

Pittsburg County, Oklahoma
COUNTY PURCHASING OFFICE
 Pittsburg County Court House
 McAlester, Oklahoma
 Phone: (918) 423-4934

INVITATION TO BID

PLEASE REVIEW TERMS AND CONDITIONS ON REVERSE
 SIDE RELATING TO SUBMISSION OF THIS BID.

Notarized Affidavit completions and signature required on reverse side.

DATE ISSUED

19-Aug-24

PAGE 1 OF

BID NUMBER BID # 1	BID CLOSING DATE AND HOUR August 30th, 2024 @ 4:00 PM	REQUIRED DELIVERY DATE Days after award of Purchase Order
TERMS:		DATE OF DELIVERY:

Item	Quantity	Unit of issue	DESCRIPTION	Unit Price	Total
			<p>Pittsburg County wishes to advertise for the following:</p> <p>One(1), Quick Attack, Wildlands Fire Fighting Apparatus</p> <p>SEE SPECIFICATIONS ATTACHED</p> <p><u>IF BID IS NOT RETURNED IN THE ENCLOSED ENVELOPE OR IS PLACED IN A FEDEX, UPS OR USPS SHIPPING ENVELOPE, PLEASE MARK ON THE OUTSIDE OF THE ENVELOPE "SEALED BID" & BID NUMBER</u></p>		

TERMS AND CONDITIONS

1. Sealed bids will be opened in the Commissioner's Conference Room, Pittsburg County Courthouse, McAlester, Oklahoma, at the time and date shown on the invitation to bid form.
2. Late bids will not be considered. Bids must be received in sealed envelopes (one to an envelope) with bid number and closing date written on the outside of the envelope.
3. Unit prices will be guaranteed correct by the bidder.
4. Firm prices will be F.O.B. destination.
5. Purchases by Pittsburg County, Oklahoma, are not subject to state or federal taxes.
6. This bid is submitted as a legal offer and any bid when accepted by the County constitutes a firm contract.
7. Oklahoma laws require each bidder submitting a bid to a county for goods or services to furnish a notarized sworn statement of non-collusion. A form is supplied below.
8. Bids will be firm until delivered.

(DATE)

6.1291E+19

AFFIDAVIT: I, the undersigned, of lawful age, being first duly sworn on oath say that he (she) is the agent authorized by the bidder to submit the above bid. Affiant further states that the bidder has not been a party to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any state official or employee as to quantity; quality or price in the prospective contract or any other terms of said prospective contract; or in any discussions between bidders and any state official concerning exchange of money or other thing of value for special consideration in the letting of a contract; that the bidder/contractor has not paid, given or donated or agreed to pay, give or donate to any officer or employee of the State of Oklahoma (or other entity) any money or other thing of value, either directly or indirectly in the procuring of the award of a contract pursuant to this bid.

Subscribed and sworn before this _____ day
of _____ 20_____ (seal)

Firm: _____

My commission expires _____ Signed by: _____ Title: _____
(MANUAL SIGNATURE OF UNDERSIGNED)

NOTARY PUBLIC (CLERK OR JUDGE)

Address: _____ Phone: _____

City: _____ State _____

Zip _____

NOTE: Other terms and conditions can be added at the discretion of the county officers.

RESOLUTION

25-038

To Advertise

The Board of County Commissioners, Pittsburg County, met in regular session on Monday, August 19, 2024.

WHEREAS, Pittsburg County wishes to advertise for the following for Arrowhead Estates Fire Department:

One (1), Quick Attack, Wildlands Fire Fighting Apparatus

A bid package containing complete specifications and an "Invitation to Bid" are available at the Pittsburg County Clerk's Office, 115 E. Carl Albert Pkwy, Room 103, McAlester, Oklahoma 74501 or online at pittsburg.okcounties.org

THEREFORE, each competitive bid submitted to the County must be accompanied with an affidavit for filing with the competitive bid form, as required by Oklahoma Statute, Title 19 O.S. § 1501.

Sealed bids will be received and filed with the Pittsburg County Clerk until Friday, August 30, 2024 at 4:00 p.m. All bids received after 4:00 p.m. on Friday, August 30, 2024 WILL NOT BE OPENED. Bids will be opened on Tuesday, September 3, 2024 at 10:00 a.m. in the Board of County Commissioners Conference Room, 115 E. Carl Albert Pkwy, McAlester, Oklahoma. The Board of County Commissioners, Pittsburg County, reserves the right to reject any and all bids and re-advertise.

BOARD OF COUNTY COMMISSIONERS
PITTSBURG COUNTY, OKLAHOMA

ATTEST:

CHAIRMAN



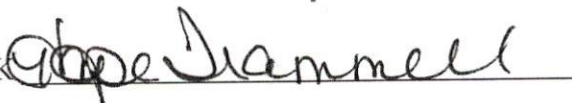
VICE-CHAIRMAN



MEMBER



COUNTY CLERK



25-038

SPECIFICATIONS
FOR
**ARROWHEAD ESTATES
FIRE DEPARTMENT**

FOR A
Quick Attack

Wildlands Fire Fighting Apparatus

Minimum Specifications for a Wildlands Fire Fighting Apparatus
(Any Mention of a specific brand name – shall be or equivalent)

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Intent of Specifications:

It is the intent of these specifications to clearly describe the furnishing and delivery to the Purchaser, a complete apparatus equipped as specified. The primary objective of these specifications is to obtain the most acceptable apparatus for service in the Fire Department. These specifications cover specific requirements as to the type of construction and tests the apparatus must conform, together with certain details as to finish, material preferences, equipment, and appliances with which the successful bidder must conform.

The design of the apparatus must embody the latest approved automotive design practices. The workmanship must be of the highest quality in its respective field. Special consideration shall be given to service access to areas needing periodic maintenance, ease of operation, and symmetrical proportions. Construction must be heavy-duty and ample safety factors must be provided to carry loads as specified. The construction method employed will be in such a manner as to allow ready removal of any component for service or repair.

The apparatus shall conform to the National Fire Protection Association Standard for Automotive Fire Apparatus, number 1901 and the National Fire Protection Association Standard for Wildland Fire Apparatus, number 1906, in its most recent edition, unless otherwise specified in this document. Only the specified firefighting support equipment listed in these specifications shall be provided.

The apparatus shall further conform to all Federal Motor Vehicle Safety Standards. **NO EXCEPTION.**

Each bidder shall furnish satisfactory evidence of their ability to design, engineer, and construct the apparatus specified and shall state the location of the factory producing the apparatus. They shall also substantiate they are able to render prompt and proper service and to furnish replacement parts for the apparatus.

Bids will be addressed and submitted in accordance with the instructions provided on the cover sheet. The bid number, the date, and bid opening time shall be stated on the front of the bid envelope.

It shall be the responsibility of the bidder to assure that their proposal arrives at the location and time indicated. Late proposals, telegrams, facsimile, or telephone bids will not be considered. **NO EXCEPTION.**

All bidders are required to detail the payment terms for apparatus on the bidder's proposal page. Any required prepayments or progress payments must be explained in detail.

Service and Warranty Support:

To ensure full service after delivery, the bidder must be capable of providing service when required. The bidder shall show that the company is in position to render prompt service and furnish replacement parts. Each bidder must be able to display that they are actively in the fire apparatus service business by operating an authorized service center and shall stock parts. No Exceptions.

Detailed information shall be provided on service facilities, personnel, service vehicles, and how long the service facility has been in operation.

Service is a criteria for award of this bid.

Service Certification:

Each bidder shall supply with their bid an Emergency Vehicle Technician certifications. No Exceptions.

Brand Names:

Any brand names, trade names, manufacturer's names, or other product identification names included in these specifications are included to establish a minimum quality and standard. These products listed in our specifications which have name brands attached in no manner limit any bidder, however the items included in your bid must meet or exceed our minimum specifications. The Fire Department will make the sole determination as to which items meet or exceed the specifications.

Proposal Price:

Each bidder's proposal must include all items required in the specifications unless a specific exception is taken. Any bidder who options prices an item included in these specifications that does not specifically require option pricing will have their proposal rejected without further cause.

Proposal Format:

Each bid must be accompanied by a set of detailed contractor's specifications consisting of a detailed description of the apparatus and equipment proposed. All bid proposal specifications must be in the same sequence as the advertised specification for ease of comparison. These specifications shall include size, location, type, and model of all component parts being furnished. Detailed information shall be provided on the materials used to construct all facets of the apparatus body. Any bidder who fails to submit detailed construction specifications, or who photocopies and submits these specifications as their own construction details, or any proposals found to have deviations without listing them will be considered non-responsive and shall render their proposal ineligible for award. **NO EXCEPTION.**

Exceptions:

The following apparatus specifications are considered minimum design and construction standards against which the apparatus will be inspected. It is the intent to receive proposals on equipment/apparatus meeting the attached detailed specifications in their entirety. Any proposals being submitted, without "Full Compliance" with these specifications shall so state on

the bid proposal page, followed by a detailed "Letter of Exceptions" listing the areas of non-compliance. The reference must include page number, paragraph, and the exact nature of the exception.

Failure to follow this format, provided for the convenience of the Purchaser, will render the vendor's proposal non-responsive and ineligible for award of contract.

If a product brand name is specified and is commercially available to all bidders, an exception to such items is not acceptable and such bid may be rejected. All deviations, no matter how slight, shall be clearly explained on a separate sheet, in the bid sequence, citing the page and paragraph number(s) of the specifications, how the proposal deviation is different, how the deviation meets or exceeds the specifications and why it is necessary.

The Purchaser may add the statement "No Exception" to a component or design feature in these specifications. In the interest of fleet conformity or specific performance requirements, the Purchaser will not permit exceptions taken to these item(s). The Purchaser reserves the right to reject any or all bid proposals and purchase the equipment it deems most suitable to its needs.

The Purchaser does not, in any way, obligate itself to accept the lowest or any bid. Any bidder taking total exception to the complete specification, or a major element will result in immediate rejection of the proposal.

Delivery:

The bidder shall state the time required for delivery of the completed unit on the proposal page.

The completed unit shall be delivered to the purchaser with full instructions provided to Fire Department personnel on operation, care, and maintenance of apparatus.

Cab & Chassis:

The chassis shall be a 2024 F450 4x4 regular cab chassis with XL trim or equivalent with the following options:

Specs:

- GVWR: 16,500 lbs.
- 4.88 Ratio Limited Slip Axle
- 60" Cab to axle
- 169" Wheelbase

Power Train:

- 7.3 Gasoline Engine
- 10-Speed Automatic Transmission
- Engine Block Heater
- Heavy Duty Alternator
- Fire & rescue package

Interior Requirements:

- Vinyl 40/20/40 Split front bench seat
- XL Trim or equivalent
- Air Conditioning
- AM/FM Stereo/ Clock

Exterior Requirements:

- Two (2) front tow hooks
- Roof Clearance lights
- Windshield Wipers – Interval

Safety & Security:

- Airbag – Driver and front passenger
- Belt-Minder safety belt reminder

Cab Console:

An electrical console and enclosure shall be provided to house cab mounted electrical switching devices and equipment.

The console shall be located between the driver's and the officer's seating up to the OEM dash.

Console shall be supplied with Two (2) USB and two (2) 12V power outlets.

Center console shall have a joystick mount and a single cup holder provided.

There shall be sufficient space available to house siren control and department's radio.

The center seat will need to be removed.

Front Bumper:

A full front bumper replacement shall be supplied. The front bumper shall be manufactured with 1 ¼" square tubing with the 90-degree corners on the square tubing to give the grille guard unmatched strength & durability. The body of the front bumper shall be constructed from 1/8" black gloss tread plate and shall mount to the apparatus frame using a combination 3/8" and ½" steel plate.

The front bumper shall have an integrated speaker mount.

Step Bars:

Heavy duty step bars shall be supplied and mounted to the cab & chassis. These step bars shall be located under the cab doors to allow for the ease of entering and exiting the apparatus.

Mud Flaps:

Mud flaps shall be provided behind each rear wheel.

Chassis Fuel Fill:

There shall be a fuel fill provided in a recessed area on the rear of the truck.

Body:

The fire body shall be constructed entirely of heavy-duty extruded aluminum.

The fire body dimensions shall be 119" L x 96" W.

The perimeter of the fire body shall be constructed of a custom heavy duty 5.0" x 3.0" 6061-T6 aluminum extrusion.

The fire body cross members shall be constructed of heavy duty 2.0" x 3.0" 6061-T6 National Standard extruded aluminum channel.

The extruded aluminum cross members shall be located on 16" centers.

The fire body mounting sills shall be constructed of heavy duty 6.0" 6061-T6 National Standard extruded aluminum channel.

A rubber isolation barrier shall be provided between the fire body extruded aluminum mounting sills and chassis' steel frame rails.

There shall be .125" aluminum diamond plate covering the non-standing areas of the deck of the fire body.

There shall be .125 embossed aluminum on all walking or standing areas of the deck.

The .125" aluminum diamond plate deck shall be stitch welded to the bottom side of the perimeter extrusions.

Headache Rack:

There shall be a headache rack located at the front of the fire body.

The headache rack shall be constructed of heavy duty 3.0" x 2.0" 6061-T6 extruded aluminum tube.

The headache rack shall have .125" aluminum diamond plate covering the bottom half on the front side and expanded aluminum on the top half.

There shall be an approximate 60" W x 10" D aluminum plate light bar mounting platform located on top of the fire body headache rack.

Walkway:

There shall be step wells provided at the front corners of the fire body.

The step wells shall be approximately 24" W x 24" D x 16" T with a step along the back wall.

Any Mention of Brand Name Shall be "or Equivalent"

BIDDER
COMPLIES

YES NO

There shall be 44" T gates provided at the entrance to the step wells.

The gates shall be held in the closed position by a pneumatic piston and have a positive stop as to not let the gate swing outward.

The gates shall have a .125 aluminum diamond plate cover.

Rear Apron:

There shall be a 95" W x 12.0" D x .1875 smooth aluminum apron provided at the rear of the fire body.

Tow Eyes:

There shall be two (2) ¾" plate steel tow eyes protruding through the rear apron.

Rear Receiver:

There shall be a 2.0" receiver tube provided at the rear of the apparatus.

The receiver tube shall be integrated into the fire body mounting sills.

Rear Bumper:

A heavy-duty steel bumper shall be supplied on the rear of the apparatus. This bumper shall be designed to not interfere with the apparatus' departure angle but allow for access to the fire body. An NFPA not slip surface shall be applied to the top of the rear step bumper.

Compartmentation:

L1 Compartment:

There shall be one (1) compartment with roll up compartment door provided on the driver side deck of the fire body.

The body of the compartment shall be constructed of .125" aluminum diamond plate.

The dimensions of the compartment shall be 72" L x 18" D x 18" H.

Shelf:

The compartment shall have an adjustable shelf.

R1 Compartment:

There shall be one (1) compartment with roll up compartment door provided on the passenger side deck of the fire body.

The body of the compartment shall be constructed of .125" aluminum diamond plate.

The dimensions of the compartment shall be 72" L x 18" D x 18" H.

Shelf:

The compartment shall have an adjustable shelf.

B1 Compartment:

There shall be a 96" D x 30" W x 5.0" H long tool storage compartment provided.

The compartment shall be located between the fire body mounting sills, with the door opening facing the rear of the apparatus.

The compartment door shall be constructed of .125" aluminum smooth plate and shall be horizontally hinged. Thumb latches shall be provided to open and close the door.

Covered Tray:

An aluminum tray shall be supplied on top of the L1 compartment. The compartment shall have a hinged lid on it.

The dimensions of tray shall be 72" long x 15" deep x 10" high

Storage Tray:

An aluminum storage tray shall be supplied on top of the R1 compartment. The end of the tray shall have a small 1" opening to allow for any water to drain.

The Dimensions of tray shall be 72" long x 15" deep x 10" high

Skid Unit:

The skid unit shall be bolt directly through the bed to the polypropylene frame utilizing heavy duty grade 8 bolts.

Polypropylene Water Tank:

A 400-gallon water tank shall be supplied and shall have a 4" overflow. The construction shall be of co-polymer polypropylene and shall be rectangular shaped. **No Fiberglass! No Exception!**

The tank body and end bulkheads shall be constructed of 0.5" thick, polypropylene tested inside and out.

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 0.5" thick 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 filling operations. Drilled pegs for lifting eyes shall be provided in the top area of the water tank.

The water fill tower shall be 0.5" thick polypropylene stock with a hinged lid and a removable polypropylene screen.

The water fill tower shall be located on the rear driver's side of the water tank. A sight glass shall be supplied on the rear driver's corner of the water tank, so the operator can see the lifeline of water remaining during pumping operations from the rear of the apparatus.

Two (2) tank mounting tabs shall be provided. One shall be at the front and one at the rear to allow the tank to be fastened to the fire body.

The water tank shall have an overflow tube. The overflow tube shall exit below the body, ahead of the rear wheels.

Sight Glass Light:

An LED light shall be provided in the water tank to illuminate the water level within the sight glass during nighttime operations.

Polypropylene Foam Tank:

A 12-gallon internal polypropylene foam tank shall be supplied as an integral part of the main water tank. The construction methods of the foam tank shall be identical to that of the water tank. The foam tank shall have a sight glass for the ease of seeing remaining foam capacity. The foam fill tower shall be 1/2" thick polypropylene stock with a hinged lid and a removable polypropylene screen.

Fire Pump Plumbing System:

The engine driven fire pump plumbing system shall be built completely of stainless-steel piping, stainless steel and/or brass fittings, and connections.

Tank connections, front discharges, and other piping shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic, or equivalent connections.

Plumbing shall not be welded for ease of disassembly, no exceptions.

Hose Threads:

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

Intake and Discharge Valves:

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

Steel – Industrial valves shall not be used due to rusting.

Hose Reel Discharge(s):

One (1) 1" discharge shall be provided and piped to the redline hose reel with flexible high-pressure hose and a 1" Stainless steel valve or equivalent will be provided for this connection on manifold.

Whipline Discharge(s):

Two (2) whipline discharges shall be supplied and mounted in the walkway area of the apparatus. These discharges shall have a 90-degree swivel to allow firefighting operations to be conducted off the side of the apparatus.

The whiplines shall be located with one (1) each side, close to each manwell areas.

Fire Pump to Water Tank bypass Line:

A 1" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve.

A 1" piping and flex hose will be provided from valve to tank. The valve control shall be directly on the valve.

Water Tank to Pump & Suction:

A 2½" water tank to fire pump line shall be provided with an Akron Brass quarter turn full flow type valve with R1 handle. This connection shall have a push/pull T-handle assembly mounted near the valve at the back of the skid.

Suction will be provided with a full flow 2½" quarter turn ball valve so that while pumping you can also be connecting to an additional water source.

A 2½" chrome plug and chain will be provided at the rear for the suction.

Manifold:

A common 304 stainless steel manifold will be provided for all discharges.

Fire Pump:

A Hale HPX200-B18 pump, or equivalent shall be supplied and mounted to the rear of the skid unit.

Performance

The pump/engine shall be capable of meeting the NFPA 1906 performance rating of 50 GPM @ 150 PSI. Typical pump performance from 5-foot draft at sea level shall be: 70 GPM @ 150 PSI, 150 GPM @ 100 PSI and 240 GPM @ 25 PSI.

Pump

The pump body shall be made of anodized 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 300 PSI. The impeller shall be bronze. The renewable clearance rings shall be made of bronze to inhibit galvanic corrosion. The impeller shall be 8.75 inches (222.3 mm) 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.

Priming

The pump shall be equipped with an exhaust venturi primer of brass and stainless-steel construction. The primer shall be capable of priming at 13 feet lift. 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.

Suction/Discharge

The suction and discharge ports shall be female pipe thread, designed and located to accept applicable hose thread adapters (3" NPT / 4" Victaulic Suction, 2.5" NPT Discharge flange).

Engine

The engine shall be a 4 cycle gasoline Briggs and Stratton Vanguard 356447 series V-Twin, overhead valve, or equivalent air cooled design. Engine rating shall be 18 BHP at 4000 RPM. Engine displacement shall be 570cc and shall be designed to meet current CARB (California Air Resources Board) and EPA (Environmental Protection Agency) standards. A 12-volt electric system shall be provided with electric starter and a 16-amp alternator. Engine shall be equipped with a residential muffler with USDA approved spark arrestor.

Foam Pump:

A Blizzard Wizard class *A* foam system, or equivalent with a main water check valve that is capable of providing foam to all discharge outlets shall be provided.

The foam system shall be installed in such a manner that the system, discharges, and hoses can be flushed without foam entering the water tank from the foam system.

Foam system will have a manual metering valve at the rear of the skid unit to set the percentage of foam out of the discharges.

A booster pump will be provided at the rear for foam system so foam is available in a moment's notice.

Pump Panel:

A standard pump panel shall be supplied and located in the walkway of the apparatus. The pump panel shall be installed on a tilted pump panel for the ease of visibility.

Pump Panel shall have the following controls:

- Pump Panel Light switch
- Start/Stop switch
- Low oil pressure light
- Pump pressure gauge
- Idle control
- Choke
- Foam controls

Fuel Tank:

A heavy-duty aluminum 6-gallon fuel tank shall be supplied and mounted to the skid unit frame. The fuel tank shall have fuel level sight gauge and an overflow tube.

Battery Supply:

The skid unit of the apparatus shall have a heavy-duty separate battery supply to power the unit.

The engine will include a 36-watt alternator to keep separate battery charged.

Pump Test:

The skid unit shall be tested after all its associated piping and valves have been installed on the apparatus. The tests shall be conducted at the manufacturer's facility.

Skid Work Light:

Two (2) LED flood/spotlights shall be installed in accordance with customer requirements.

Lights shall be 12v 48W low current draw lights and shall be mounted as follows:

- Two (2) on top of the water tank offset the rear, to illuminate the pump and plumbing. This shall be controlled by a single switch on the pump panel.

Features:

- 10- and 60-degree spot and flood
- Black, cast-aluminum Hose Reel(s):

Booster Hose Reel:

One (1) Hannay hose reel, model EF-4038-17-18 RT, or equivalent with electric rewind shall be provided with a single mounted roller and spool assembly and a brake to adjust tension on the spool.

The hose reel shall be mounted on the passenger's side of the apparatus bed, with the capability to pull off the side of the apparatus.

High Pressure Hose Reel:

One (1) Hannay high pressure hose reel, model 1520-17-18 LT, or equivalent with electric rewind shall be provided with a quad mounted roller and spool assembly and a brake to adjust tension on the spool.

The hose reel shall be mounted on the driver's side of the apparatus bed, with the capability to pull off the side of the apparatus.

Hose Reel Electric Rewind:

Two (2) electric rewind push buttons will be installed. The electric rewind controls shall be a weather-resistant enclosed momentary push button switch. Switches shall be installed as follows: One (1) switch at each hose reel location.

Hose:**Booster Hose:**

100' of 1" booster hose shall be provided for the booster hose reel.

Whipline Hose:

10' of 1" 600 PSI collapsible hose shall be provided for each of the whipline discharges.

High Pressure Hose:

150' of ½" high pressure hose shall be provided for the high-pressure hose reel.

Electrical System:**Low Voltage Electrical System Specifications**

The following specifications describe the low voltage electrical system on the specified brush truck type fire apparatus. The electrical system shall include all panels, electrical components, switches, and relays, wiring harnesses and other electrical components.

All 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 in all wiring from the power source to the using device shall not exceed 10 percent. 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. All exposed wiring shall be run in a loom with a minimum 289-degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.

All connections shall be crimp-type to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

Any electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions.

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

The electrical system shall include the following:

- A) The electrical wiring shall be harnessed or be placed in a protective loom.
- B) No holes shall be made in the roof of chassis, unless approved by end user.
- C) Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.

Breaker:

A 100-amp breaker shall be supplied and located near the master disconnect switch that will prevent potential upfitter electrical issues from affecting chassis battery system.

Electronic Siren:

One (1) Carson 409 Commander, or equivalent full function electronic siren shall be mounted in the cab console. The siren shall have the following features: electronic air horn, siren tones, radio rebroadcast, P.A. and shall have a hard-wired microphone.

Features:

- 100/200-Watt SAE J1849 and Class A output
- Internal programmable siren functions
- Four Position progressive slide switch
- Six backlit and rubberized relay push-button switches
- Scrolling TAP II, or equivalent intersection clearing feature

Speaker:

One (1) Federal Signal ES100, or equivalent 100-watt speaker shall be mounted behind the front of the chassis bumper or grille. The speaker shall be wired to the electronic siren located in the cab.

Features:

- Neo-driver for increased dependability
- 100-Watt high output power
- Sound output meets SAE J1849 and Class A
- Impedance of 11 ohms

Back-up Alarm:

An automatic electric 97 dB back-up alarm shall be wired to activate when the transmission is placed into reverse. The alarm shall be mounted under the rear of the apparatus body.

Shoreline Charger:

The Kussmaul Auto Charge 2000, or equivalent is a compact, completely automatic, dual channel battery charger designed for vehicles with single batteries. The charger is ruggedized to withstand the shock and vibration encountered by vehicle mounted equipment.

- Independent charge controls for the battery
- Electronic remote sensing of true battery voltages, eliminates the need for sensing wires
- Automatic current limiting and apportionment
- Built-in Battery Saver
- Remote dual battery charge/condition indicator
- Power "ON" LED indicator

- Battery Saver overload indicator

Each battery voltage is remotely sensed, electronically, eliminating the need for multiple sense wires. Each of the charge controls is completely automatic and stops charging the battery when it is fully charged.

Battery Saver:

A 3 ampere Battery Saver is built into the charger. When connected as shown in the installation wiring diagram, loads on battery #1 such as radios and rechargeable hand lights are automatically switched to the Battery Saver when power is applied to the charger.

The Battery Saver allows more efficient charging by removing these loads. A Battery Saver overload indicator alerts the operator that the Battery Saver load has exceeded 3 amperes.

Remote Battery Charge Condition:

This remote indicator shows the charge condition of each battery in 10 levels from "LOW CHARGE" to "FULLY CHARGED".

Auto Eject Receptacle:

An auto eject weather proof plug will be provided and placed on the front of the apparatus body, driver's side.

Radio:

A power cable shall be provided in the cab console for the customer supplied radio. Radio Faceplates shall be provided and installed.

Note: Make and model of supplied radios are needed at pre-build.

Antenna:

Antenna wiring with mounting "L" bracket shall be supplied and ran to the driver's side light bar mounting platform. The Antenna shall be customer supplied.

Lighting:

Compartment Light(s):

Each compartment shall be provided with two (2) LED vertically mounted lights.

The compartment lights shall be installed one (1) on each side of the compartment door opening with the light actuation with the door opening.

Work Light(s):

Two (2) LED flood/spotlights shall be installed in accordance with customer requirements.

Lights shall be 12v 20W low current draw lights and shall be mounted as follows:

- Two (2) on the headache rack facing to each side, with one (1) each side. These lights shall be controlled by a switch on the cab console.

Features:

- 10- and 60-degree spot and flood
- 2,112 Lumen output ea.
- Black, cast-aluminum housing
- Lifetime Warranty

License Plate Light:

A license plate light and bracket shall be supplied and mounted to the rear of the apparatus.

Switch(es):**Master Disconnect Switch:**

A battery disconnect switch shall be located on the console offset to the driver of the apparatus. The switch shall disconnect the upfitter conversion from the 12-volt battery system.

A vehicle mounted driver vision enhancement thermal imaging camera shall be supplied and mounted to the apparatus. The camera shall allow for thermal imaging to be routed through the review mirror monitor.

Emergency Lighting:

The warning lights shall be switched in the chassis cab with labeled switching in the cab console. A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and call for the right of way.

All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator and passenger.

Upper Warning Lights:**Light Bar:**

A TOMAR 970L Scorpion 53" Red/Blue LED, or equivalent low profile light bar shall be supplied. The light bar shall have clear lenses to the front and to the rear and will be mounted on the headache rack mounting platform.

Features:

- NFPA 1901 Compliant
- Variety of selectable flash patterns
- Hermetically sealed

Lower Warning Lights:

Fourteen (14) Tomar RECT-14 LED, or equivalent Warning lights shall be provided. These warning lights have eleven (11) different flash patterns to customize to department specifications.

Warning Lights shall be installed as follows:

- Four (4) Red/Blue LEDs on the front grille guard with Two (2) each side
- Two (2) Red/Blue LEDs on apparatus chassis with one (1) each side above the front wheel well area.
- Four (4) Red/Blue on the apparatus body: with Two (2) each side: One (1) offset as forward as possible and one (1) offset rearward as possible.
- Four (4) Red/Blue LEDs on the rear of the apparatus with Two (2) each side

Features:

- Four (4) Ultra-High intensity LEDs
- Multiple selectable flash patterns
- Made of optical Lexan and hermetically sealed
- Meets SAE J845, SAE J595 and CAL Title 13
- Five-year manufacturer's warranty.

D.O.T Lighting:

The 12-volt lighting on the brush truck body shall conform to FMVSS 108 standards. All DOT lighting shall be LED type.

Clearance:

There shall be a minimum of five (5) red clearance lights on the rear of the truck (three (3) in the rear center and one on each outside corner of the rear apparatus bed).

One (1) red clearance light shall be on each side rear corner and one (1) amber clearance light on each front side corner.

Signal, Brake and Reverse:

The rear shall also contain a minimum of two (2) each Stop/Turn/Taillights and two (2) clear reverse lights. These lights shall be oval, flush mounted lights.

Label(s):

Fastened labels shall be supplied and mounted in accordance with their function:

On each walkway entrance door shall have a label that states "All personnel must be seated in cab with seatbelt fastened while vehicle is in motion. Riding elsewhere may cause serious injury or death"

All appropriate switches inside the cab shall be properly labeled with their function.

All appropriate valves on the pump panel shall have a corresponding function label.

Loose Equipment:

The following loose equipment shall be supplied with the apparatus:

Nozzle(s):**1" Nozzle:**

Six (6) Crestar SF-40 select flow nozzles with pistol grip handles and bell shut off shall be supplied.

Features:

- Selectable gallonage nozzle with multiple flow settings
- Stainless steel spinning teeth
- Straight stream to wide fog and flush without shutting down
- Metal horseshoe handle
- 100 psi (7.0 BAR) standard
- NFPA 1964 compliant

High Pressure Wand:

Two (2) high pressure spray wand with pistol grip nozzle shall be supplied for the high pressure hose reel.

Features:

- Selectable gallonage nozzle with multiple flow settings
- Stainless steel spinning teeth
- Straight stream to wide fog and flush without shutting down
- Metal horseshoe handle
- 100 psi (7.0 BAR) standard
- NFPA 1964 compliant

Foam 5 Gallon Pale(s):

Four (4) 5-gallon pales of Class A foam.

Scotchlite Striping & Lettering or equivalent:**Cab and Body:**

The apparatus cab and body shall be provided with a reflective Scotchlite, or equivalent stripe along the bottom section of the cab doors and along the side of the apparatus body. Color to be determined at prebuild meeting.

The front bumper shall have two (2) vertical color reflective Scotchlite, or equivalent stripes.

Lettering:

Reflective Scotchlite, or equivalent lettering with shading will be installed and colors to be determined at prebuild meeting.

Lettering will consist of a Brush Unit # located on the side front fender wells, and the department's door shield on both front cab doors.

Note: Non-reflective engine turn gold can also be substituted in place of reflective Scotchlite lettering at the department's discretion.

Rear Body:

Chevron "A" style Scotchlite, or equivalent striping shall be provided on rear of body (outboard rearward facing smooth plate panels of the rear apron).

The colors shall be Yellow/ Red diamond grade.

Apparatus Paint:**Cab and Chassis:**

The apparatus cab and chassis shall be painted in accordance with the policies with the chassis manufacturer with all applicable warranties. The color of the cab shall be Ford Red.

Apparatus Body:

The apparatus body shall be made of aluminum and shall not be painted.

Compartment(s):

The interior of the compartments shall have a light grey Zolotone protective coating.

Front Bumper:

The front bumper shall have a gloss black finish.

Warranty:**1 Year Standard Warranty:**

The apparatus manufacturer shall provide a full 1-year standard warranty. All components manufactured by the apparatus manufacturer shall be covered against defects in materials or workmanship for a 1-year period. All components covered by separate suppliers such as engines, transmissions, tires, and batteries shall maintain the warranty as provided by the component supplier. A copy of the warranty document shall be provided with the proposal. No Exceptions

2 Year Pump Warranty:

Pump manufacturer shall warranty products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of two years or 2000 hours of usage, whichever comes first. Products used for rental or contracting purposes are warranted for a period of six months or 2000 hours of usage, whichever comes first. 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 pump manufacturer or its designee. A copy of the warranty document shall be provided with the proposal. No Exceptions

10 Year 100,000 Mile Structural Warranty:

The apparatus manufacturer shall provide a comprehensive 10 year/100,000-mile structural warranty. This warranty shall cover all structural components of the cab and/or body manufactured by the apparatus manufacturer against defects in materials or workmanship for 10 years or 100,000 miles, whichever occurs first. Excluded from this warranty are all hardware, mechanical items, electrical items, or paint finishes. A copy of the warranty document shall be provided with the proposal. No Exceptions

10 Year Stainless Steel Plumbing Warranty:

The apparatus manufacturer shall provide a full 10-year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal. No Exceptions

3 Year Graphics Warranty:

The apparatus manufacturer shall provide a full 3-Graphics warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer's graphic components for 3 years. A copy of the warranty document shall be provided with the proposal. No Exceptions

5 Year Electrical Warranty:

The apparatus manufacturer shall provide a full 5 year-electrical warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer's electrical components for 5 years. A copy of the warranty document shall be provided with the proposal. No Exceptions

Lifetime Polypropylene Tank Warranty:

The tank manufacturer warranties that tanks will be free from defects in materials and workmanship for a period equal to the service life of the original vehicle on which tank was installed. Original vehicle must be in active fire suppression for warranty to be in full effect. A copy of the warranty document shall be provided with the proposal. No Exceptions.