



Specification for:
**NWCG Type 3 Wildland Engine
International CV515, 4 Door, Diesel, 4x4
Rescue Side, Alum, 114**

Submitted To:

HFE
910 Shelley Street Springfield, OR 97477

Specification **4408**, Job No. **14541**
July 15, 2020

Prepared by:
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Skeeter Brush Trucks

Proposal

We are pleased to submit the following specifications to you for a **HFE Type 3 Demo** per your request for quotation. The following paragraphs will describe in detail the apparatus proposed. Loose equipment not specifically requested will not be provided.

Skeeter Brush Trucks, LLC. a wholly owned company of Siddons-Martin Emergency Group, is a custom fire apparatus manufacturer specializing in Brush-Grass-Wildland fire fighting vehicles. Our 22,000 square foot manufacturing facility is located in Hillsboro, Texas and is operated by some of the most experienced wildland firefighting vehicle manufacturing individuals in the business. Our performance and quality minded approach to manufacturing generates some of the most reliable vehicles in the industry, thus yielding a very high return on investment.

Skeeter Brush Trucks, LLC. provides the very best sole source product and service solutions to the fire service. Skeeter Brush Trucks LLC carries \$1,000,000 in liability insurance, with \$3,000,000 in excess umbrella liability insurance. The opportunity to place this Skeeter Brush Truck in your department is greatly appreciated and we are certain it will fulfill your every requirement. We look forward to working for you.

Siddons-Martin Emergency Group sales and service professionals are dedicated and experienced in all aspects of the fire apparatus business. Our core business is the sales and service of fire apparatus.

Service Advantage

Siddons-Martin Emergency Group currently staffs sixteen (16) service centers located throughout Texas, Louisiana, and New Mexico, and maintains a fleet of service vehicles to provide on-site service of your SKEETER Brush Truck. The Siddons-Martin Emergency Group Service Department is dedicated to the fire service and provides service and maintenance exclusively on fire apparatus. Siddons-Martin Emergency Group employs numerous EVT trained technicians and is constantly engaged in continuing factory and EVT training classes and programs in order to stay abreast of the rapidly improving technologies incorporated within today's fire apparatus. SMEG is an authorized sales and service dealer for Pierce Mfg., and an authorized service center for Waterous, Hale, and Darley fire pumps, and an OEM distributor for all major fire equipment accessories.

Construction and Design

Skeeter Brush Trucks body and component designs are engineered. Body construction (unless otherwise noted) is done in-house, using the best in design and materials. RBM's for body frames are among the very highest in the industry. Wiring harnesses are custom manufactured in-house, and meet or exceed OEM standards. All wiring is protected, run through conduit, and distributed through one, easily accessed, sealed control box.

Chassis Operation Manual

The chassis manufacturer shall provide one (1) operational manual. This manual may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Fire Pump Operational Manual

A fire pump service, instruction, and operational manual shall be supplied. This manual may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Foam System Operational Manual

A foam system service, instruction, and operational manual shall be supplied. This manual may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Apparatus Operational Manuals

The chassis manufacturer shall provide one (1) operational manual. This manual may be in either a notebook type binder, with reference tabs or USB thumb drive with all of the printed material in an electronic format (Adobe Acrobat PDF).

100044.1 - PAINT

1. Cab Color: Red
2. Cab Secondary Color: N/A
3. Description: Solid Red
4. Bumper Color: Brushed Aluminum
5. Wheel Color: Gray
6. Body Color: Polished Aluminum
7. Cab Steps: Black

203953.1 - CHASSIS SPECIFICATIONS

One (1) International CV515 SFA Series, four wheel drive 4x4, four (4) door cab and chassis

GVWR: 23,000#

Wheelbase: 175"

Cab to Axle: 60"

Frame: High Strength Low Alloy Steel (50,000 PSI Yield), Straight Top Flange with Contoured Bottom, Height Transitions from 7.375" (187.325mm) to 9.125" (231.775mm) to 7.625" (193.675mm); Width: 3.079" (78.21mm); Thickness: 0.3125" (7.94mm); 383.3" (9735.8mm) Max OAL

Front Bumper: Omit

Tow Hooks: front

Front Driving Axle: Dana Spicer 60-256, 7,500#, Dana Spicer 60-256}

Front Suspension: 7,500#

Front Tires: (2) 225/70R19.5 Load Range H CROSSTRAC HA3 (CONTINENTAL), 649 rev/mile, 75 MPH, All-Position

Front Wheels: steel disc wheels

Transfer Case: Meritor 3203 Two-Speed, Gear Drive, 3,000 lb-ft Capacity with Electric Shifting Controls, without PTO Provision

Rear Axle: Dana Spicer S16-130 Single Reduction, 15,500-lb Capacity, 190 Wheel Ends Gear Ratio: 4.30

Differential, Locking Dana Spicer Truetrac Torque Proportioning Limited Slip

Rear Suspension: 15,500# Capacity, Vari-Rate Springs

Rear Tires: Four (4) 225/70R19.5 Load Range H CROSSTRAC HA3 (CONTINENTAL), 649 rev/mile, 75 MPH, All-Position

Rear Wheels: four (4) steel disc wheels

Gear Ratio: 4.30

Hydraulic Brake System: Bosch Split System, with Four Channel ABS, Traction Control, Hydromax Brake Booster and Master Cylinder

Engine: International 6.6 (Duramax) EPA 2017, 350HP @ 2700 RPM, 700 lb-ft Torque @ 1600 RPM, 2900 RPM

Engine Exhaust Brake: exhaust brake

Cooling System: -30 degrees Fahrenheit

Exhaust System: horizontally mounted right side

Fuel Tank: Top Draw, Plastic, Rectangular, 17" Tank Depth, 40 US Gal (151L), Includes Auxiliary Draw Port and Fuel Filler Assembly, Mounted Between Frame, Rails and Behind Rear Axle

Transmission: Allison 2700 EVS, 5th Generation Controls, Close Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, Includes Park Pawl, with 23,500-lb GVW and 26,000 GCW Max, On/Off Highway

Steering: Power

Batteries: International Maintenance-Free VARTA (2) 12-Volt 1300CCA Total

Battery Box Steel, with Plastic Cover, 2 Battery Capacity, Parallel to Rail, 28" Wide, Mounted Left Side Under Cab

Alternator: Denso SC6 Brush Type, 12 Volt 220 Amp. Capacity

Cab: Four (4) door, with tilting fiberglass front hood assembly

Cab accessories and features shall include:

- 1) Factory tinted glass in all windows
- 2) Amber DOT edge of roof clearance/marker lights
- 3) Gray interior trim with vinyl upholstery
- 4) Gray vinyl floor mat
- 5) Dual sun visors
- 6) Electric windshield washer
- 7) Electric windshield wipers with two speed switch with wash and intermittent
- 8) Exterior handrails at each cab door
- 9) High output heater and defroster system with electronic controls
- 10) Dual electric horns
- 11) Halogen headlights (MAY BE IN FRONT BUMPER due to DOT height requirements)
- 12) Front turn signal lamps

Cab Paint: International Fire Truck Red

Climate Control: heater, defroster, and air conditioning

Cab Mirrors: two (2) extended style mirrors, with convex mirrors

Cab Instruments: Standard Metric

Driver's Seat: High Back with Integral Headrest, with Recline, Vinyl, Fixed Lumbar

Front Passenger's Seat: High Back with Integral Headrest, with Recline, Vinyl, Fixed Lumbar

Rear passenger seat: Bench; Full Width; Vinyl, With Fixed Back

Front Seat Belts: -Point, Lap and Shoulder Belt Type

Rear Seat Belts: (3) Two 3-Point Shoulder Belts for Driver and Outer Passenger and One 2-Point Lap Belt for Center Passenger

Printed Manuals: one (1) printed chassis operation manual

203807.1 - 60" CAB TO AXLE

The chassis Cab to Axle measurement shall be 60".

100037.1 - POWER PACKAGE

The chassis shall be equipped with power locks, windows, and heated power mirrors.

203918.1 - CHASSIS FLEET/GOVERNMENT INCENTIVE DISCOUNT

Pricing quoted is contingent upon the end user (customer) filing for and receiving OEM Fleet/Government Pricing Number.

FAILURE BY THE CUSTOMER TO RECEIVE THE OEM FLEET/GOVERNMENT PRICING NUMBER WILL RESULT IN FULL LIST PRICE BEING CHARGED FOR THE CHASSIS.

204072.1 - CHASSIS SUSPENSION SYSTEM

A heavy duty, Leaf Spring, off road suspension system with heavy-duty off road shocks shall be installed on the Chevrolet HD or International CV chassis. The system is designed to significantly increase wheel travel, in addition to giving the chassis increased ground clearance.

NOTE: THE END USER MUST BE AWARE THAT LIFTING THE CHASSIS AND ADDING LARGER TIRES WILL ALTER THE VEHICLES CENTER OF GRAVITY. THIS WILL AFFECT THE VEHICLES HANDLING CHARACTERISTICS.

IN ADDITION, THE LARGER TIRES WILL AFFECT STOPPING DISTANCE. THE SYSTEM IS NOT RECOMMENDED FOR VEHICLES THAT OPERATE PRIMARILY IN AN ON ROAD ENVIRONMENT. THE SYSTEM IS HIGHLY RECOMMENDED FOR VEHICLES THAT OPERATE IN OFF ROAD OR ROUGH TERRAIN ENVIRONMENTS.

NOTE: DUE TO THE LARGER TIRES A VEHICLE SPEED SENSOR CALIBRATOR WILL BE INSTALLED TO RE-CALIBRATE THE SPEEDOMETER TO ACCOMMODATE THE LARGER TIRES, IF AVAILABLE AT TIME OF CONSTRUCTION

TURNING RADIUS MAY BE REDUCED (if needed) 1-3 DEGREES TO PREVENT TIRE RUB.

204208.1 - FRONT AND REAR SUPER SINGLE TIRES AND WHEELS, 3 PIECE WHEEL, CV

There shall be four (4) super single front and rear tires, There shall be 365/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "G" (22 ply, 7,830 lbs), and the speed rating shall be "K" (68 mph).

There shall be four (4) wheels for the front and rear tires. There shall be 20" x 11.00" disc, ten (10)-hole pattern special order for Military/Government on/off road application with a rating to match or exceed the tire rating.

NOTE The wheels shall be designed for the International CV/Chevrolet HD chassis.

204214.1 - SPARE SUPER SINGLE TIRE AND WHEEL

There shall be one (1) super single spare tire. It shall be 365/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "G" (22 ply, 7,830 lbs), and the speed rating shall be "K" (68 mph).

There shall be a 20" x 11.00" disc, ten (10)-hole pattern special order wheel for Military/Government on/off road application with a rating to match or exceed the tire rating.

100055.1 - MOUNTING SPARE TIRE AND WHEEL

The spare tire and wheel shall be mounted on top of the water tank.

100516.1 - CUSTOM FABRICATED BUMPER AND GRILL GUARD, TILT

The front of the vehicle shall be equipped with a custom fabricated, severe service, aluminum shaped bumper assembly. It shall be bolted in place to the front frame extensions, and angled back at corners to width of fenders.

It shall have a custom grille guard that is designed to tilt to allow the hood to open properly. There shall be pins that lock the grille in the vertical position.

The unit shall be brushed aluminum.

100058.1 - REAR MUD FLAPS

The chassis shall be supplied with mud flaps with the manufacturer's logo. The mud flaps shall be installed behind the rear wheels.

100063.1 - FRONT BUMPER SKID PLATE 1/4"

A 1/4" (0.25") aluminum skid plate will be installed from the bumper area extending below the bumper and chassis radiator area.

100111.1 - CAB STEPS

The cab shall be equipped with steel tubing step assemblies, on each side of the cab.

100086.1 - CUSTOM FABRICATED CONSOLE AND SWITCH PANEL

A custom fabricated poly (plastic) electrical console and enclosure shall be located between the driver's and passenger's seats. It shall house the siren, switches, cup holder, and auxiliary equipment.

100543.1 - 12 VOLT POWER SOURCES

Three (3) 12 volt plug-in utility power outlets rated at 15 amps shall be provided in cab.

LOCATIONS: Determined at preconstruction.

100662.1 - WIRELESS WINCH CONTROLLER

A Warn 90287 wireless winch controller shall be included. It shall control the winch from up to 50' away, and shall WARN truck/SUV winches with a five-wire control pack. It shall have the following features:

Easy plug-and-play installation

Sealed for protection against the elements

Activation sequence guards against accidental power-ups

Kit includes wireless transmitter, receiver, holster, lanyard and mounting hardware [More](#)

100082.1 - WINCH -- FRONT MOUNTED

A Warn Winch Company Model 16.5ti PN68801 16,500# capacity 12-volt electric powered winch shall be permanently installed at the front center bumper extension area . The unit shall include the following:

a) 16,500# rated load

b) Thermo-metric indicator for motor temperature monitoring

c) Cable roller guide assembly

d) 90 feet of 7/16" diameter galvanized cable and hawse fairlead & safety hook assembly shall be supplied.

e) Winch speed shall be constant with forward and reverse modes controlled with a push button device at the end of a 12 feet (12') minimum control cable which connects to the winch through a weatherproof receptacle.

100178.1 - REAR RECEIVER

The rear of the chassis shall be equipped with one (1) square steel tube receiver assembly for high or low angle rescue, trailer use, and winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame assembly. The receiver shall be rated at approximately 10,000#.

The rear receiver assembly shall be equipped with two (2) heavy duty rear tow loops, one (1) each side.

203943.1 - FIRE PUMP SPECIFICATIONS

Darley model number 2-1/2AGE 48K diesel powered, centrifugal portable pump shall be provided. The high pressure pump, gear driven, engine mounted shall meet the following performance requirements:

250 GPM @ 190 PSI

200 GPM @ 225 PSI

150 GPM @ 250 PSI

100 GPM @ 260 PSI

Pump Design:

Hard anodized aluminum alloy pump casing and discharge

Aluminum alloy gear case and engine adapter

Bronze impeller and wear rings

Stainless steel impeller shaft

Mechanical seal

Heat treated alloy steel helical gears

Ball bearing construction

Electronic throttle

Power indicator light

Digital pressure readout

Hour meter

Oil psi
Tachometer
Engine coolant temperature
Volt meter
Overridable engine shutdowns

2.5" NPT suction
2-1 1/2" NPT or 1-2 1/2" NPT discharges

Engine Specifications:

Kubota D1803T Diesel: 48 HP,
liquid cooled, 12 volt starter, 40 amp. alternator,
fuel and oil pump filters

100272.1 - STAINLESS STEEL PLUMBING SYSTEM

The auxiliary fire pump plumbing system shall be built mostly of stainless steel piping, fittings, and connections. Victaulic couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Tank connections and remote plumbing shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

100285.1 - VALVES

All valves used in the plumbing installation shall be stainless steel quarter turn full flow type.

The plumbing installation shall include quarter turn ball valves with local "on-valve" handle control, with custom embossed labeling for each valve.

100483.1 - HOSE THREADS

The hose threads shall be National Hose Standard (NH) on all base threads on the apparatus intakes and discharges, unless otherwise specified.

100263.1 - EXHAUST SYSTEM

The auxiliary fire pump and engine assembly shall have a muffler and vertical exhaust pipe. The exhaust pipe shall be directed upward and away from the pump operator. A rain cap will be installed on the vertical exhaust outlet.

100266.1 - FIRE PUMP ENCLOSURE

The fire pump house shall be installed around the pump and engine. The enclosure shall be fabricated of .125" aluminum. Hinged doors and access panels shall be installed for servicing of the engine.

An engine and pump control panel shall be provided at the rear of the vehicle. The following shall be located at the operator's position:

2.5" discharge pressure gauge
start/stop control
throttle control
low oil pressure warning light
tachometer (if so equipped)

The pump control panel shall be mounted at the passenger's rear corner of the body.

100265.1 - PUMP CONTROL PANEL ENCLOSURE

A pump panel enclosure shall be installed. The enclosure shall be fabricated of .125" aluminum with a DA finish, bolted in place with a pump instrument panel installed.

An engine and pump control panel shall be installed in the pump panel enclosure. The following shall be on the pump panel:

2.5" discharge pressure gauge
start/stop control

throttle control
low oil pressure warning light

The pump control panel shall be installed at the passenger's side rear corner of the body.

100418.1 - REMOTE PUMP CONTROL PANEL IN CAB

The cab shall be equipped with secondary remote electrically controlled pump instrument control in the cab. There shall be a remote pressure gauge, start/stop switch, and electronic throttle control.

In addition, there shall be a remote control key FOB that will control the pump throttle from up to 200' away from the apparatus.

100267.1 - FUEL SYSTEM FROM CHASSIS FUEL TANK

The fuel system for the auxiliary fire pump shall be plumbed from the chassis fuel system. There shall be a separate fuel pickup tube mounted in the chassis fuel tank specifically for a separate engine driven pump assembly.

There shall be an electric fuel pump with spin on fuel filter and flexible fuel hose furnished between the chassis fuel tank and the auxiliary pump.

100256.1 - ELECTRIC START WIRING TO CHASSIS

The 12 volt positive and negative cables shall be provided from the chassis battery to the fire pump area, wired through the master disconnect solenoid system. The cables shall have a circuit breaker installed at the chassis battery.

100255.1 - AUXILIARY FIRE PUMP MOUNTING PROVISIONS

The auxiliary fire pump shall be installed at the passenger's side rear of the body. The sub-structure shall have welded in mounting sub-plates between the structural members.

100254.1 - PUMP ENGINE OIL DRAIN

The fire pump engine shall have an oil drain line installed. It shall allow for easy oil draining.

100253.1 - FIRE PUMP MASTER DRAIN

The fire pump shall have a master drain at the bottom of the water pump housing.

100273.1 - FRONT BUMPER MANIFOLD SUPPLY

There shall be an 1.5" stainless steel valve, with a flexible supply hose installed to feed the front discharge manifold.

100270.1 - 2-1/2" GATED INTAKE -- REAR

One (1) 2-1/2" gated suction intake shall be installed on rear area to supply the fire pump from an external water supply. The valve shall be controlled with a direct quarter-turn ball valve control handle and shall have 2-1/2" NH female thread with removable screen with plug.

100283.1 - TANK TO PUMP LINE INSTALLATION

The 2.5" tank to pump line shall be installed with a flexible hump hose connection and stainless steel clamps to the water tank. The valve shall be controlled with a manually operated handle directly on the valve.

100281.1 - WATER TANK FILL AND COOLING LINE

One (1) 1" fire pump to water tank refill and bypass cooler line shall be provided. The pump to tank valve shall be a 1" full flow quarter turn ball valve with local control handle. A 1" flex hose shall be installed to the water tank.

100278.1 - 3/4" GARDEN HOSE DISCHARGE -- REAR

One (1) .75" garden hose discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have a .75" male garden hose threads and cap.

100274.1 - 2-1/2" DISCHARGE -- REAR

One (1) 2-1/2" discharge shall be installed at the rear pump area, controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NH male hose threads. The discharge shall be equipped with 2-1/2" female x 1-1/2" chrome plated brass reducer, 1-1/2" chrome cap and chain.

100275.1 - 1" HOSE DISCHARGE -- REAR

One (1) 1" hose discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have a NPT x 1" male NH hose threads and cap.

100277.1 - 1-1/2" PRE-CONNECT DISCHARGE -- REAR HOSEBED

One (1) 1-1/2" pre-connect discharge shall be installed on the rear hosebed, controlled by a quarter turn ball valve with direct local control handle in pump area. The discharge shall have 1-1/2" NH male hose threads.

The valve shall be on the manifold, with a feed line to the rear of the tray.

100288.1 - HOSE REEL

One (1) Hannay aluminum hose reel shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 12 volt rewind and manual crank rewind provisions.

The reel shall be mounted on the driver's side rear corner of the flatbed body.

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100291.1 - REEL CAPACITY

Each hose reel shall have a capacity of 200 feet of hose.

100295.1 - HOSE REEL DISCHARGE

One (1) 1" discharge shall be piped from the fire pump to each hose reel with flexible high pressure hose. The quarter turn ball valve shall be on manifold.

100302.1 - NOZZLE MOUNT

Each 1" flexible hose discharge shall have a nozzle bracket installed to hold the nozzle in place.

100299.1 - HOSE REEL HOSE

One (1) 150' foot length of Reel-lite 1" water hose shall be installed on the hose reel. The hose shall be equipped with NH threaded couplings and have a 300 PSI working pressure.

100303.1 - HOSE REEL ROLLER

Each hose reel shall be provided with a Hannay top mounted stainless steel roller assembly.

100280.1 - GROUND SWEEP DISCHARGES -- FRONT BUMPER

Two (2) ground sweep discharge nozzles shall be installed, one each side of the front bumper. Each nozzle shall have a 1" electric control valve, switched independently in the cab. The discharges shall be equipped with removable ground sweep nozzles angled accordingly with a 180 degree total front sweep pattern. The flow rate shall be 15-30 gpm.

Each nozzle shall have a custom fabricated brush guard installed to protect from damage when off road. The valves and manifold shall be protected from damage by the front bumper and skid plate.

One (1) 1.5" front bumper ground sweep discharge shall be piped to the front bumper area. The discharge shall be controlled by a 1.5" manual override valve at the rear pump area. Flexible 1.5" diameter high pressure hose shall be provided from the pump to the sweep nozzles with low point drains where necessary.

203935.1 - FRONT BUMPER MONITOR

Task Force Tips EF-1 electric remote controlled monitor shall be installed at front bumper area. The monitor shall be controlled by a monitor mounted membrane switch panel with functions that control rotation, elevation and nozzle patterns, and oscillate.

The monitor shall have the following travel capabilities: full horizontal rotation with travel 185 degrees left and right of center, full 135 degrees of vertical travel with field changeable vertical stops at 45 degrees above and 20 degrees below horizontal, field changeable rotation stops shall be provided 90 degrees left and right of center, flow capability of 30 to 500 GPM with no more than 25 PSI loss, maximum operating pressure of 200 PSI.

The electrical components for the monitor shall be waterproof and utilize current limiting and position encoders to protect

the drive train at the ends of travel. Monitor shall have waterproof plug for power and control cable connection for easy removal. An electrical connection for a TFT remote control nozzle shall be provided. The monitor shall be compatible with optional wired and wireless control panels and monitor position display. The monitor shall be equipped with manual override knobs for use in the event of power failure.

For resistance to corrosion the monitor shall be constructed from hardcoat anodized aluminum with a silver powder coat interior and exterior finish.

Parts included:

ITEM # DESCRIPTION

Y1-EE2A - 2" NPT Female X 1.5" NH Male monitor, with the capacity to flow up to 200 gpm

B-TOS-ERP - 100 PSI Selectable ER TIP with Flow Capacity of 15-120GPM

Y4E-JS-GT - Joystick Monitor Operator Station With Gateable Valve Control

YE-VKG-PH - 2" Gateable Water Valve and Interface Box

100261.1 - FOAM SYSTEM

A FoamPro part number S106-1600/2.0 electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

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

The control module shall enable the pump operator to:

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

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

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

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

1. Operator control module
2. Paddlewheel flow meter
3. Pump and electric motor/motor driver
4. Wiring harnesses
5. Low level tank switch
6. Foam tank
7. Foam injection check valve
8. Main waterway check valve
9. Flowmeter and tee with NPT threads.

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

The foam system design shall be tested and pass environmental testing in accordance with SAE standards. An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

The FoamPro 1600 Series foam system shall be provided with a six (6) foot control cable from the controller to the foam pump assembly. The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head.

A FoamPro part number 2660-0032 brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 15 GPM and 520 GPM and be capable of operation between 5 GPM to 625 GPM. The tee shall have NPT and Victaulic inlet and outlets connections.

A FoamPro part number 6032-0018 instruction and system rating label shall be provided. The label shall display information for a FoamPro 1600 Series foam system and shall meet applicable sections of the NFPA standards. A FoamPro foam system schematic label shall be installed on the pump panel near foam controls. The label shall be a diagram of the FoamPro 1600 foam system layout and shall meet applicable sections of the NFPA standards.

100226.1 - WATER TANK GAUGES

One (1) Class 1 "Intelli-Tank" water tank level gauge shall be installed on pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 tank. A pressure transducer shall be mounted on the outside of the tank in an easily accessible area.

CAB MOUNTED -

One (1) Class 1 112124 "Intelli-Tank" mini water tank level gauge shall be installed in the cab or center console. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/4 tank.

100202.1 - WATER TANK SPECIFICATIONS

The water tank shall have a capacity of 500 gallons.

*NOTE: 500 GALLON WATER TANK REQUIRES 138" MINIMUM BODY LENGTH AND 84" CAB TO AXLE MEASUREMENT.

100203.1 - TANK BUILD SPEC

The water tank shall be constructed of black polypropylene, poly-welded and tested inside and out. The tank manufacturer shall define the floor, top, sides, ends, and baffles material thickness. The tank shall carry a lifetime warranty.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. The tank covers shall be welded on top and bottom, and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's data plate.

100205.1 - NFPA COMPLIANCE

The water tank construction shall conform to applicable NFPA standards.

100206.1 - WATER TANK SIGHT GAUGE

The water tank shall be equipped with translucent water level sight gauge in the rear wall of the tank.

100207.1 - FILL TOWER LOCATION

The tank fill tower shall be located in the driver's side rear corner of the water tank.

100209.1 - VENT AND OVERFLOW

The fill tower shall incorporate a vent and overflow system shall be designed into the water tank. The system shall include a 3" diameter pipe that functions both as an air vent while emptying the tank and as an overflow when filling the tank. The overflow shall discharge excess water below the frame rails of the vehicle.

100213.1 - TANK TO PUMP CONNECTION

A 3" pipe shall be provided on the water tank for connection of the tank to the suction side of the pump with a flexible hump hose assembly. The tank suction valve and hump hose required to complete this connection shall be supplied by the final

assembler.

100217.1 - WATER TANK DRAIN PLUG

A 2" drain plug shall be installed in the bottom of the water tank, sump, or plumbing for water tank draining and flush-out of debris.

100228.2 - FOAM TANK SPECIFICATIONS

The Class A foam tank shall have a capacity of 20 gallons.

REAR EDGE OF WATER TANK, CENTERED

Special: James Webb changed component. 06/26/2020 13:01

100232.2 - FOAM TANK AND VENTING PROVISIONS

The foam concentrate tank shall be provided with a fill pipe having a volume of not less than 2 percent of the total tank volume. The filler opening shall be capped with a sealed air-tight threaded cover. The fill opening shall be designed to incorporate a removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped into the tank.

REAR EDGE OF WATER TANK, CENTERED

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

A color coded label or visible permanent marking that reads "CLASS A -- FOAM TANK FILL" shall be placed at or near the foam concentrate tank fill opening. An additional label shall be placed at or near any foam concentrate tank fill opening stating the type of foam concentrate the system is designed to use.

Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, along with a warning message that states "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

Special: James Webb changed component. 06/26/2020 13:02

100233.1 - FOAM SYSTEM PIPING

A 3/4" fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

100235.1 - FOAM TANK DRAIN AND VALVE PROVISIONS

A 3/4" diameter connection, piping, and valve shall be installed for the foam tank for draining purposes.

100239.1 - FOAM TANK GAUGES

One (1) Class 1 foam tank level gauge shall be installed on pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 tank. A pressure transducer shall be mounted on the outside of the tank in an easily accessible area.

CAB MOUNTED

One (1) Class 1 112124 "Intelli-Tank" mini foam tank level gauge shall be installed in the cab or center console. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/4 of a tank.

100549.1 - CUSTOM RESCUE SIDE ALUMINUM BODY

The body will be a custom fabricated severe service rescue-side type, constructed of all aluminum. The body shall be 114" long by 96" wide, designed for a 60" cab to axle dimension. The body shall be specifically designed and engineered for off-road wildland firefighting.

MAIN FRAME

The body shall have 5" x 1.75" structural aluminum channel main frame rails. The body frame rails shall be isolated from the truck frame by .500" industrial isolators.

SUB-FRAME

The cross-members shall be 3" x 2 5/16" structural aluminum I beams with cross-members on 12" centers.

MOUNTING

The body shall be bolted to the chassis frame rails at the rear end of the frame. There shall be brackets installed at the middle of the body frame to prevent side to side movement. The body shall be spring mounted at the front of the body frame. The flexible mounting system shall allow for body/chassis flexing during extreme off road conditions.

SQUARE CORNERS

The front corners of the flat-bed body shall be square.

HEADACHE RACK

The front of the body shall have a 2" formed aluminum tube headache rack. The rack shall extend the full width of the body and be attached to the front body corners. The assembly shall extend above the chassis cab and have mounting platform for installation of the light bar and two work lights. Wiring for the lights will be placed inside the tubing for protection. The headache rack shall have four (4) vertical 2" tubes for extra strength.

FUEL FILLER

The fuel filler tube and cap shall be installed at the driver's side, rear of the body.

FENDER PANELS

The lower portion of the flat-bed body shall have fender panels over and aft of the rear wheel panel area. The panels shall be constructed of aluminum. The wheel well openings will be cut out to conform to the wheels.

REAR BODY PANEL

A vertical body panel shall be installed at the rear of the body constructed of .125" smooth aluminum. The panel shall house the running lights, taillights, back-up lights, and emergency lights. The body panel shall be angled to allow for a 27 degree angle of departure.

PROTECTIVE RAILS

The upper body area shall be protected with radius corner 1" diameter aluminum tube railing assembly installed around the top of the body. The corners of the body shall have vertical risers space in critical areas. The railings shall act as protection for the upper body structures when off road in heavy brush conditions. The rear upper body corner rails shall house the upper emergency lights and work lights.

SIDE BODY COMPARTMENTS, FRONT BODY -- DRIVER AND PASSENGER'S SIDES

Two (2) body equipment storage compartments shall be installed at the front of the body just behind the headache rack, one each side of the apparatus. The dimensions shall be approximately: 30" wide, 44" high, and 24" deep. The compartments shall be constructed of .125" aluminum on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with a single latch installed. The doors shall be equipped with gas operated door opening assistant cylinders.

Each vertical compartment shall have one (1) fixed shelf.

The compartment floors shall be lined with turtle tile.

203802.1 - DIAMOND PLATE FINISH BODY AND COMPARTMENTS/TRAYS

The exterior surface of all body skins, compartments, and trays shall all be polished diamond plate aluminum finish.

203898.1 - FUEL AND DEF FILLER DOORS

The fuel and DEF (if so equipped) filler ports shall have hinged doors installed.

100121.1 - ANGLED CORNERS, BODY

The front corners of the body will be angled at approximately 22 degrees.

100126.1 - HEADACHE RACK MESH INSERT

Headache rack shall have expanded metal insert covering all open areas.

100462.1 - TOOL STORAGE TRAY/TRANSVERSE -- FRONT OF TANK, ABOVE

A tool storage compartment shall be installed in front of the water tank, above the lower compartments. The dimensions shall be approximately: 86" long, 18" wide, 16" high. The compartment shall be constructed of .125" aluminum on all exterior surfaces. The compartment shall be equipped with hinged aluminum lid with latches installed. The hinge shall be at the front of the compartment, near the headache rack. There shall be two (2) gas struts to hold the lid open. The tray shall have turtle tile installed on the bottom.

203453.1 - DRIVER'S SIDE UPPER BODY COMPARTMENT

A body equipment storage compartment shall be installed on the flatbed surface, driver's side of the apparatus. The exterior dimensions shall be approximately 48" wide, 30" high, and 18" deep. The compartment shall be constructed of .125" aluminum on all exterior surfaces. The compartment shall be equipped with a lift up door with latch installed. The door shall be equipped with dual gas operated door opening assistant cylinders. Turtle tile shall be installed on the floor.

The actual door opening shall be approximately 3" smaller in dimension.

203454.1 - PASSENGERS SIDE UPPER BODY COMPARTMENT, 30"

A body equipment storage compartment shall be installed on the flatbed surface, passenger's side of the apparatus. The interior dimensions shall be approximately 48" wide, 30" high, and 18" deep. The compartment shall be constructed of .125" aluminum on all exterior surfaces. The compartment shall be equipped with a lift up door with latch installed. The door shall be equipped with dual gas operated door opening assistant cylinders. Turtle tile shall be installed on the floor.

The actual door opening shall be approximately 3" smaller in dimension.

100585.1 - UNDER BODY COMPARTMENTS -- REAR BODY, D/S AND P/S

Two (2) under flat bed equipment storage compartments shall be installed under the flatbed surface, on the passenger's and driver's side of the apparatus, behind the rear axle. The exterior dimensions shall be approximately: 20" wide, 15" high, and 23" deep. The compartments shall be constructed of .125" aluminum on all exterior surfaces. The compartments shall be equipped with a vertically hinged door with latch installed. The compartment shall have turtle tile installed.

The compartments shall have a LED light installed.

Special: James Webb changed component. 07/02/2020 10:08

100159.1 - UNDER BODY COMPARTMENT -- REAR CENTER

An under body equipment storage compartment shall be installed under the flatbed surface located in the center rear of the apparatus. The compartment shall be between the vertical body beams, upper floor surface, and an aluminum lower floor area. The compartment shall be equipped with a hinged drop down door with dual latches installed.

The exterior dimensions shall be approximately:

108" for a 114"L bed

120" for a 138"L bed

100166.1 - REAR SLIDE-OUT TRAY

The rear center compartment shall be equipped with an .190" aluminum slide out tray on UHMW plastic slide pads and poly rollers. The tray shall be full width and full length of the compartment interior.

100160.2 - INTERIOR COMPARTMENT VENTILATION LOUVERS (Qty: 2)

The interiors of the upper body compartments shall have louvered ventilation units.

100161.2 - COMPARTMENT DOOR KEY LOCKS (Qty: 2)

The hinged compartment doors shall be equipped with key type door locks.

100720.2 - COMPARTMENT LIGHTING, STRIP LIGHTS (Qty: 2)

Each upper body compartment shall be equipped with a white LED strip light.

100163.2 - AUTOMATIC COMPARTMENT DOOR LIGHT SWITCHES (Qty: 2)

Each compartment light shall be automatically controlled by a door activated switch.

100164.1 - DOOR AJAR LIGHT

A "door ajar" warning light shall be installed on the center console. The light shall be flashing red LED light with a clear lens.

100168.1 - HOSE TRAY -- DRIVERS SIDE

A hose storage tray shall be installed over the driver's side equipment compartment, on the driver's side of the apparatus. The exterior dimensions shall be approximately: 16" wide, 8" high, and 64" long. The hose tray shall be constructed entirely of .125" aluminum on all exterior surfaces. The assembly shall be equipped with a hinged lift up aluminum door on top,

enclosed front panel, and open rear area. The hose tray shall be equipped with Turtle Tile floor covering.

The actual door opening shall be approximately 3" smaller in dimension.

100176.1 - TOOL STORAGE TRAY/COMPARTMENT -- PASSENGERS SIDE

A tool storage compartment shall be installed over the passenger's side equipment compartment, on the passenger's side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 64" long. The compartment shall be constructed of .125" aluminum on all exterior surfaces. The compartment shall be equipped with a hinged lift up aluminum door with a latch installed. The compartment shall be equipped with Turtle Tile floor covering.

203941.1 - COMPARTMENT FLOORING

Turtle Plastics Turtle Tile Compartment Matting shall be installed in all compartments and trays excluding the rear center under-body compartment. Turtle Tile shall be black in color and lock together design. [More](#)

100180.1 - REAR PULL OUT STEP

There shall be a rear "Pull-Out-Fold-Down" step located at the driver's side rear of the apparatus, step shall be stowed in a pocket under the rear of the unit. Storage pocket shall be fabricated to allow easy access to deploying for operation.

100181.1 - FOLDING STEP

A Signature 4 lighted 8" square folding step of die cast zinc shall be installed. The step shall comply with NFPA non-slip standards and shall be installed on the rear driver's side of the body. The step shall be equipped with lighting to NFPA standard.

100692.1 - SIDE BODY ACCESS STEPS

There shall be a body access step assisting in access to top of the tool/hose trays from the side of the apparatus. It shall be a stirrup design, and be fabricated from 1" aluminum tubing. They shall be installed under the front of the body, one (1) each side.

100325.1 - ELECTRICAL ENCLOSURE

An electric wiring enclosure for the 12 volt wiring shall be installed in the forward wall of the driver's side upper body compartment with an access panel. The dimensions of the enclosure shall be approximately 20" high, 14" wide, and 4" deep.

100326.1 - 12 VOLT ELECTRICAL SPECIFICATIONS

The following describes the low voltage electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest Federal DOT standards, current automotive electrical system standards and the applicable requirements of the NFPA.

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

All wiring connections and terminations shall provide positive mechanical and electrical connections and be installed in accordance with the device manufacturer's instructions. When wiring passes through metal panels, electrical connections shall be secured with mechanical type fasteners and rubber grommets

Wiring between cab and body shall be split using connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. Connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather resistant connectors shall be provided throughout the system.

Electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. When required, automatic reset breakers and relays shall be housed in the main body junction panel.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage.

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

The electrical system shall include the following:

Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.

All electrical wiring shall be placed in a protective loom or be harnessed.

Exposed connections shall be protected by heat shrink material and sealed connectors.

Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall be caulked with silicone.

Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.

A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.

All lights in a weather exposed area that have their sockets shall have corrosion preventative compound added to the socket terminal area.

100327.1 - ELECTRICAL HARNESS AND WIRING

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

100090.1 - BATTERY MASTER DISCONNECT

A battery disconnect system shall be installed to control the 12 volt power supply from the battery system to the body and cab final stage manufacturer installed equipment. The solenoid shall be controlled by the standard key starter switch.

100094.1 - BATTERY CHARGER AND 120 VOLT SHORE POWER RECEPTACLE

A Kussmaul Autocharge 1000, Model 091-215-12, high output automatic battery charger shall be provided. The battery charger shall be wired to the 12 volt battery system. The unit shall be mounted in a clean, dry area accessible for service and/or maintenance. It shall be wired to the specified shore power receptacle.

It shall include Model 091-194B-IND-WT-XX Digital Status Display Center.

It shall also include Model 091-55-15-120 15 amp "auto-eject" shore power receptacle with hinged weatherproof cover and an enclosure for protection from dirt and damage. The shore power plug shall be "ejected" when the chassis' engine starter is engaged and the receptacle shall be wired to any 120 volt A/C equipment requiring shore power.

Location shall be: Determined at the Pre-Construction conference.

Color of Digital Status Display Center and Auto Eject: Determined at pre-construct conference

Components wired hot: Determined at pre-construct conference

100328.1 - DOT IDENTIFICATION LIGHTS

All LED identification lights shall be installed on the vehicle as required by applicable highway regulations.

100329.1 - LICENSE PLATE MOUNTING

An LED license plate light shall be installed on the rear vertical wall of the body.

100330.1 - BRAKE, TURN, TAIL LIGHTS

Two (2) Whelen M6 Series Model M6BTT 4-5/16" x 6-3/4" brake, turn, tail lights with M6FC chrome flanges shall be provided. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lighthouses shall be surface mountable via two screws.

The lighthouses shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination. The

lighthead shall include 164 flash patterns including: a variety of CA Title 13 compliant, sinkable, left/right, top/bottom, in/out, and steady burn. The lighthead shall have the Whelen exclusive NERM (Non-Emergency Recognition Mode) feature.

The lens/reflector assembly shall be wet sealed and resistant to: water, moisture, dust, and other environmental conditions. The outer lens shall have a hard coating applied to increase strength and ensure longevity. The light engine shall be installed at the rear of the unit and be completely sealed. The pc board shall be conformal coated for additional protection.

The lights shall be furnished with five 6" wire pigtailed, a Santoprene rubber gasket and the #M6FC chrome flanges shall be included for installation.

100331.1 - BACK-UP LIGHTS

Two (2) Whelen M-Series, 4" x 6" rear LED back-up lights shall be installed.

100096.1 - TRAILER PLUG

Wiring shall be provided at the rear of the apparatus for the towing of an auxiliary trailer. A 12 volt seven (7) pin electrical connector shall be wired to the chassis stop, running, and turn lights.

100712.1 - OFF-ROAD LIGHTS

There shall be two (2) FRC SoBrite 6" LED lights installed on front bumper/grille guard.

100070.1 - NO BUMPER GROUND LIGHTS

There shall be no under bumper ground lights installed.

200312.1 - GROUND LIGHTS, CAB, 4 DOOR, LED STRIPS

Four (4) LED ground strip lights shall be installed under the cab step area in compliance with NFPA standards, two (2) on each side of the apparatus, wired to the Cencom, and the chassis interior lights.

100183.1 - GROUND LIGHTS - UNDER REAR STEP

Two (2) Grote #63871 LED ground lights shall be installed under the rear step area, one on each side of the apparatus. They shall have an aluminum housing, and be 800 lumens at 1.4 amps.

100184.1 - BODY WORK LIGHTS

Four (4) Grote #63871 LED body work lights with clear lens shall be installed, wired to switch on the Cencom. They shall have an aluminum housing, and be 800 lumens at 1.4 amps. Location shall be: in each corner of the protective tubing assembly to light the pump panel and the front body walkway area.

100318.1 - FRONT BUMPER SCENE LIGHTS

A Rigid Manufacturing E series 120313 20" spot/flood light shall be installed. The LED scene lights shall incorporate clear LED's with a clear optic polycarbonate lens for maximum illumination.

Location shall be: front bumper/grille

100322.1 - SCENE LIGHTS

Six (6) Rigid Manufacturing Dually 20211 scene lights shall be installed. The LED scene lights shall incorporate clear LED's with a clear optic polycarbonate lens for maximum illumination.

Location shall be: Two (2) outward facing, each side of body, two (2) rear facing.

100503.1 - DIGITAL TILT METER

An electronic tilt meter shall be installed on the dashboard. The unit shall indicate the degree of side slope the vehicle is on. It shall also include a GPS speedometer.

100108.1 - BACK-UP CAMERA SYSTEM

One (1) Rear View Systems camera system shall be furnished utilizing two (2) cameras which provides a wide field of view and picture quality. A sealed camera enclosure shall be utilized along with electronic connections. The color monitor shall be installed in cab.

One (1) camera shall cover the rear of the apparatus, which will activate during back-up mode and during normal operations

if needed.

Front camera location:

Rear camera location:

100324.1 - BACK-UP ALARM

One (1) back up alarm shall be installed.

203773.1 - ELECTRONIC SIREN

One (1) Whelen, Model #CCSRNT4G CenCom Carbide siren with auxiliary switches with noise canceling microphone shall be provided. Siren head will be mounted on the center console in easy reach of the driver.

100313.1 - SIREN SPEAKER

One (1) Whelen Model #SA315P Projector Series siren speaker shall be provided with bracket. The 100 watt siren speaker shall be designed in a black nylon composite housing with 123 decibel rating.

Location shall be: Behind the front grille.

100310.1 - MOUNTING OF LIGHT BAR WITH PROTECTIVE GUARD

The lightbar shall be mounted on the headache rack shelf with an aluminum brush guard protective assembly.

100309.1 - LIGHTBAR

A Whelen Legacy low profile Super-LED NFPA lightbar shall be installed. The 54" lightbar shall be designed to meet the minimum clearing requirements for Zone A Upper. The internal components of the lightbar shall be housed within a two piece extruded aluminum base/top. The outer shell shall be clear optic polycarbonate lenses designed to maximize light output and shield against environmental elements.

The lightbar shall utilize snap-in brackets to hold in the lighthead. The brackets shall give the end user the ability to make quick repairs. The lightbar shall have all solid state components. The lightbar shall have two wire harnesses exiting the unit: one (1) 17 conductor 22 gauge control cable which controls all internal light functions; and one (1) 2 conductor 10 gauge cable for main power and ground. Each cable shall be 15' long.

The lightbar shall have four (4) red Linear Super-LED corner modules to provide off angle protection for the front and rear of the vehicle. Each corner module shall consist of twelve (12) Super-LEDs mounted within a vacuum metalized parabolic reflector. The corner module shall also utilize an optic collimator for maximum light output. The twelve (12) LEDs shall be mounted in one straight line.

The solid state I/O board shall be microprocessor controlled. The I/O board shall have built-in reverse-polarity protection and output-short protection. The board shall have the ability to flash sixteen (16) LED warning lights. There shall be a data bank of 13 Scan-Lock flash patterns including steady burn. The board shall also have outputs to add takedown and alley lights. Low power and cruise light function shall also be included. The cruise light function shall allow the user to employ the four (4) corner modules as marker courtesy lights.

The lightbar shall include clear "Take Down" and "Alley Lights".

The lightbar shall have an amber "Traffic Advisor" built into the rear portion of the lightbar.

100315.1 - NFPA WARNING LIGHTS

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights with chrome flanges shall be in the front forward facing area of the front bumper. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthead configuration shall consist of RED 18 Super-LEDs and a clear optic polycarbonate lens. The lighthead shall be surface mountable via two screws. The lighthead shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination.

ZONE B AND D -- INTERSECTION LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights with chrome flanges shall be installed on bumper extension, as far forward as possible. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthead configuration shall consist of RED 18 Super-LEDs and a clear optic polycarbonate lens.

ZONE B AND D -- LOWER SIDE REAR CORNER WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights with chrome flange shall be installed in lower rear side corner body area. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of RED 18 Super-LEDs and a clear optic polycarbonate lens.

ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights with chrome flanges shall be installed in the upper rear body side panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of RED 18 Super-LEDs and a clear optic polycarbonate lens.

ZONE C -- UPPER REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights with chrome flanges shall be installed in the upper rear corner of the handrails. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of RED 18 Super-LEDs and a clear optic polycarbonate lens.

ZONE C -- LOWER REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights with chrome flanges shall be lower rear of body. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of RED 18 Super-LEDs and a clear optic polycarbonate lens.

100335.2 - CUSTOM GRAPHICS (Qty: 2)

The apparatus shall be provided with two (2) custom designed sign gold graphics, emblems, or seals. The installation shall be designed primarily with letters and numbers as specified. The purchaser shall approve of the design graphics prior to installation.

Special: James Webb changed component. 07/15/2020 10:45

203904.1 - NO CAB ROOF LETTERING

100337.1 - CAB AND BODY STRIPING

The cab and body shall have a straight Scotchlite reflective stripe applied horizontally. The stripe shall be a 4" minimum in width and be applied horizontally around the cab and body in accordance with NFPA standards. The purchaser shall specify the color and location of the stripe.

100343.1 - FRONT CHEVRON STRIPING

There shall be alternating chevron striping installed across the front bumper where permitted. The chevron striping shall consist of 6" diamond grade in the following colors:

The first color shall be red diamond grade.

The second color shall be lime yellow diamond grade.

100345.1 - REAR CHEVRON STRIPING

There shall be alternating chevron striping installed on the rear vertical body panel. The chevron striping shall consist of 6" diamond grade in the following colors:

The first color shall be red diamond grade.

The second color shall be lime yellow diamond grade.

100346.1 - CAPACITIES PLACARD

The apparatus shall have a reflective placard that provides the following information:

Water Tank Capacity
Pump Capacities
NWCG Typing
Skeeter Contact Information

203805.1 - DRIP TORCH HOLDERS

There shall be two (2) drip torch retaining brackets installed on the body.

The exact location shall be determined at the pre-construct conference.

100040.1 - CHASSIS PREPARATION

The chassis cab shall be "prepped" for fire apparatus production as follows:

- a) Wash and clean chassis
- b) Weigh chassis for NFPA reports
- c) Quality control check in.

100041.1 - SEATING

There shall be a label identifying the number of seat belted locations on the unit.

100042.1 - WARNING LABEL -- SEAT BELT USAGE

A warning label for use of seat belts shall be installed in the cab by the chassis manufacturer.

100043.1 - LOUD NOISE WARNING LABEL

A final stage manufacturer shall install "hearing loss" potential warning labels on the vehicle in any areas or fixed equipment that produces excessive noise levels. (exhaust outlet, sirens and air horns shall not be required for such equipment.)

100135.1 - WARNING LABEL -- NO RIDING ON REAR

A warning label stating: "NO RIDING ON REAR OF APPARATUS" shall be installed on rear of the apparatus. The label shall be applied to the vehicle at the rear step area. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion, is prohibited.

100136.1 - SKEETER BRUSH TRUCK EMBLEMS

Three (3) Skeeter Brush Trucks emblems will be affixed to the cab and body.

100196.1 - FINAL ASSEMBLY AND APPARATUS FINISHING PREP SPECIFICATIONS

The apparatus shall be assembled in a high quality and controlled environment. The fit, form, and finish of the body shall be to the highest level fire apparatus manufacturing standards. Upon completion, the apparatus shall be ready for final inspection and road testing as required herein.

100361.1 - FIRE PUMP OPERATIONS TEST

The fire pump shall have a operational pump test performed by a Skeeter Brush Trucks technician with a run time of one (1) hour to confirm proper operations of all pump related components.

*** NOTE: ALL TESTING SHALL BE DONE AND PERFORMANCE OBSERVED BETWEEN SEA LEVEL AND 1000' ELEVATION.

*** HIGH ALTITUDE PERFORMANCE MAY NOT REPRESENT TESTING RESULTS SHOWN.

100362.1 - ELECTRICAL LOAD ANALYSIS

A 12 volt electrical load analysis shall be performed in order to test response and stationary modes of electrical amp load.

100363.1 - NFPA COMPLIANCE

The fire apparatus shall be built to the purchaser's requirements stated in this specification in compliance with all state and federal highway safety requirements. The vehicle is designed to meet NFPA 1906.

Unless included in the specification, the customer will provide all the necessary equipment to comply with NFPA 1906 Section 10.2.

100365.1 - ROAD TEST

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise.

100366.1 - APPARATUS WARRANTY SKEETER MANUFACTURED ITEMS

A five (5) year parts and labor warranty on items manufactured by Skeeter Brush Trucks and a ten (10) year warranty on the structural integrity of the body. For warranty issues please contact your local dealer or Skeeter Brush Truck service center

and request warranty from the service advisor at that location.

100369.1 - WATER TANK WARRANTY

MANUFACTURER'S LIMITED WARRANTY AND NOTICE OF DISCLAIMER OF EXPRESS AND IMPLIED WARRANTIES

Manufacturer issues this limited warranty to the customer who is the original retail purchaser ("Customer") of a polypropylene tank (the "Tank") (10 to 4000) gallons.

100351.1 - PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be conducted at the manufacturer's plant. The transportation to this meeting shall be the responsibility of purchaser.

100651.1 - DRAWINGS

There shall be design drawings submitted to the customer prior to the pre-construct conference. The CAD drawings shall include all sides of the apparatus. The customer shall agree to the drawings reflecting the correct apparatus design and layout prior to construction.

100353.1 - TERMS OF PAYMENT AND PREPAYMENT PROVISIONS

Terms of payment for the specified vehicle shall be only cash or equivalent on delivery and acceptance for the unit. No bid will be considered which requires the purchaser to deposit with the bidder a down payment, prepayment of chassis, or any other such consideration as a condition of the bid. Such a requirement shall be grounds for immediate rejection of the bid.

100356.1 - DEMONSTRATION AND FAMILIARIZATION OF VEHICLE

The bidder shall demonstrate and familiarize the purchaser regarding the vehicle's operation. This shall include operation of chassis, major components, review of delivery information and documentation. This demonstration shall be completed at Skeeter Brush Trucks factory location in Hillsboro, Texas.

100358.1 - DELIVERY REQUIREMENTS

The apparatus shall be picked up at the manufacturer's plant by the purchaser.