



Specification for:  
**Skeeter Type 5 Step-Side**

Submitted To:

**Armington Community Fire District**  
Armington Community FPD Armington, IL

Specification 1302  
**January 11, 2016**

Prepared by:  
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## **Proposal**

We are pleased to submit the following specifications to you for a **Skeeter Type 5 Step-Side** 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 Kirby, 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 eleven (11) 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 fire apparatus manufacturer shall provide two (2) operational manuals. These manuals 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).

### **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: Grey
6. Body Color: Brushed Aluminum
7. Cab Steps: Black

### **025257.6 - SCBA SEATS, CAB**

There shall be three (3) SCBA seats installed in the rear of the chassis cab in place of the bench seat. They shall be designed to hold a air pack, and have a quick release mechanism.

Location: Back of Cab

### **100026.2 - CHASSIS SPECIFICATIONS**

One (1) FORD F-550 two axle drive 4 x 4, dual rear wheels (DRW), four (4) door XL Crew Cab and chassis

Wheelbase: 176.2"

Cab to Axle: 60"

Grille: black

Tow Hooks: front loops

Driving Front Axle and Suspension: 7,000# HD front package, 7,000# suspension package, stabilizer bar, front shocks, manual hubs

Transfer Case: cab controlled high and low range HD front package, stabilizer bar, front shocks, manual hubs

Tires: two (2) front tires shall be 225/70R19.50, radial all weather highway tread

Front Wheels: two (2) 19.50" x 6.00" steel disc, eight (8)-hole pattern steel disc wheels

Rear Axle and Suspension: 14,706# wide track rear axle, 14,706# suspension package, stabilizer bar, limited slip

Tires: four (4) 225/70R19.50 all weather type radial tires

Rear Wheels: four (4) 19.50" x 6.00" steel disc, eight (8)-hole pattern steel disc wheels

Braking System: four (4) wheel disc brake system with an Anti Lock (ABS)

Engine:

- Model: Power Stroke 6.7 turbo-charged diesel
- Number of Cylinders: Eight (8) "V" configuration
- Displacement: 6.7 liters
- Rated Brake Horsepower: 300 at 2800 rpm
- Rated Torque: 660 ft lbs
- Turbocharger

Cooling System: a coolant mixture protected to -30 degrees Fahrenheit

Exhaust System: horizontally mounted, discharge on right side aft of wheels

Fuel Tank: 40 gallon rear mounted, left side filler extension

Transmission: six speed automatic

Steering: power steering system

Batteries: two (2) 78 amp-hr 750CCA 12-volt batteries

Alternator: single 200 amp 12 volt

Cab Construction: XL Series four (4) door steel construction, sun visors, tinted glass, roof clearance lights, grab handles interior

Mirrors: black manually telescope fold-away in/out for view adjustment, power control

Cab Paint: single color, air bags front and air curtains side

Climate Controls: controls for heat, defroster, and air conditioning

Window and Door Controls: power

Air Bags: driver's and passenger's front, seat side, and side curtain

Cab Instruments: standard type, four (4) rocker switches

Drivers and Passenger Seat: 40/20/40 vinyl bucket type seats with three (3) point safety harness, center flip down seat back

Printed Manuals: one (1) printed chassis operation manual

Cab Accessories: AM/FM radio, two radio speakers and antenna

Customer Operated Regen System

Jack and Lug Wrench Set

Color: Ford Red

### **100046.1 - CHASSIS LIFT KIT**

A 6" Fabtech heavy duty, 4 link, off road suspension lift kit with heavy-duty off road shocks shall be installed on the 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.

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

### **100048.1 - FRONT AND REAR SUPER SINGLE TIRES AND WHEELS**

The front and rear tires will be 335/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "M", and match the rim rating. Wheels for the front and rear axles will be 20" x 11.00" steel disc, ten (10)-hole pattern special order for Military/Government off road application. The weight rating of the rims will be 6,750 each.

### **100053.1 - SPARE SUPER SINGLE TIRE AND WHEEL**

One (1) spare wheel and tire shall be 335/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "M", and match the rim rating. Wheel for the spare shall be 20" x 11.00" steel disc, ten (10)-hole pattern special order for Military/Government off road application. The weight rating of the rim will be 6,750 each.

### **100057.1 - SPARE TIRE MOUNT**

There shall be no spare tire mount

### **100062.1 - FRONT BUMPER**

The factory bumper shall be removed and replaced with a custom fabricated, heavy duty aluminum bumper and grille protection assembly. The bumper extension unit shall be brushed aluminum finish.

### **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**

A .250" aluminum skid plate will be installed from the bumper area extending below the bumper extension and chassis radiator area.

### **100111.1 - CAB STEPS**

The cab shall be equipped with painted black 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.

### **100076.1 - NO WINCH PROVIDED**

No winch will be provided with vehicle.

### **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 lbs.

### **100243.1 - FIRE PUMP SPECIFICATIONS**

A Hale HPX200-B18 fire pump shall be installed on the apparatus. The pump/engine shall perform to the standards of ISO 9 and NFPA 1906 low-pressure pump rating. Typical pump performance from 4 foot draft at sea level using a 2.5" suction line and a 2.5" discharge shall be.

240 GPM @ 10 PSI  
190 GPM @ 75 PSI  
150 GPM @ 100 PSI.  
60 GPM @ 150 PSI.

#### **Pump**

The pump body shall be made of alloy aluminum castings coupled together with a stainless steel band clamp with an O-ring seal which allows quick pump volute removal for servicing. The pump end shall be factory hydrostatically tested to 350 PSI for 10 minutes. The impeller shall be bronze. The renewable clearance rings shall be made of anodic plated bronze to inhibit galvanic corrosion. The impeller shall be 4.87 inches in diameter and designed with a sleeve back end to prevent water from coming in contact with the engine shaft. The pump shaft seal shall be an automatically adjusting, maintenance free, mechanical type. The pump body shall be equipped with a petcock drain valve.

#### **Engine**

The engine shall be a four cycle gasoline Briggs and Stratton Vanguard series V-Twin, overhead valve, air cooled design. Engine rating shall be 18 BHP at 4000. Engine displacement shall be 570cc and shall be designed to meet CARB (California Air Resources Board) standards. A 12-volt electric system shall be provided with electric starter and a 16 amp alternator. Recoil backup engine starting shall be provided. Engine shall be equipped with a residential muffler with USDA approved spark arrestor.

### **100423.1 - THERMAL RELIEF UNIT**

A Trident thermal relief valve shall be installed.

### **100272.1 - STAINLESS STEEL PLUMBING SYSTEM**

The auxiliary fire pump plumbing system shall be built completely 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.

### **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. An additional guard or wrapping around the exhaust pipe shall be installed where the pipe is exposed to touch by an operator.

### **100440.1 - MUFFLER AND EXHAUST PRIMER**

The pump shall be equipped with an exhaust venture primer of brass and stainless steel construction. The primer shall be capable of 20 inches of mercury vacuum. The primer shall be actuated with a spring return, single control lever located at the operator's panel. The primer to pump line shall be equipped with an automatic check valve for priming from an open body of water and a manual shut-off for pumping from a pressurized water source.

### **100418.1 - SECONDARY PUMP CONTROLS**

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

### **100268.1 - FUEL TANK**

A remote fuel tank shall be installed for the auxiliary fire pump assembly at the rear of the apparatus. The fuel tank shall be mounted in a bracket with detachable hold down device or strap. The fuel tank shall have capacity of approximately six (6) gallons. There shall be a fuel hose with plug in connections and primer bulb furnished between the fuel tank and carburetor assembly for 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 right side rear of the body. The sub-structure shall have welded in mounting sub-plates between the structural members. The pump shall be mounted on a di-electric surface under pump and bolts through the sub-plates.

### **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. The color coded label shall be installed near the control handle.

### **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. A nameplate label shall be installed next to the valve.

### **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 and nameplate label adjacent the valve control handle. 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 and nameplate label adjacent the valve control handle.

#### **100441.1 - FRONT OF BODY DISCHARGES**

A 1.5" discharge shall be piped from the rear pump area to the front on the body and split into two (2) 1" discharges. A 1.5" master control valve shall be installed at the rear pump manifold area with direct control handle and label.

The right and left sides of the front body area shall be equipped with two (2) manually operated 1" quarter turn ball valves for pre-connected 1" whip lines. The control valves shall be located at front of body (one each side) in walkway area of the body.

Two (2) 1" x 8 feet long 300# working pressure hose whips with threaded couplings shall be installed at front of body, one each side, with securement devices.

#### **100288.2 - 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 center of the rear flatbed body.

#### **100292.1 - REEL CAPACITY**

The hose reel shall have a capacity of 150 feet of hose.

#### **100295.1 - HOSE REEL DISCHARGE**

One (1) 1" discharge shall be piped from the fire pump to the hose reel with flexible high pressure hose. The quarter turn ball valve shall be controlled on pump panel. A nameplate label shall be provided near the valve control handle.

#### **100302.1 - NOZZLE MOUNT**

The specified hose reel nozzle shall be mounted with custom fabricated aluminum mounted locaton attached to specified hose reel.

#### **100297.1 - HOSE REEL HOSE**

One (1) 150' foot length of 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.

#### **100280.1 - MONITOR & GROUND SWEEP DISCHARGES -- FRONT BUMPER**

One (1) 1.5" front bumper ground sweep discharge piping shall be piped to the front bumper area. The discharge shall be controlled by an 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 monitor and sweep nozzles with automatic low point drains where necessary. The monitor shall be controlled by a 2" electric valve.

Two (2) ground sweep discharge nozzles shall be installed, one each side of the front bumper. Each nozzle shall have an 1" electric control valve, switched independently in the cab. The discharges shall be equipped with removable ground sweeps 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.

#### **100200.1 - WATER TANK SPECIFICATIONS**

The water tank shall have a capacity of 400 gallons.

#### **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 clear 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 left 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.

### **100214.1 - PUMP TO TANK CONNECTION**

A 1" connection shall be provided on the water tank for connection of the discharge side of the pump to the tank for filling purposes. The valves and hose required to complete this connection shall be supplied by the final assembler.

### **100216.1 - WATER TANK DRAIN PROVISIONS**

A 1.5" plugged drain provisions shall be installed in the bottom of the water tank, sump, or plumbing for water tank draining and flush-out of debris.

### **100223.2 - PERIMETER WALL AROUND TANK**

An 8" vertical poly wall shall be installed around the perimeter of the water tank to allow for storage on top of the water tank. A nylon mesh covering shall be installed to prevent items from coming out during transport.

### **100114.1 - STEP-SIDE BODY -- ALUMINUM**

The body will be a custom fabricated severe service step-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.

### **100122.1 - FLAT-BED SUB-STRUCTURE**

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.

### **100123.1 - FLAT-BED CROSS-MEMBER SUB-STRUCTURE**

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

### **100124.1 - FLAT-BED 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.

### **100120.1 - SQUARE CORNERS -- FLAT-BED**

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

### **100125.1 - 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.

### **100429.1 - WALKWAY**

The front of the body shall have a 24" front to rear by 96" right to left walkway in front of the water tank. The walkway shall allow access from side to side of the body to have a NFPA compliant walkway surface.

### **100127.1 - FUEL FILLER**

The fuel filler tube and cap shall be installed at the left hand side, rear of the body.



### **100128.1 - 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 polished aluminum tread plate. The wheel well openings will be cut out to conform to the wheels.

### **100430.1 - SIDE STEP CUBICLE**

An approximate 24" wide x 24" high x 20" deep cubicle shall be constructed of polished NFPA compliant aluminum tread plate on the driver's side and passenger's side in the front of the body.

### **100431.1 - HINGED SAFETY GATE ASSEMBLY**

The step-side cubicles on the driver's and passenger's side in the front of the body shall each be equipped with a swing in safety lock gate constructed out of 1" aluminum tubing. The gates shall be locked in the closed position by a locking pin and stop bracket and shall have a hydraulic cylinder to hold the gate either in the fully open or the fully closed position.

### **100129.1 - REAR BODY PANEL**

A vertical body panel shall be installed at the rear of the body constructed of .190" 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 30 degree angle of departure.

### **100131.1 - PROTECTIVE RAILS**

The upper body area shall be protected with radius corner 1" diameter aluminum tube railing assembly installed around the top of the step side flat-bed body. The corners of the body shall have vertical risers space in critical areas. The railings shall act a protection to 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.

### **100144.2 - DRIVER'S SIDE UPPER BODY COMPARTMENT**

A body equipment storage compartment shall be installed on the flatbed surface, right side of the apparatus. The dimensions shall be approximately 72" wide, 30" high, and 18" deep. The compartment shall be constructed of .125" aluminum tread plate 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.

### **100148.3 - PASSENGER'S SIDE UPPER BODY COMPARTMENT**

A body equipment storage compartment shall be installed on the flatbed surface, left side of the apparatus. The dimensions shall be approximately 72" wide, 30" high, and 18" deep. The compartment shall be constructed of .125" aluminum tread plate 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 compartment shall be designed to hold two (2) SCBA's and two (2) SCBA spare bottles.

### **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 dimensions shall be approximately: 33" wide, 5" high, and 96" front to rear. The compartment shall be for by 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.

### **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. The tray shall be full width and full length of the compartment interior.

### **100132.1 - TAILBOARD**

A compliant NFPA aluminum diamond plate 8" deep by 96" wide tailboard shall be installed at the rear of the body. Step shall act as a stepping surface for access to the rear of the vehicle. The step shall not designed or used for riding when the vehicle is in motion.

### **100160.1 - INTERIOR COMPARTMENT VENTILATION LOUVERS**

The interior of the specified compartments shall be provided with louvered ventilation units.

### **100161.1 - COMPARTMENT DOOR KEY LOCKS**

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

### **100162.1 - COMPARTMENT LIGHTING, LED**

Two (2) compartments shall be each be equipped with one (1) Grote 61E41, 4" diameter rubber mounted LED light.

### **100163.1 - AUTOMATIC COMPARTMENT DOOR LIGHT SWITCHES**

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

### **100164.1 - DOOR OPEN LIGHT**

A "door open" or equipment operation warning light shall be installed on cab dash. The light shall be flashing LED light with a red lens.

### **100168.1 - HOSE TRAY -- LEFT SIDE**

A hose storage tray shall be installed over the left side equipment compartment, on the left side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 60" long. The hose tray shall be constructed entirely of .125" aluminum tread plate on all exterior surfaces. The assembly shall be equipped with a hinged lift up aluminum tread plate door on top, enclosed front panel, and open rear area. The hose tray shall be equipped with Turtle Tile floor covering.

### **100382.2 - TOOL STORAGE TRAY/COMPARTMENT - RIGHT SIDE**

A tool storage compartment shall be installed over the right side equipment compartment, on the left side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 72" long. The compartment shall be constructed of .125" aluminum tread plate on all exterior surfaces. The compartment shall be equipped with an open top with nylon mesh covering. The compartment shall be equipped with Turtle Tile floor covering.

### **100180.1 - REAR PULL OUT STEP**

There shall be a rear "Pull-Out-Fold-Down" step located at the 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 left side of the body. The step shall be equipped with lighting to NFPA standard.

### **100325.1 - ELECTRICAL ENCLOSURE**

An electric wiring enclosure for the 12 volt wiring shall be installed in the forward wall of the right side compartment with a removable panel. The dimensions of the enclosures shall be approximately 20" high, 18" 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 and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. 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 with mechanical type fasteners and rubber grommets

Wiring between cab and body shall be split using Deutsche type 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.

Warning lights shall be switched in the chassis cab with labeled rocker type switches located in an accessible location. Individual rocker switches shall be provided only for warning lights provided exceeding the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be appropriately identified as to their function and mounted on a switch panel mounted in the cab convenient to the operator. For easy nighttime operation, an integral indicator light shall be provided to indicate when a circuit is energized.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency "calling for the right of way". When the parking brake is activated, a "blocking the right of way" system shall be automatically activated per NFPA requirements. "Clear" warning lights shall be automatically shed on actuation of parking brake.

### **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 - 120 VOLT SHORE POWER RECEPTACLE**

A Kussmaul model 091-55-20-120 20 amp "auto-eject" shore power receptacle shall be provided with hinged weatherproof cover and an enclosure for protection from dirt and damage. The shore power plug shall be "ejected" when the chassis's 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.

### **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 light-heads configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The light-heads shall be surface mountable via two screws.

The light-heads shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination. The light-head shall include 164 flash patterns including: a variety of CA Title 13 compliant, sinkable, left/right, top/bottom, in/out, and steady burn. The light-heads 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 pigtails, 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.

#### **100067.1 - NO HID LIGHTS**

No HID off road lights shall be installed.

#### **100070.1 - NO BUMPER GROUND LIGHTS**

There shall be no under bumper ground lights installed.

#### **100073.1 - GROUND LIGHTS - CAB**

Two (2) Grote #61E41 LED ground lights shall be installed under the cab step area in compliance with NFPA standards.

#### **100182.1 - GROUND LIGHTS - UNDER REAR STEP**

Two (2) Grote #61E41 LED ground lights shall be installed under the rear step area, one on each side of the apparatus, wired to parking brake circuit.

#### **100184.1 - WORK LIGHTS**

Four (4) Grote #61E41 LED step lights with clear lens shall be installed, wired to switch on the cab dash. Location shall be: in each corner of the protective tubing assembly to light the pump panel and the front body walkway area.

#### **100433.1 - SCENE LIGHTS**

Two (2) Whelen Model PFP1 Pioneer scene lights shall be installed. The flood-type scene lights shall be 75 watts 12 volts. The lights shall incorporate clear 3/16" LED's with a clear optic polycarbonate lens for maximum illumination.

Location shall be: front bumper

#### **100099.1 - RADIO INSTALLATION**

One (1) fire radio shall be supplied by the purchaser to be installed.

#### **100324.1 - BACK-UP ALARM**

One (1) Buyers #BA107 back up alarm shall be installed.

#### **100312.1 - ELECTRONIC SIREN**

One (1) Whelen, Model #CCSRN3 CENCOM siren and twenty-one (21) auxiliary switches with noise canceling microphone shall be provided. Siren head will be mounted low on the front dash 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 bumper.

#### **100310.1 - MOUNTING OF LIGHT BAR WITH PROTECTIVE GUARD**

The cab bar light shall be mounted on the headache bar shelf with an aluminum brush guard protective guard 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 lighthoods. 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" included.

The lightbars 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 #M7R 3" x 7" warning lights and a chrome flange 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 lighthoods configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lighthoods shall be surface mountable via two screws. The lighthoods 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 #M7R 3" x 7" warning lights and a M6FC chrome flange shall be installed on bumper extension, as far forward as possible. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light-heads configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

#### **ZONE B AND D -- LOWER REAR CORNER WARNING LIGHTS**

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a 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 lighthoods configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

#### **ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS**

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a M6FC chrome flange shall be installed in the upper rear body side panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthoods configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

#### **ZONE B AND D -- UPPER REAR WARNING LIGHTS**

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a chrome flange shall be installed in the upper rear corner of the handrails. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthoods configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

#### **ZONE C -- LOWER REAR WARNING LIGHTS**

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a chrome flange shall be lower rear of body. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthoods configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

### **023720.2 - TRAFFIC ADVISOR, REAR**

A Whelen Model #TAM85, traffic advisor shall be installed rear of body. The 47" traffic advisor shall have eight (8) amber LED lighthoods with amber optic polycarbonate lenses for maximum light spread. The lighthoods shall be fully encapsulated to protect against moisture and vibration.

The lights shall be mounted within an extruded aluminum housing with a black powder coat finish. The traffic advisor shall include a remote control head, which shall operate the unit. The control head shall have a LED direction indicator and shall be back lit for greater visibility.

The traffic advisor functions shall include: right, left, split, and flash.

### **100335.1 - CUSTOM GRAPHICS**

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 to installation.

### **100338.1 - REFLECTIVE STRIPING**

The sides of the vehicle shall be provided with a 1" x 4" x 1" wide 3M brand Scotchlite reflective multi-stripe. There shall be a 1" gap between each of the stripes. The striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 50% of the perimeter length of each side shall have reflective striping.

### **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 striping 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 striping 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

### **100040.1 - CHASSIS PREPARATION**

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

- a) Wash and clean chassis
- b) Weight 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. On completion, the apparatus shall be totally ready for final inspection and road testing as required by the general requirement section for this specified vehicle.

### **100361.1 - FIRE PUMP TEST**

The fire pump shall undergo factory fire pump run-in tests for a minimum of 2 hours prior to delivery of the completed apparatus. The factory pump testing results shall be furnished on delivery.

### **100362.1 - ELECTRICAL LOAD ANALYSIS**

A 12 volt electrical load analysis shall be provided to denote response and stationary modes of electrical amp load.

### **100363.1 - COMPLIANCE**

The fire apparatus shall be built to the purchaser's requirements in compliance to all State, Local, and Federal highway safety requirements. The vehicle is not intended to meet any or all standards of the NFPA.

### **100364.1 - FACTORY FIRE PUMP TEST**

The pump shall undergo an full in factory fire pump test, which shall be witnessed and certified test by the factory engineer, prior to delivery of the completed apparatus. The factory test acceptance certificate shall be furnished with the apparatus on delivery.

### **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. Skeeter Brush Trucks is a subsidiary of Siddons/Martin Emergency Group, a Pierce Platinum Dealer, which has 13 service centers between Texas, Louisiana, and New Mexico. In the event the apparatus is deployed outside of its normal area of operational, warranty and service can be performed at any Siddons-Martin facility at the discretion of the fire department. For warranty issues please contact your local Siddons-Martin or Skeeter Brush Truck service center and request warranty from the service advisor at that location.

### **100368.1 - FIRE PUMP WARRANTY**

Hale Products, Inc., herein referred to as "Hale", warrants products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of three years (3). This limited warranty is effective only if the equipment or apparatus is used as directed, is not subjected to misuse, negligence or accident, and is not altered, treated or repaired by someone other than Hale or its designee. Items not manufactured by Hale shall bear only the limited warranties offered by their respective manufacturers.

The exclusive remedy for breach of this warranty shall be to give Hale written notice thereof and to request a Returned Goods Authorization. Upon receipt of the Returned Goods Authorization, the buyer will return the non-conforming material to Hale F.O.B. its plant within thirty days after the buyer has received the Returned Goods Authorization. Thereupon Hale at its own election shall repair or replace the same or repay the price thereof. No proximate, incidental, consequential or other damages shall be recoverable. Hale shall not be liable for consequential damages or contingent liabilities including; but not limited to, loss of life, personal injury, loss of crops, loss due to fire or water property damage, and consequential trade or other commercial loss arising out of the failure of Manufacturer's product.

HALE MAKES NO WARRANTIES OF FREEDOM FROM PATENT INFRINGEMENT, OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE OR ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE OR OTHER LIKE OR DIFFERENT

EXPRESS OR IMPLIED WARRANTIES EXCEPT AS MADE ABOVE. [More](#)

**100369.1 - WATER TANK WARRANTY**

MANUFACTURE LIMITED WARRANTY AND NOTICE OF DISCLAIMER OF EXPRESS AND IMPLIED WARRANTIES

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

Manufactures specific warranty will be issued at pre-construction meeting.

**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.

**100353.1 - TERMS OF PAYMENT AND PREPAYMENT PROVISIONS**

Terms of payment for the specified vehicle shall be only cash 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 included operation of chassis, major components, review of delivery information and documentation. This demonstration shall be completed at Skeeter Brush Trucks factory location in Kirby, Texas.

**100358.1 - DELIVERY REQUIREMENTS**

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