiring shall be installed that requires the transmission be in neutral, or the fire pump engaged and the parking brake set before the PTO will operate.
- A PTO engaged indicator light shall be installed in the cab of the apparatus.

One (1)
TA-01-0200

AERIAL LADDER IDENTIFICATION AND SAFETY LABELS

Y__N__

AERIAL LADDER IDENTIFICATION & SAFETY LABELS

Warning signs and labels shall be installed on the apparatus body to identify and warn the operators of potential hazards when operating aerial apparatus.

One (1)
TT-01-0900

105' METZ AERIAL (STANDARD LADDER)

Y__N__

AERIAL LADDER

The aerial ladder shall be completely constructed of high strength steel. It shall be of sufficient strength to allow compliance with operational requirements provided in the bid specifications. All welding on the aerial ladder components, including the aerial fly sections, turntable, turntable pedestal, jack mounting assemblies, outriggers, and torque box assembly shall be performed by certified welders.

TORQUE BOX

The torque box shall be a steel frame construction. The main frame members shall measure approximately 2.5" x 5". The sides of the torque box shall be entirely covered with steel plates both on the outside and on the inside. For further reinforcement at least two diagonal cross members shall be installed underneath the turntable.

The torque box shall measure approximately 20" high x 34" wide and shall extend from ahead of the forward jacks to the rear of the chassis. It shall be mounted tightly onto the chassis frame.

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OUTRIGGER SYSTEM

The vehicle shall be furnished with a jacking system that shall be completely independent of the body structure, in order to allow a more rigid structural body design and a lower center of gravity. The system shall consist of four hydraulically operated 'out and down' style outriggers, mounted to ensure a minimum of 10" ground clearance.

One pair of jacks shall be located behind the rear axle and tires, and the other shall be located at the forward end of the torque box. The jacks shall be designed to place the center of gravity of the vehicle in the center of the chassis stability system for the ladder.

The maximum jack spread shall be 14' 9" centerline to centerline of the foot pads when fully extended. Short jacking shall be possible with a minimum jack spread of 8' 10" with a full 360 degrees of ladder operation.

Each jack elevating cylinder shall be housed and connected to the torque box frame by steel weldments.

Two (2) electric joysticks shall be used to control the outrigger motion. The joysticks shall be located one on each side at the rear of the apparatus. They shall be located so that the outriggers can be observed during operation by one man standing on the ground at the rear of the apparatus. Two grade indicators shall be installed at the rear, clearly visible to the jack operator.

When operating the outriggers the rear axle suspension shall be automatically locked.

There shall be an interlock, which prevents the operation of the ladder until the jacks are down and properly set. Four ground pressure switches, one on each jack, shall sense when all four jack plates are in firm contact with the ground. This shall be indicated at the jack control stand when the green interlock light is on. Hydraulic power shall then be shifted to ladder operations automatically.

There shall be an additional interlock that prevents the jacks from being retracted while the ladder is in operation and out of the ladder support.

The interlock system shall have a manual override for service purposes.

The outriggers shall be equipped with an audible alarm in excess of 87 dB(A) that sounds anytime an outrigger is in motion. The engine high idle shall automatically activate during outrigger operations.

There shall be dual pilot operated check valves on each jack elevation cylinder assembly, in order to prevent movement in the case of loss of hydraulic pressure (locking pins are not acceptable). The outriggers shall level side-to-side and front to back up to 7 degrees (12%), to allow leveling on curbs and road crowns. Each outrigger shall have a rectangular ground plate attached with a spherical ball and socket joint with "+ or " 15 degrees of swivel in order to conform to uneven ground surfaces. All swivel joints shall be maintenance free, no grease fittings.

Four 16" square auxiliary ground jack pads shall be furnished and mounted on the body. They shall be made of 4" hard wood and shall be electrically conductive with 'D' handles for easy handling.

The jacking system shall be infinitely variable. Individual positioning of each single jack shall be possible so that any jack spread between 8' 10" and 14' 9" can be achieved. Exact extension

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length of each outrigger shall be monitored by an electronic control system. Ladder outreach shall be automatically adapted to reduce jack spread so that 360 degrees operation is possible at any time.

Positioning (or retraction) of all four jacks shall not exceed 20 seconds, making it possible to raise and fully operate the aerial within 20 seconds, even on slopes up to 8 degrees (14%).

TURNTABLE SUPPORT

The complete turntable support shall be an integral part of the torque box assembly.

TURNTABLE

The aerial turntable assembly shall be mounted at the rear of the apparatus. For proper weight distribution the centerline of the turntable shall be no more than 16" behind the centerline of the rear axle.

The turntable shall be fitted with an automatic leveling system that keeps the ladder rungs horizontal at all times during ladder operation. Unrestricted ladder operation shall be possible with the vehicle standing on inclines up to 8 degrees.

The main control panel shall be mounted at the left side of the turntable. It shall consist of an operator's seat with two joysticks incorporated in the armrests, an operating panel, and a load indicator.

The main control panel shall come equipped with an operating-hour counter and lights for night operation. It shall contain the following controls and switches:

A dead man pedal for operation and emergency stop.

Two electrical joysticks incorporated in the armrests, one for extension/retraction, and the other one for up/down and rotation left/right.

A fault diagnosis incorporated in the armrest for easy maintenance and repair.

An intercom to the basket with microphone and loudspeaker with adjustable volume.

LED indicators for movements blocked.

Push button for rungs in line (auto stop at next rungs in line). There shall be a light to indicate the alignment of rungs for climbing.

Push button to switch on spot lights on base section.

Push button for automatic ladder housing.

Push button for engine start/stop.

Push button for priority control (override for basket control).

There shall be a multiple indication display at the side of the base ladder indicating ladder extension length, elevation angle, jack position, maximum possible ladder extension, safe load indicator, ladder or basket impact.

All ladder movements shall be computer controlled. At full extension/retraction and full elevation/depression the movements shall come to a cushioned stop.

All ladder movements (starts and stops) shall be electronically cushioned, except for emergency stops. There shall be automatic cut outs for basket and ladder impacts. For safety reasons and to prevent damage to the ladder sections and the basket these cut outs shall be actuated by proximity switches.

SAFETY SYSTEM

An interlock shall prevent ladder operation until the axle lock is engaged and all four outriggers

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have sufficient ground pressure.

A control light in the cab, together with a buzzer, shall indicate if the axle lock is not yet disengaged and/or if the basket is not in driving position.

A dead man switch shall be provided at the main control panel and in the basket. It shall serve as an emergency stop when being released.

From the bedded position only elevation shall be possible. Extension and rotation shall be blocked until the ladder has cleared the cradle.

Extension of the ladder shall be automatically adapted to the outrigger extension.

A load indicator shall be provided at the main control panel and in the basket. It shall indicate the actual load on the ladder as well as the outrigger extension.

All movements shall be smooth in operation and shall be slowed down before the aerial ladder reaches its final positions: full extension/retraction, full elevation/ depression, and operational limit.

When reaching the operational limit all movements shall be blocked except retraction. An acoustic warning signal shall indicate that the operational limit has been reached.

It shall be impossible to damage the cab, outriggers, body, or any other part of the vehicle when operating the ladder.

In case of impact all ladder movements shall be stopped without damage to the ladder or the basket.

When operating on a slope up to 8 degrees no leveling of the vehicle shall be necessary. There shall be an automatic leveling system that keeps the rungs horizontal at all times.

AERIAL LADDER ELECTRICAL SYSTEM

Electrical power shall be transmitted from the chassis to the turntable through electrical slip rings located under the turntable. These slip rings shall be an integral part of the three way swivel housing and shall be totally enclosed to prevent dirt from contaminating the rings.

An intercom system shall be installed between the turntable and the ladder tip/basket. It shall include weatherproof loudspeakers and microphones at the turntable and the ladder tip/basket. The volume shall be adjustable.

RUNG ALIGNMENT INDICATOR

A pushbutton at the main operator's panel shall be installed to automatically stop the ladder at the next rung alignment at extension or retraction of the ladder.

An indicator light shall be installed at the operator's control panel to inform the operator that the rungs are properly aligned for climbing.

RUNG LIGHTS

24 Volt rung spotlights shall be provided for fire fighter safety during night time operations.

REMOTE ENGINE START/STOP

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An engine start/stop button shall be installed on the main operator's panel as well as on the control console in the basket. The start/stop button shall be de-activated when the pump or the hydraulic generator are used (if applicable).

AUTOMATIC LADDER HOUSING

The apparatus shall be equipped with an automatic system to bring the ladder back to the travel position. After pushing the button for the automatic ladder housing the ladder shall retract, center itself and go down into the headrest automatically. Automatic ladder housing shall be possible in a certain area above the cab.

EMERGENCY HYDRAULIC SYSTEM

There shall be a back-up system with a manually operated hydraulic pump for operation in the event of loss of hydraulic pressure from the power take-off hydraulic pump. It shall be sufficiently large enough to nest the ladder and retract the outriggers.

CAPACITY AND TEST REQUIREMENTS

The basket when applicable shall provide for a rated payload of 500 pounds when the apparatus is located on firm ground with the outrigger jacks extended. The aerial ladder shall be capable of lifting its rated capacity load from the nested position to any level of operation.

A test shall be performed to demonstrate that the aerial device is so structurally designed and powered that, at maximum ladder extension, a load representing 150% of the rated payload (750 pounds) can be placed on the ladder tip and kept there for ten minutes without permanent deformation to the ladder set. This shall be done with the outrigger jacks extended on level ground.

A certified copy of the above results shall be furnished at the final inspection and signed by the president of the successful bidder or their certified representative.

AERIAL BREATHING AIR SYSTEM

The aerial shall be equipped with a breathing air system piped up from the turntable base area up to the platform in the event of heavy smoke conditions while on the fireground.

Four (4) one-hour type air bottles shall be installed within a tubular mounting storage box under the stowed aerial device. Braided stainless steel high pressure air line shall be piped from the (4) bottles up through the telescopic aerial sections up to the platform where it shall terminate into a stainless manifold. On the manifold shall be (2) quick-connect SCBA couplings to accommodate the Department supplied SCBA air masks.

During use on the fireground, as the air is drained from the one-hour bottles, a quick-connect / quick-change threaded coupling shall be used to swap out bottles on the truck to supply the platform personnel as needed. A regulator shall control the flow and pressure of air from the bottles to each face mask.

One (1)
TT-01-0902

LADDER CONSTRUCTION (STANDARD LADDER)

Y__N__

LADDER CONSTRUCTION

The aerial ladder shall be completely constructed of high strength steel.

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The telescopic ladder assembly shall consist of four (4) separate weldments that shall extend and retract within each other.

All side rails, rungs, handrails, uprights, and K-braces shall be made of high strength steel. All materials shall be batch tested and certified by the supplier.

All ladder sections shall be welded by certified welders using the appropriate welding wire. Each ladder section shall be welded airtight to prevent internal corrosion. Structural rivets or bolts shall not be utilized in the ladder weldments section. All mounting brackets used on the ladder set shall be welded on or clamped on.

To allow the passing of personnel on the ladder and safe ladder climbing at any angle, the approximate dimensions of the ladder sections shall be as follows:

	Height	Width
Base section	20"	34 ½"
Section 2	17"	29 ½"
Section 3	14"	25 ½"
Section 4	12"	21 ½"

The ladder rungs shall be spaced on 12" centers. They shall be covered by a skid resistant surface, which shall be glued onto the center of the rungs. The maximum designed load shall be 500 pounds distributed over a 3-1/2" wide area at the rung center. The rungs shall be K-braced for maximum lateral stability.

Slide pads shall be utilized to minimize friction between the ladder sections. On the tip of each ladder section multiple rollers shall be used.

Ladder elevation shall be from a minimum 15 degrees below horizontal to +75 degrees above horizontal. The maximum elevation angle of +75 shall not be exceeded at any circumstances, even when operating the aerial on a slope. For low-level rescue, operation of the ladder at a minimum angle of 22 degrees below horizontal shall be possible.

The ladder will also be equipped with a direct access from the base ladder to the deck. This access platform will be mounted on the right side of the turntable.

One (1)
TT-01-0904

LADDER FINISH (CHARCOAL GRAY)

Y__N__

LADDER FINISH

The entire ladder shall be powder coated charcoal gray in color for maximum corrosion protection. The individual ladder sections shall be sandblasted before painting to insure removal of any surface imperfections. All surfaces to be painted shall be thoroughly cleaned in preparation for painting. The ladder sections shall be painted before assembly to insure thorough paint coverage to overlapping sections.

All hydraulic hose, wiring, and non-ferrous materials shall be free of paint. The outrigger assemblies shall be painted to match the chassis. Turntable walking surfaces shall be covered with an NFPA approved slip resistant surface.

One (1)
TT-01-0908

HYDRAULIC SYSTEM

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HYDRAULIC SYSTEM

The hydraulic system shall consist of a minimum 50-gallon reservoir. All tubing shall be galvanized steel braided with a minimum safety factor of 5:1 based on burst pressure. Maximum operation pressure shall not exceed 2,300 psi. All tubing shall be sized to control minimum heat buildup in the hydraulic system during extended operations.

The turntable hydraulic power shall be transmitted from the chassis to the turntable by way of a high-pressure hydraulic swivel. Proportional control valves shall be utilized for the ladder operating movement functions. These valves shall be load sensing and pressure compensating for smooth operation of all ladder movements. They shall have manual overrides located at the turntable.

Hydraulic power shall be supplied by a power take-off driven hydraulic pump with variable oil flow.

The power take-off shall be actuated by a hot-shift operating switch located inside the apparatus cab. A red light shall be furnished to indicate the PTO system is engaged. An interlock shall prevent apparatus movement while the hydraulic system is engaged. It shall also prevent the actuation of the PTO while the transmission is still in "D" or the park brake is not set.

The aerial hydraulic system shall be equipped with an electronic ramping control system. The computer driven ramping control system shall provide smooth acceleration and deceleration of the control functions even during sudden movements of the operator's joysticks. The control system shall be set by the factory to allow smooth operation of the aerial.

A load sensing system shall control the hydraulic pump, thus preventing overheating of the hydraulic oil. The oil temperature shall be a maximum of 150 degrees Fahrenheit.

One (1)
TT-01-0910

HYDRAULIC OIL (COLD TEMPERATURE)

Y__N__

COLD TEMPERATURE HYDRAULIC OIL

The hydraulic system shall be equipped with special hydraulic oil for low temperatures.

One (1)
TT-01-0914

LADDER FEATURES

Y__N__

AERIAL LADDER ELEVATING SYSTEM

Two (2) elevating cylinders shall be mounted on the underside of the base of the ladder, one each side. The elevating cylinders shall be mounted utilizing a spherical bearing on the base end of each cylinder to anchor the cylinder to the turntable.

The elevating cylinders shall be provided with pilot operated check valves to prevent movement of the ladder in case of a loss of hydraulic pressure.

AERIAL LADDER EXTENSION MECHANISM

Both extension and retraction shall be power operated. Extension shall operate by way of two (2) 2"-diameter extension cylinders mounted in the protected inside of the base section of the ladder. The cylinders shall directly extend and retract the ladder; a block and tackle cable arrangement shall not be acceptable.

Maximum extension of the ladder shall be automatically limited by the stroke of the cylinders.

The fly sections shall be extended by four (4) each extension cables. Each cable shall be of

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sufficient strength to hold the ladder in place in case the other cables fail.

The fly sections shall be retracted by two (2) each retraction cables. Each cable shall be of sufficient strength to hold the ladder in place in case the other cables fail.

The factor of safety based on the breaking strength of the cables shall be a minimum of 8:1.

AERIAL LADDER ROTATION MECHANISM

Continuous 360-degree rotation in either direction shall be provided by a hydraulic motor, which drives the internal ring gear on the turntable bearing.

Automatic positive locking of the position reached shall be assured by a worm gear, to prevent turntable rotation, except when being driven.

OPERATIONAL SPEED

The aerial ladder shall be capable of being raised from the bedded position to maximum elevation in not over 50 seconds.

The aerial ladder shall be capable of being rotated 90 degrees in not over 30 seconds.

The aerial ladder shall be capable of being extended to maximum extension in not over 35 seconds.

The aerial ladder shall be capable of being raised from the bedded position to maximum elevation and extension and rotated 90 degrees in not over 50 seconds.

The operational speed of the aerial ladder shall be adjusted to the extension length of the ladder.

The total set up time of the aerial shall not exceed 75 seconds.

CRANE OPERATION

When fully retracted, the ladder shall be useable as a crane. It shall be capable of lifting, rotating, and lowering weights up to 9,900 pounds.

An automatic shut off system shall prevent damage to the aerial caused by overload.

BRIDGING CAPABILITY

It shall be possible to support the ladder tip or the basket on a structure to ensure a safe ascend to or descend from the ladder.

The ladder movements shall be shut off automatically as soon as the ladder tip or the basket is safely supported.

The fully extended ladder shall be capable of supporting 12 people simultaneously.
RESCUE BASKET (DETACHABLE)

Y___N___

One (1)
TT-01-0916

RESCUE BASKET

The aerial ladder shall be equipped with a detachable rescue basket. The basket shall be folded over the ladder set in road driving position and shall automatically be folded up to

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operating position when the outriggers are extended.

The basket shall be lightweight for easy removal. It shall be of sufficient size for at least two fire fighters including their equipment and shall have a rated capacity of not less than 500 pounds. To reduce the risk of overloading, the basket working area shall not exceed 10 feet squared. Railings shall be approximately 43" high and shall be constructed in a way to prevent crushing injuries.

The basket shall be protected against damage by impact cut outs. The impact protection shall stop all ladder movements when the basket is hitting an obstruction.

The basket shall have two (2) gates, one at the front and one at the rear of the basket. The front gate shall be a fold down gate and shall be used as an access ladder to the basket. There shall be a sliding gate between the aerial ladder and the basket. The railing above the rear gate shall be raised for unobstructed access to the basket when wearing breathing apparatus.

The basket shall maintain a level position during all operations by use of an automatic dual cylinder hydraulic leveling system. The leveling system shall consist of two separate redundant systems for safety. The leveling shall be smooth and continuous.

The basket leveling system shall consist of a separate hydraulic system with two hydraulic cylinders and a separate reservoir filled with low-viscosity oil. It shall be located on the top fly section, and driven by two electric motors.

The leveling cylinders shall have locking valves to prevent movement in the event of loss of hydraulic pressure. The system shall have an override system for manual leveling of the basket, if desired.

The basket shall also contain a control console. It shall contain the following controls and switches:

A dead man pedal for operation and emergency stop.

Two electrical joysticks on the control panel, one for extension/retraction, the other one for up/down and rotation left/right.

An intercom to the main operating panel with microphone and loudspeaker.

LED indicators for movements blocked.

Push button for automatic ladder housing.

Push button for engine start/stop.

There shall be a multiple indication display at the control panel indicating jack position, maximum possible ladder extension, safe load indicator, and ladder or basket impact.

Two (2) 24 volt / 21 watts work lights shall be furnished on the front of the basket.

A 120 volt duplex outlet shall be provided at the basket.

One (1)
TT-01-0918

REMOVABLE STRETCHER SUPPORT WITH STRETCHER

Y__N__

REMOVABLE STRETCHER SUPPORT

A removable stretcher support shall be mounted on top of the basket rear over the ladder set. It shall rotate 360 degrees and shall not block the rear gate to the ladder set. A bracket shall be installed on the truck that will hold the rotating stretcher support when it is not being used. A foldable stretcher shall be provided with the truck.

One (1)
TT-09-0924

ELECTRIC 1000 GPM AKRON MONITOR

Y__N__

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ELECTRIC LADDER PIPE (REMOVABLE)

One (1) remote controlled Akron monitor (1000 gpm) model # 1494 for mounting at the ladder tip shall be provided. It shall be equipped with an automatic nozzle Akron model # 5077. The electric ladder pipe shall be controlled from the main control panel.

One (1)
TT-09-0926

PRE-PIPED TOP FLY SECTION

Y__N__

PRE-PIPED WATERWAY

One (1) 3 ½" non-telescopic aluminum water pipe shall be provided in the top fly with two (2) 2 ½" discharges.

One (1)
TT-09-0928

SUPPLY HOSE (WATERWAY)

Y__N__

SUPPLY HOSE

One (1) 100 ft length of 3-inch single jacket supply hose shall be provided to feed the ladder pipe. The couplings shall be 2 ½" Storz.

One (1)
TT-09-0932

INTERCOM SYSTEM

Y__N__

INTERCOM SYSTEM

An intercom system shall be installed between the turntable and the ladder tip/basket. It shall include weatherproof loudspeakers and microphones at the turntable and the ladder tip/basket. The volume shall be adjustable.

One (1)
TT-09-0934

LADDER BASE LIGHTING

Y__N__

LADDER BASE LIGHTING

There shall be two (2) adjustable 24 volt floodlights mounted one (1) each side of the ladder base section. They shall be controlled from the main operator's panel.

One (1)
TT-09-0936

110 VOLT SUPPLY TO LADDER TIP

Y__N__

AERIAL LADDER ELECTRICAL SYSTEM

Electrical power (110 volts) shall be transmitted from the generator to the ladder tip through electrical slip rings located under the turntable. These slip rings shall be an integral part of the swivel housing and shall be totally enclosed to prevent dirt from contaminating the rings.

One (1)
TT-09-0938

TWO (2) 750 WATT QUARTZ LIGHTS ON BASKET

Y__N__

FLOODLIGHTS

Two (2) adjustable 750 watts floodlights shall be mounted on the basket. They shall be equipped with an on/off switch and shall be powered by the built-in generator.

One (1)
TT-09-0942

Two (2) 120 volt weatherproof duplex outlets shall be provided at the basket.

TARGET CONTROL SYSTEM

Y__N__

TARGET CONTROL SYSTEM

The computer controlled ladder controls shall be provided with a memory system that permits automatic approach to previously entered target points to allow repetitive movements at optimum speed during rescue operations.

One (1)
TT-09-0944

JACK ANTI SKID PLATES

Y__N__

ANTI SKID PLATES FOR JACKS

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One (1)
TT-09-0946

Four (4) ice claws shall be provided with the truck. They shall be easily attached to the jack ground plates to prevent the jacks from sliding on snow and ice.
LIFTING EYE AT TIP

Y__N__

LIFTING EYE AT THE LADDER TIP

One (1)
TT-09-0954

The ladder tip shall be equipped with a lifting eye with a capacity of 800 lbs.
AERIAL SIGN PANELS

Y__N__

AERIAL SIGN PLATES

One (1)
TT-09-0955

Two (2) painted sign plates shall be provided on the left and right side of the base ladders.
OPERATION MANUALS

Y__N__

AERIAL MANUALS

One (1)
TT-09-0958

Four (4) operational manuals shall be provided with the completed apparatus.
TWO (2) YEAR AERIAL WARRANTY (STANDARD)

Y__N__

WARRANTY

METZ Aerials hereby warrants to the purchaser, that the aerial ladder manufactured hereunder shall be free in all respects from any defects in material or workmanship.

The obligations of METZ Aerials pursuant to the foregoing warranty with respect to any such ladder shall be limited to removing any defects in materials or workmanship. METZ Aerials warrants, that it or its authorized repair facility will repair, replace, or adjust all parts installed by METZ Aerials for a period of two (2) years following the date on which the ladder is placed in service by the purchaser of the truck on which the aerial ladder is installed.

This warranty is conditional upon normal and reasonable maintenance, and prompt written notice of all defects to METZ Aerials. This warranty does not cover defects caused from misuse, negligence, accident, remount (unless authorized by METZ Aerials), or by third parties. Warranty does not apply to normal maintenance items such as light bulbs, oil filters, etc.

Should repairs become necessary under the terms of this warranty, it shall be performed by METZ Aerials or a facility authorized by METZ Aerials. The expense for any transportation to or from such facility shall be that of the purchaser. Furthermore, all warranted parts shall become the property of METZ Aerials.

This warranty is applicable only if the aerial device is serviced annually by METZ Aerials or a facility authorized by METZ Aerials. The cost for the annual service is to be paid by the purchaser.

SPARE PARTS AVAILABILITY

METZ Aerials maintains a parts inventory for all aerial ladders for a minimum 15 year period from date of manufacture of the aerial. Most parts will remain readily available after this period with the exception of some, which may require a special order from the supplier.