



413 ABC Road, Lake Wales, FL 33859

Submitted To:



Mathew Luisi, Assistant Fire Chief

**Formal Proposal for a 750-Gallon
Type 4 Brush Truck w/ High Water Conversion**

Date: 10/15/2025

Prepared By:
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CCI/Fire Apparatus Division

Quoted Price as Specified: \$349,398.00

Note: Chassis provided by sourcewell dealer, See attachment for additional chassis details

CHASSIS SPECIFICATION:

2027 FREIGHTLINER M2 106 4X4

CUM B6.7 325 HP @ 2400 RPM, 2600 GOV, 750 LB-FT @ 1800 RPM

CUMMINS ENGINE INTEGRAL BRAKE WITH VARIABLE GEOMETRY TURBO ON/OFF

RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH B-PILLAR MOUNTED VERTICAL TAILPIPE

ALLISON 3500 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION

MERITOR MTC 4210AC 2-SPEED TRANSFER CASE

MERITOR MX-12-120-EVO 12,000# 1790MM KPI SINGLE FRONT DRIVE AXLE

14,600# TAPERLEAF FRONT SUSPENSION

MERITOR MS-21-14X 21,000# R-SERIES SINGLE REAR AXLE

23,000# FLAT LEAF SPRING REAR SUSPENSION WITH HELPER AND RADIUS ROD

AIR BRAKE PACKAGE

9.5MM X 83.5MM X 284.0MM STEEL FRAME (.37 X 3.29 X 11.18 INCH) 140 KSI

THREE-PIECE 14 INCH CHROMED STEEL BUMPER WITH COLLAPSIBLE ENDS

50-GALLON ALUM TANK W/ 6 GALLON DEF TANK

ALUM WHEELS ALL AROUND

12R22.5 RUBBER ALL AROUND

CHROME GRILLE AND SIDE AIR INTAKE

DUAL WEST COAST BRIGHT FINISH HEATED MIRRORS WITH LED LIGHTS AND LH AND RH REMOTE

AIR DRIVER & PASSENGER SEATS

BACK UP ALARM

7" B-PANEL INTERACTIVE TOUCHSCREEN DISPLAY RADIO W/ USB-C, APPLE CARPLAY, ANDROID AUTO, BLUETOOTH/AM/FM/SXM/WB, WITH MICROPHONE

PAINT:

Cab Color: Factory Freightliner Single Color

Secondary Color: N/A

TIRES:

Factory tires shall be removed and replaced with Hercules H-MD 18-Ply Tires for better off road capability. The tires shall be meet or exceed the speed and GVWR rating of the chassis. One (1) loose spare tire and wheel shall be provided.

FRONT BUMPER BRUSH GUARD

A heavy-duty bumper/brush guard with full protection and a winch mount tray shall be installed.

WARN WINCH

A Warn 16.5Ti self-recovery 16,500lb rated winch with remote control shall be installed on the front bumper.

REAR MUD FLAPS:

The chassis shall be supplied with mud flaps unless otherwise specified. The mud flaps shall be

installed behind the rearwheels.

HAVIS CONSOLE AND SWITCH PANEL:

A Havis electrical console and enclosure shall be located between the driver's and passenger's seats. It shall house the siren, switches, and auxiliary equipment.

FLAT-BED BODY – ALUMINUM:

The body will be a custom fabricated severe service flatbed type constructed of aluminum. The body shall be 140" long by 96" wide, designed for a 157" wheelbase M2 106 chassis. The body shall be specifically designed and engineered for off-road wildland firefighting.

MAIN FRAME

The body shall have 2" x 6" structural aluminum rectangle main frame rails. The body frame rails shall be isolated from the truck frame by .75" x 3.5" Poly isolators.

SUB-FRAME

The cross-members shall be 2" x 4" structural aluminum channel with cross-members on 16" centers.

MOUNTING

The body shall be spring mounted to the chassis frame rails at front and single bolted to the rear of the frame to allow for spring movement in the front. There shall be brackets installed at the middle of the body frame to prevent side to side movement.

HEADACHE RACK

The front of the body shall have a 2" X 4" rectangle aluminum 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.

FUEL FILLER

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

REAR BODY PANEL

A vertical body panel shall be installed at the rear of the body constructed of .125" smooth aluminum. The panel shall house the running lights, taillights, and back-up lights.

REAR RECEIVER:

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

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

FIRE PUMP SPECIFICATIONS:

Hale HPX200-H2O Honda Powered Pump

Instrumentation

The pump shall be supplied with a mounted control panel. This panel shall include a throttle lever, master switch, starter button, choke control, a 2.5-inch liquid filled discharge gauge and an oil pressure warning light.

FUEL:

An aluminum fuel tank with a minimum capacity of 5-gallons shall be installed on the chassis bed and plumbed to the fire pump engine.

WATER TANK SPECIFICATIONS:

The water tank shall have a capacity of 750 gallons of water with a 10-gallon foam cell.

NFPA COMPLIANCE:

The water and foam tank construction shall be baffled and shall conform to applicable NFPA standards.

TANK SIGHT GAUGE:

The tank shall be equipped with translucent level sight gauges in the rear wall of the tank for both the water and foam portions of the tank.

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.

STAINLESS STEEL PLUMBING SYSTEM:

The auxiliary fire pump plumbing system shall be built mostly of stainless-steel piping, fittings, and connections. Flexible hose couplings shall be threaded stainless steel or Victaulic type connections.

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.

HOSE THREADS:

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

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.

AUXILIARY FIRE PUMP MOUNTING PROVISIONS:

The auxiliary fire pump shall be installed on the passenger's side rear of the body. It shall be set in from the side towards the center of the bed. The sub-structure shall have welded in mounting sub-plates between the structural members.

PUMP ENGINE OIL DRAIN:

The pump engine shall have an oil drain line installed and shall allow for easy oil draining. The drain line shall go through the deck and have a cap installed on the end.

VALVES & PLUMBING

All valves shall be full-flow 1/4 turn industrial ball valves. All valves and fittings shall be manufactured of stainless steel.

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 plug.

TANK TO PUMP LINE INSTALLATION:

The 2-1/2" tank to pump line shall be installed with stainless steel plumbing to the water tank. The valve shall be controlled with a manually operated handle directly on the valve.

DISCHARGE MANIFOLD

A stainless-steel manifold shall be plumbed to the fire pump discharge. The following discharges shall be included.

- (1) 1" tank fill/coolant line w/ valve
- (1) 1" to hose reel w/ valve
- (1) 1-1/2" valved discharge w/ NHT male thread, cap & chain
- (1) 2-1/2" valved discharge w/ NHT male thread, cap & chain

HOSE REEL:

One (1) Hannay polished aluminum hose reel shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 1/2HP, 12-volt rewind and manual crank rewind provisions. The reel shall have a minimum capacity of 200' of 1" NFPA rated booster hose. The reel shall be mounted on the driver's side rear corner of the flatbed body.

HOSE REEL ROLLER:

The hose reel shall be provided with a Hannay center mounted stainless steel roller assembly.

REEL HOSE:

1" x 150' of red rubber hose with 1" NHT couplings shall be installed on the hose reel.

CLASS A FOAM SYSTEM:

A Scotty Model #4171 Class A through-the-pump foam system shall be installed to supply all discharges. The unit shall be mounted at the rear of the apparatus, within easy reach of pump operator.

FOAM SYSTEM PIPING:

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

side of the foam system.

FOAM TANK DRAIN AND VALVE PROVISIONS:

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

CENTER BED COMPARTMENT

There shall be a compartment measuring approximately 30" wide x 6" high x 78" deep located at the rear center of the body. This compartment will include a pull-out tray for long tool and door with a latch installed.

KUSMAUL CHARGER

A Kussmaul 120V battery charge shall be installed for battery support. The charger shall include an auto-eject port mounted on the driver's side of the vehicle with a dual bar graph display.

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.

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.

DOT IDENTIFICATION LIGHTS:

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

LICENSE PLATE MOUNTING:

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

BRAKE, TURN, TAIL, BACKUP LIGHTS:

Brake, turn, tail and backup LED lights shall be installed on the rear of the body and shall be DOT compliant.

TRAILER WIRING HARNESS

A DOT approved trailer wiring harness shall be installed on the rear of the truck to allow for both 4-way and 7-way trailer connection.

GROUND LIGHTS, CAB, 2 DOOR LED STRIPS:

Two (2) 12" LED ground strip lights shall be installed in compliance with NFPA standards, one (1) underneath on each side of the apparatus to illuminate the driver's & passenger's door exit area.

SCENE LIGHTS:

Two (2) LED scene lights shall be installed, one on the top, rear of each upper body compartment. There will also be one (1) LED work light installed on the rear of the vehicle to illuminate the pump area of the apparatus. The LED scene/work lights shall incorporate clear LEDs with a clear optic polycarbonate lens for maximum illumination.

STEPS & GRAB HANDLES

Four (4) NFPA compliant lighted folding steps shall be provided for bed and equipment access. Four (4) handrails shall be installed to assist with safety and stability. The location of steps and handrails will be determined by the customer during a truck inspection visit.

BACK-UP CAMERA SYSTEM:

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

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

BACK-UP ALARM:

One (1) back up alarm shall be installed.

ELECTRONIC SIREN:

Whelen Model HHS3206 heavy duty 100/200-watt, six (6) function siren shall have the following features: hands-free operation, public address, park kill, push to talk, and radio re-broadcast. The siren shall have the following tones: wail, yelp, piercer and air horn.

The unit shall have solid-state over/under voltage shutdown and output short circuit protection. The siren shall have the "SI Test" self-diagnostic feature for silent speaker inspection. The siren shall have a hard-wired unidirectional microphone with a 17" extendable coil cord. The unit shall be installed in the center console.

SIREN SPEAKER:

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

shall be: Behind the front grille.

MOUNTING OF LIGHTBAR:

The lightbar shall be mounted on the headache rack shelf.

LIGHTBAR:

A Whelen Legacy low profile 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 light heads. 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 solid state 1/0 board shall be microprocessor controlled. The 1/0 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.

NFPA WARNING LIGHTS:

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen ION T Series Duo Model TL12D warning lights with black flanges shall be installed on the front forward facing area of the front grill. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light head configuration shall consist of Red/White Super-LEDs and a clear optic polycarbonate lens. The light heads shall be surface mountable via two screws.

ZONE BAND D -- INTERSECTION LIGHTS

Two (2) Whelen ION T Series Duo Model TL12D warning lights with black flanges shall be installed on the front fenders as far forward as possible. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light head configuration shall consist of Red/White Super-LEDs and a clear optic polycarbonate lens. The light heads shall be surface mountable via two screws.

ZONE BAND D -- SIDE WARNING LIGHTS

Two (2) Whelen ION T Series Duo Model TL12D warning lights with black flanges shall be installed on each side of the rear body area. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light head configuration shall consist of Red/White Super-LEDs and a clear optic polycarbonate lens. The light heads shall be surface mountable via two screws.

ZONE C -- REAR WARNING LIGHTS

Two (2) Whelen ION T Series Duo Model TL12D warning lights with black flanges shall be installed on the rear bed rail of body. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light head configuration shall consist of Red/White Super-LEDs and a clear optic polycarbonate lens. The light heads shall be surface mountable via two screws.

Two (2) additional Whelen Ion T Series Duo Model TL12D warning lights shall be installed on the front bumper.
Two (2) additional Whelen ION T Duo Series Model TL12D warning lights shall be installed on the rear valance panel

RADIO INSTALLATION

One (1) customer provided radio & antenna shall be installed in the truck console. The customer provided antenna shall be installed on the vehicle cab. All flashing and programming will be the responsibility of the customer.

REAR CHEVRON STRIPING:

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

The first color shall be red diamond grade.

The second color shall be lime yellow diamond grade.

HIGH WATER – RESCUE CONVERSION BED

- 96" x 140" Removable Bed
- All Welded Aluminum Construction
- Folding Aluminum Bench Seats in Front and Both Sides
- "SeaDek" Seat Padding on Bench Seats
- 44" High Aluminum Sides w/ Aluminum Railing
- Removable Fold Down Rear Step System
- Designed to quickly convert from a brush truck to a high water rescue vehicle

FINAL ASSEMBLY AND APPARATUS FINISHING PREP SPECIFICATIONS:

The apparatus shall be assembled in a high quality and controlled environment. Upon completion, the apparatus shall be ready for final inspection and road testing as required herein.

WARNING LABEL -- SEAT BELT USAGE:

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