Specification for:

NWCG Type 5 Wildland Engine
Freightliner 108SD 2 Door, Diesel, 6x6
Flat Bed Body, Alum, 168

Submitted To:

Darwin Chenault, Fire Chief
Floyd Fire Department
1544 NM-267 Floyd, NM 88118

Specification **2731**, Job No. **14406**
November 20, 2018

Prepared by:

James Salas
Skeeter Brush Trucks

Proposal

We are pleased to submit the following specifications to you for a **6x6 Freightliner Water Tender** 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: Grey
6. Body Color: Polished Aluminum
7. Cab Steps: Black Bed Liner

203841.2 - CHASSIS SPECIFICATIONS

One (1) Freightliner 108SD Series two (2) door cab and chassis

GVWR: 51,000#

Frame: Steel channel type, reinforced, with C channel inner liner reinforcement, 11/32 x 3-1/2 x 10-15/16, 120KSI, 1/4 INCH C-Channel Inner Frame Reinforcement.

Wheelbase: 213" Cab to Axle: 100.2"

Front Bumper: Factory Omit

Tow Hooks: front

Front Axle: Meritor MX-14-120, 14,000#, w/heavy duty front shocks

Front Suspension: 14,600#

Front Tires: Two (2) 385/65R22.5 Michelin XZY-3 18 Ply All Terrain

Front Wheels: Two (2) Steel Accuride 29807 22.5 x 12.25" 10 Hub Pilot 4.75 Inset, 5 Hand Disc

Mud Flaps: front mud flaps

Rear Axle: Meritor MT-40-14X, 40,000# R Series Dual Trac 74-77 inch intermediate track tandem axle

Rear Suspension: Tuftrac 40,000# rear springs

Rear Tires: four (4) 385/65R22.5 385/65R22.5 Michelin XZY-3 18 Ply All Terrain

Rear Wheels: four (4) Steel Accuride 29805 22.5 x 12.25" 10 Hub Pilot .0.63 Outset, 5 hand

Ratio: Top speed 70 mph

Air Brake System: equipped with air-operated brakes and an anti-lock braking system (ABS), air dryer, manual air drains

Engine: Cummins L9 400EV HP @ 2100 RPM; 2200 GOV RPM, 1250 LB/FT @ 1400 RPM, RV/FIRE/EM

Engine Exhaust Brake: exhaust brake

Cooling System: -30 degrees Fahrenheit

Exhaust System: Passenger's side, under step mounted horizontal aftertreatment system assembly with B pillar mounted vertical tailpipe.

Fuel Tank: 50 Gallon Short Rectangular Aluminum Tank, Left Side

DEF Tank: 6 gallon, Driver's side

Fuel Filter: fuel/water with dash mounted alarm, indicator light

Transmission: Allison EVS 3000 w/PTO provision

Transfer Case: Meritor MTC 4213X 2 speed

Steering: Power

Batteries: Two (2) Group 31 Alliance Model 1231, 2250 CCA 12-volt batteries

Alternator: 275 Amp, 12 Volt, 40-SI Brushless Pad

Cab: Two door, with tilting fiberglass front hood assembly

Cab accessories and features shall include:
1) Tinted glass in all windows
2) Amber DOT edge of roof clearance/marker lights
3) Gray interior trim with cloth 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 air horns
11) Halogen headlights
12) Front turn signal lamps

Cab Paint: single color

Climate Control: heater, defroster, and air conditioning

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

Cab Instruments: standard metric instruments

Driver's Seat: individual bucket style seat with air suspension and three (3) point safety harness

Passenger Seat: individual bucket style with mechanical suspension seat and three (3) point safety harness

Printed Manuals: one (1) printed chassis operation manual

100445.1 - 24" BUMPER PLATFORM

There shall be a 12" polished aluminum diamond plate from the OEM grill to rear of the bumper extension and it shall be properly supported to hold up to 250lbs.

NOTE: This is NOT intended for personnel use while vehicle is in motion.

100447.2 - BUMPER HOSE COMPARTMENT - CENTER (WITHOUT LID)

The front center of the bumper extension shall be equipped with aluminum hose storage compartment with a capacity of 50 feet of 1-1/2" hose and nozzle. The floor of the compartment shall have plastic grating and drain holes installed. The compartment shall be equipped with a nylon safety strap and latch to comply with applicable NFPA standards. Compartment shall be built into the bumper, with the top of the compartment being flush with the bumper platform.

Special: James Webb changed component. 11/01/2018 09:50

100053.6 - SPARE SUPER SINGLE TIRE AND WHEEL

There shall be one (1) super single spare tire. It shall be 385/65R22.5 Michelin XZY-3 18 Ply All TerrainPLY RADIAL, severe service radial all terrain tread.

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.

100062.1 - FRONT BUMPER
The factory bumper shall be removed and replaced with a custom fabricated, heavy duty aluminum bumper and grille guard protection assembly.

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.

100064.1 - FRONT BUMPER SKID PLATE
A .3125" skid plate will be installed from the bumper area extending below the bumper extension and chassis radiator area.

100109.1 - NO-CAB STEPS INSTALLED
There shall be NO cab steps installed on the chassis.

100085.1 - CUSTOM FABRICATED CONSOLE AND SWITCH PANEL
A custom fabricated aluminum 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.

Special: James Webb changed component. 12/29/2017 13:14

100543.3 - 12 VOLT POWER SOURCES
Two (2) 12 volt plug-in utility power outlets rated at 15 amps shall be provided in cab.

LOCATIONS: Rear of console face plate, one each side. See drawing.

Special: James Webb changed component. 03/01/2018 08:29

100075.1 - FRONT RECEIVER
The front of the chassis shall be equipped with one (1) square steel tube receiver assembly for high or low angle rescue or winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame and bumper extension assembly. The receiver shall be rated at approximately 10,000#.

100432.2 - FIRE PUMP SPECIFICATIONS
The pump shall be a CET PFP-25HP-DSL-MR single stage centrifugal pump, bolted directly to the diesel engine, with a 2.5" NPT suction inlet, and a 1.5" NPT discharge outlet. The volute and pump head shall be a lightweight, high strength, seawater resistant, aluminum alloy. The impeller shall be a bronze enclosed type for maximum efficiency, fully machined and balanced. The engine crankshaft shall serve as the pump shaft, with the impeller mounted directly on the crankshaft. The shaft seal shall be self-adjusting, self lubricating, mechanical type.
The pump piping shall be flexible to prevent any breakage caused by vibration.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 as follows:

270 GPM @ 25 PSI
175 GPM @ 100 PSI
110 GPM @ 150 PSI.
60 GPM @ 175 PSI.

The pump piping shall be flexible to prevent any breakage caused by vibration.
The pump shall have an aluminum housing with a bronze impeller. It shall have a mechanical shaft seal, and the exhaust primer shall be capable of a 20' draft.

The pump shall be driven by a 4-stroke Kubota, 21 hp @ 3,600 rpm, 3 cylinder, diesel engine. The engine shall be water cooled, 12 volt electric start.
A control panel shall be supplied and installed on the pump. The controls shall consist of a master switch, key start and a 2.5" diameter discharge pressure gauge.
The pump engine shall be equipped with an electric type primer capable of 15' - 20' lift for fast positive priming.

Special: James Webb changed component. 08/31/2018 16:05

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.

100307.1 - PRIMER ASSEMBLY

There shall be an electric oil less primer assembly installed for the auxiliary fire pump. The electric primer assembly shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose of appropriate size. A vacuum test with a capped suction of at least 20' long shall develop 22" of vacuum and hold a vacuum with a drop not in excess of 10" in 5 minutes. Priming pump shall be activated by a mechanical/electric valve with a single pull control located at the pump operator's panel area.

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 tread plate. 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

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

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.

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.

100284.1 - TANK TO PUMP LINE INSTALLATION
The 3" tank to pump line shall be installed with a flexible hump hose connection and stainless steel clamps to the water tank. The 3" 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.

100276.1 - 1-1/2" DISCHARGE -- REAR
One (1) 1-1/2" discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have 1-1/2" NPT x 1-1/2" NH male hose threads and cap.

100522.2 - 1.5" FRONT BUMPER DISCHARGE - DRIVER'S SIDE
One (1) 1.5" discharge shall be piped to the front bumper area, located on the right side area. The discharge shall be piped with flexible 1.5" hose. The outlet shall terminate with stainless steel or chrome plated brass chicksan swivel outlet with 1.5" NH male threads.

A 1.5" manually operated Akron T handle ball valve shall be installed at the bumper area.

An additional front bumper 1.5" 1/4 turn discharge valve shall be installed on the rear manifold.

There shall be a hose tray installed in the bumper extension skirt that will hold 100' of 1.5" hose. The compartment top shall be flush with the bumper deck.

Special: James Webb changed component. 11/01/2018 09:55

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.

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 â€œIntelli-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.

Special: James Webb changed component. 03/01/2018 08:20

100564.1 - WATER TANK SPECIFICATIONS

The water tank shall have a capacity of 1,500 gallons.

100203.1 - TANK BUILD SPEC

The water tank shall be constructed of black polypropylene, nitrogen-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 cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers 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.

100215.1 - PUMP TO TANK CONNECTION

An 1-1/2" 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 provision shall be installed in the bottom of the water tank, sump, or plumbing for water tank draining and flush-out of debris.

100584.1 - FLAT-BED BODY -- ALUMINUM

The body shall be a custom fabricated, severe service flatbed type, constructed of all aluminum. The body shall be 168" long by 100" wide. The body shall be specifically designed for firefighting use.

FLAT-BED SUB-STRUCTURE
The body shall have 8" x 1.75" structural aluminum channel main frame rails. The body frame rails shall be isolated from the truck frame by .500" industrial isolators.

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.

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.

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 left hand 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 polished aluminum tread plate. 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 .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.

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.

203453.1 - DRIVERS 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 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 actual door opening shall be approximately 3" smaller in dimension.

100159.3 - 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

Two dividers shall be installed on the D/S for hard suction. Remaining area shall be for slide out tray.
Special: James Webb changed component. 03/01/2018 08:22

100166.2 - 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.
Special: James Webb changed component. 10/04/2018 12:42

212798.4 - 2000 GALLON PORTA TANK BRACKETS
There shall be a 2000 Gallon "Porta Tank" holder on the passenger side of the tank.

100160.1 - INTERIOR COMPARTMENT VENTILATION LOUVERS
Compartments shall be provided with louvered ventilation units.

100720.1 - COMPARTMENT LIGHTING, STRIP LIGHTS
Each upper body compartment shall be equipped with a white LED strip light.

100163.1 - AUTOMATIC COMPARTMENT DOOR LIGHT SWITCHES
Each exterior 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.

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.

100454.2 - RECESSED/POCKET STEPS, FRONT OF BODY

There shall be one (1) body access pocket steps located at the front of the body, on the passenger's side. They shall be installed forward the rear wheel opening.

Special: James Webb changed component. 03/01/2018 08:28

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 AND120 VOLT SHORE POWER RECEPTACLE

A Kussmaul Autocharge 1000 model #091-215-12-194B, 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 a 091-194-IND Digital Status Display Center.

It shall also include a 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.

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 lighthead configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lightheads shall be surface mountable via two screws.

The lightheads 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 lightheads 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.

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.

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, one (1) on each side of the apparatus, wired to a switch in the cab.

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.

100184.1 - WORK LIGHTS
Four (4) Grote #61E41 LED step lights with clear lens shall be installed, wired to switch on the Cencom. Location shall be: in each corner of the protective tubing assembly to light the pump panel and the front body walkway area.

100322.1 - SCENE LIGHTS
Six (6) Rigid Manufacturing Dually 20211 scene lights shall be installed. The LED scene lights shall incorporate clear LEDs with a clear optic polycarbonate lens for maximum illumination.

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

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 on the center console in easy reach of the driver.

100314.1 - SIREN SPEAKERS
Two (2) Whelen Model #SA314P, Projector Series siren speakers shall be provided with bracket. The 100 watt siren speakers 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 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 lightheads. 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.

100316.1 - NFPA WARNING LIGHTS

ZONE A -- LOWER FRONT WARNING LIGHTS
Two (2) Whelen M-6 Series 4" x 6" warning lights shall be installed in the lower front area of the cab. The warning lights shall incorporate Linear-Super LED and Smart LED technology. Each lighthead shall have six (6) red Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread. Each lighthead assembly shall have internal flasher, eleven (11) Scan-Lock flash patterns, including steady burn and synchronize power functions. The lightheads shall have a conformal coated circuit board for moisture protection. The lights shall be mounted in a chrome plastic flange bezel assembly.

ZONE B AND D -- INTERSECTION LIGHTS
Two (2) Whelen M-6 Series 4" x 6" warning lights shall be installed. The warning lights shall be installed in lower front bumper or cab fenders, one (1) each side, as far forward as possible. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lighthead shall have six (6) red Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread. The lighthead assembly shall have internal flasher, eleven (11) Scan-Lock flash patterns, including steady burn and synchronize power functions.

ZONE B AND D -- LOWER REAR CORNER WARNING LIGHTS
Two (2) Whelen M-6 Series 4" x 6" warning lights shall be installed. The warning lights shall be located one (1) each side lower rear body corner, as far rearward as possible. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lightheads shall have six (6) red Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS
Two (2) Whelen M-6 Series Model #M6R 4" x 6" warning lights and a chrome flange shall be upper rear body side panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads 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-6 Series Model #M6R 4" x 6" warning lights and a chrome flange shall be installed in the upper rear body panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

ZONE C -- LOWER REAR WARNING LIGHTS
Two (2) Whelen M-6 Series 4" x 6" warning lights shall be installed. The warning lights shall be located one (1) each side, rear lower area of body. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lightheads shall have six (6) red Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

100638.1 - HEADLIGHT FLASHER

A Whelen UHF2150A alternating headlight flasher system shall be installed.

100332.1 - CAB REFLECTIVE LETTERING

The cab lettering shall be Scotchlite reflective material, shaded in black. A quantity of up to fifty (50) three inch (3") letters shall be installed as directed by Fire Department.

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.

100341.1 - WARNING LETTERING: "KEEP BACK 500 FEET"

The rear of the vehicle shall be equipped with a 3" reflective "KEEP BACK 500 FEET" sign. The sign shall have reflective lettering and shall be installed as directed by the purchaser.

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:

red
lime yellow

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:

red
lime yellow

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

100350.1 - SPANNER AND HYDRANT WRENCH SET WITH MOUNTING BRACKET

One (1) Kocheck lightweight spanner wrench holder shall be installed. The bracket shall hold one (1) hydrant wrench and two (2) universal spanners. It shall be mounted on the rear vertical exterior panel of the driver's side compartment.

100707.1 - CET PUMP WARRANTY

General Warranty CET warrants to the original purchaser that CET will, at its election, either replace or repair any part of the new equipment sold to the purchaser hereunder which has been given no abnormal use; and which has received proper maintenance; and which is determined by CET to be defective in material or workmanship; and which has, within two (2) year after delivery to the purchaser be returned at the purchaser's expense, with transportation charges prepaid, to CET factory OR which has, within two (2) year after delivery to the purchaser, been pre-approved by CET for a third-party to perform the work. All problems shall be reported to CET in writing and damaged parts shall be returned to CET. Exclusions from warranty: 1. CET incurs no liability under this warranty or otherwise for parts, accessories or components not manufactured by it, but purchased for assembly into the equipment, but CET will assign to the Purchaser whatever warranty rights are extended by the supplier of such part, accessory or component 2. CET incurs no liability under this warranty or otherwise, for equipment which has been abused, altered or improperly maintained, or for equipment which has been returned for inspection or repair more than ten (10) days after defect complained of has been or should have been discovered by the Purchaser, or Equipment which is operated after the defect has been discovered. 3. CET incurs no liability for alteration or repairs unless the Purchaser first receives CET / written consent or approval. CET will not be responsible for work or repairs made or done by others. 4. CET incurs no liability for design alterations, parts, accessories or components which are not standard but are specified by the Purchaser for incorporation into the equipment. CET shall not be liable for transportation charges either in shipment to or by it and shall not be liable for loss of use, or consequential damage of any kind in connection with the sales, alteration, repair or replacement of any equipment or part thereof. Liability under this warranty is limited to replacement or repair and in any event shall not exceed the purchase price paid. This warranty is not transferable by the Purchaser. CET reserves the right to make changes in design or add any improvements to the Equipment at any time without incurring any obligation to install or modify same on other equipment previously supplied. There are no other warranties, conditions or representations, expressed or implied, except the above. CET Water Tank Warranty Limited Lifetime CET Fire Pumps, Mfg. warrants each CET water and/or foam tank to be from manufacturing defects in material and workmanship for the service life of the original vehicle. Every CET tank shall be thoroughly inspected and tested for leaks before leaving our facility and must be installed in accordance with the CET Fire Pumps, Mfg. installation guidelines. CET will repair or, at its option, replace the tank with a new tank. CET will cover customary and reasonable costs to remove and install the tank. This warranty will not cover the tanks that have been improperly installed, misused, or abused. The serial number must not have been altered, defaced or removed. CET will not cover any unauthorized third party repairs or alterations. Any of these actions may void the warranty. There are no warranties, expressed or implied, which extend beyond the description of the face, hereof. There is no express or implied warranty of merchantability or a warranty of fitness for a particular purpose. Additionally, this warranty is in lieu of all other obligations or liabilities on the part of CET Fire Pumps, Mfg. This warranty contains the entire warranty. It is the sole warranty and price agreements or representation,

whether oral or written, are either merged herein or expressly canceled. CET Fire Pumps, Mfg. neither authorizes any person supposing to act on its behalf to change, nor assume for it, any warranty or liability concerning its product. In no event will CET Fire Pumps, Mfg. be liable for an amount in excess of the currently published retail price plus installation and removal cost of the tank, for any loss or damage, whether direct or indirect, incidental, consequential, or otherwise arising out of failure of its product. This warranty gives you the specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion or limitation of incidental or consequential damage, so the above limitation or exclusion may not apply to you. Since some states do not allow limitations on the length of an implied warranty, the above limitation may not apply to you. The warranty is transferable within the United States and Canada at the discretion of CET Fire Pumps, Mfg. by notifying CET Fire Pumps, Mfg. within thirty (30) days of the vehicle transfer date. At that time, CET will, at it discretion, provide a transfer of ownership form. Manufacturer's discretion Materials, parts, or procedures used are subject to change at manufacturer's discretion at any time to provide equal or better products.

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.

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 - 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.

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 operation, 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.

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.

100352.1 - PRE-CONSTRUCT CONFERENCE

A pre-construction conference shall be held at Skeeter Brush Trucks in Kirby, Texas. It shall review and clarify aspects of apparatus components and construction. It shall be attended by representatives of the purchasing department and Skeeter Brush Trucks.

100651.1 - DRAWINGS

There shall be design drawings submitted to the customer prior to the pre-construct conference. The 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.

100359.1 - DELIVERY, DRIVEN

The completed apparatus shall be driven to the purchasers location under its own power.