

MELROSE TOWNSHIP
FIRE DEPARTMENT

BRUSH TRUCK SPECIFICATIONS

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

INTENT OF SPECIFICATIONS

It is the intent of these specifications to cover the furnishing and delivery to the **Melrose Township Fire Department** of a complete fire apparatus equipped as hereinafter specified. With the view of obtaining the best results and the most acceptable apparatus for service, these specifications cover only the general requirements as to the type of construction and tests to which the apparatus must conform, together with certain details to furnish equipment and appliances with which the successful bidder must conform. Minor details of construction and materials, where not otherwise specified, are left to the discretion of the contractor who shall be solely responsible for the design and construction of all features. The NATIONAL FIRE PROTECTION ASSOCIATION pamphlet #1906 current edition for Motor Vehicle Apparatus, unless otherwise specified in these specifications shall prevail.

ONLY THE SPECIFIED FIREFIGHTING SUPPORT EQUIPMENT LISTED IN THESE SPECIFICATIONS SHALL BE PROVIDED.

The apparatus shall conform to all Federal motor vehicle safety standards.

Bids will only be considered from companies that have an established reputation in the field of fire and/or rescue apparatus manufacturing.

Each bid must be accompanied by a set of detailed contractors specifications consisting of a detailed description of the apparatus and equipment proposed. 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 shall be considered non-responsive and shall render their proposal ineligible for award.

Each bidder shall furnish a computer generated weight and balance analysis for the unit being proposed. It shall address individual and combined axle weights and include an analysis on the vehicle's center of gravity. It shall also include a figure for excess payload capacity. Any bidder who fails to submit the weight and balance analysis in this format shall be considered non-responsive and shall render their proposal ineligible for award.

Each bidder shall furnish satisfactory evidence of the ability to construct the apparatus specified, and shall state the location of the factory where the chassis and apparatus will be built. They shall also show that they are in a position to render prompt service and to furnish replacement parts for the completed apparatus chassis, body and components.

The manufacturer shall specify in his bid the number of working days and/or calendar days after acceptance of the formal contract by the manufacturer that the completed apparatus will be delivered by the purchaser. The manufacturer will not be held liable for changes arising from its failure to make or delay in making deliveries because of fire, flood, riot, major component shortage, accidents, acts of God, or any circumstances beyond their control.

QUALITY AND WORKMANSHIP

The workmanship must be of the highest quality in its respective field. Special consideration will be given to the following points:

1. Accessibility of the various components which require periodic maintenance or monitoring
2. Ease of vehicle operation (pumping and driving)
3. Visibility of the driver
4. Symmetrical proportions

Construction must be rugged and design must be certified to carry the loads as specified and to meet the road and speed requirements as set forth under "PERFORMANCE TESTS AND REQUIREMENTS" of NFPA Pamphlet #1906 current edition.

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**Bidder
Complies**

Yes No

Welding shall not be employed in the assembly of the apparatus in a manner that will prevent the removal of major components for service and/or repair.

DESIGN

The successful bidder shall be solely responsible for the design, construction and material used in the construction of the vehicle. The apparatus shall be of the latest design and type while using the most current industry construction techniques.

Each bidder shall supply with their bid a detailed drawing consisting of the driver side, passenger side and rear views of the apparatus. This drawing shall be representative of the apparatus being bid. The drawing must include but not be limited to all principle dimensions (height/width/length). Pictures or brochures are also encouraged that represent the quality of construction being proposed.

The apparatus, assemblies, component parts, etc., shall be designed and constructed with consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is to be subjected.

The apparatus shall be designed with great consideration given to overall vehicle weight and weight distribution. A computerized weight distribution calculation shall be included with the bid. A calculation shall include the chassis weight with all fluids and fuels topped off, estimated body weight, a 250-lb. allowance per seat for personnel and a 2,500 lb. distributed load allowance for equipment. Any bidder who fails to submit weight and balance calculations shall be considered non-responsive and shall render their proposal ineligible for award.

The apparatus shall be designed and constructed so component parts can be removed for service and repair with standard tools. Any special tools needed to service any component of the apparatus built or supplied by the component manufacturer shall be supplied with the apparatus. During the design and construction the apparatus manufacturer shall take into consideration the ease of access to various areas requiring lubrication, inspection, service or adjustment.

The design, materials and materials must be of the highest quality in its respective field. Quality control inspections shall be performed at each step of the manufacturing process.

The manufacturer shall meet the minimum requirements of NFPA Pamphlet 1906 current edition, The Underwriter's Laboratories, Inc. and all State and Federal Department of Transportation vehicle regulations at the time of the bid for this apparatus.

ROAD TEST

All road tests will be performed per NFPA Pamphlet #1906 current edition requirements.

LIABILITY

The successful bidder shall defend any and all suits and assume all liability for use of any patented process, device or article forming a part of the cab and chassis, or any appliance under the contract.

DELIVERY and/ DELIVERY DATA REQUIRED

1. The completed apparatus shall be delivered at the point of final manufacture.
2. The successful bidder's representative shall remain at the Fire Department until released by the Fire Chief or Commission during which time he shall instruct Fire Department personnel in the proper operation, care and maintenance of the complete apparatus.

Information required at time of delivery to be supplied by the manufacturer:

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**Bidder
Complies**

Yes No

- A. Manufacturer's statement of origin
- B. Electrical "as built" schematic booklet
- C. Final build data sheet showing serial numbers for the following:
 - 1. Cab and chassis VIN
 - 2. Engine serial number
 - 3. Transmission serial number
 - 4. Apparatus/Body serial number
- D. One copy of a complete operations and general maintenance instructions as delivered, including but not limited to the chassis, engine, transmission, axles, lubrication charts, rescue body and appropriate accessories.
- E. The Underwriters Laboratories Incorporated test Certification shall be provided on delivery of the apparatus.
- F. The successful bidder shall supply all data required in NFPA Pamphlet #1906 current edition

EXCEPTIONS TO SPECIFICATIONS

Each bidder response shall include a returned copy of this Request for bid with the yes/no columns checked for compliance to specifications.

All exceptions, no matter how minor must be marked in the "NO" column.

Those exceptions shall be listed on a separate sheet and shall refer to specification page number and paragraph. It will be mandatory for any perspective bidder that deviates from the proposed specifications, to give a full description of all deviations.

Bidder and his/her manufacturer being represented will be held responsible for deviations not specifically addressed or approved by the Fire Department. Items not addressed will be considered as being bid with no exception and will be included on the apparatus in the form presented in our specifications. Non-compliance will be grounds for rejection of the completed vehicle - **NO EXCEPTION.**

Failure to follow this method will add a considerable time to the bid review process and may be cause for rejection of the bid.

The purchaser will not consider proposals or demonstrators taking total exception to the bid specifications.

Where bidder's specifications and/or construction differ in any way from the bid specification, a full and complete description in the specification will be required. Drawings will also be required to show alternative construction methods. Partial descriptions or general clarifications covering groups or sections of the specifications will be unacceptable.

CLARIFICATIONS TO SPECIFICATIONS

Clarifications shall refer to specification page number and paragraph. Any such clarification that appears vague or misleading shall be considered an exception. Complete clarifications are required describing the reason for the deviation. Apparatus will be inspected upon delivery for compliance with specifications.

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Yes No

CONTRACT AWARD

The purchaser reserves the right to reject any or all bid proposals and purchase the equipment it deems most suitable to its needs. Since all components and materials are commercially available these specifications shall in no way be considered proprietary.

Price shall be based on payment upon receipt of the completed apparatus by the purchaser. No discounts or prepayment schedules shall be listed on the proposal page. All bidders are required to detail any payment terms for the apparatus and these terms shall be listed on a separate page entitled OPTIONS. These options may or may not be considered at the discretion of the purchaser.

All bids shall remain valid for 30 days after opening.

PAYMENT TERMS

The Purchaser agrees to purchase and pay cash for the apparatus and miscellaneous equipment pursuant to the following terms and conditions:

1. All prices shall be less any taxes.
2. The final payment for the apparatus shall be paid upon delivery and acceptance by the fire department per enclosed payment terms. An invoice shall be presented on or before delivery of the apparatus.
3. The apparatus, without exception, shall not be placed "In Fire Service" prior to full payment of the apparatus.

SUBMISSION OF BIDS

Bids shall be submitted in accordance with the following instructions:

1. The bidder's proposed specifications shall be provided in full. Any deviations and clarifications shall be clearly marked.
2. The bidder's proposed specifications detailing their construction methods shall be provided. This is necessary to evaluate each bidder's actual intent of building the equipment as specified herein.

· **The bidder's proposed format shall be the same as these specifications to allow the customer to easily compare the bids; NO EXCEPTIONS.**

· **Bids are to be submitted in the same order as our specifications; NO EXCEPTIONS.**

3. Bids shall be returned in a sealed envelope clearly marked "BID FOR FIRE APPARATUS".
4. The purchaser reserves the right to accept or reject any and all bids, to waive irregularities and to make the award in any manner deemed to be in their best interest.

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**Bidder
Complies**

Yes No

NFPA REQUIRED ITEMS

The purchaser shall be responsible for providing all equipment items required by NFPA pamphlet that are not otherwise indicated or addressed in these specifications.

SINGLE SOURCE BODY BUILDER AND CONSTRUCTION

The apparatus manufacturer shall be the prime (single source) builder of this severe duty all aluminum fire apparatus quality body.

All engineering, design, fabrication, testing, paint and finish shall take place at the apparatus manufacturer's privately owned top tiered manufacturing facility.

Bodies that are mass produced from lower quality materials such as thin stamped utility style designs, bolted together designs or those that are manufactured by a third party for the apparatus manufacturer shall be considered sub-standard and shall not be acceptable for this project.

The body shall be designed and manufactured entirely from formed and welded aluminum plate and aluminum extrusions to ensure a high quality design and finish that shall provide years of uninterrupted service. Bodies that incorporate steel as structural support or that utilizes steel in any way shall be considered sub-standard and shall not be acceptable for this project.

CONSTRUCTION DRAWINGS

A basic drawing will be included with the proposal. Upon award a fully detailed drawing will be supplied to the Fire Department. The drawing shall be signed and returned to the manufacturer and kept on file for future reference.

PRECONSTRUCTION CONFERENCE

The prime contractor will have a Pre-Construction Conference prior to any manufacturing. The purpose of meeting is to finalize all construction details. The location shall be at the manufacturing facility. All expenses for transportation, lodging and meals are paid for by the bidder. Trips in excess of 250 miles each way will be made by commercial air. The selling dealer and/or representative will be present at the pre-construction conference.

INSPECTION TRIPS

Two (2) inspection trips for **two (2)** customer personnel will be arranged with all expense for transportation and meals paid for by the dealer. Transportation will be by motor vehicle unless otherwise indicated in the proposal. Trips in excess of 250 miles each way will be made by commercial air.

Timing of the trips shall be coordinated between the customer and selling dealer.

- Pre-Construction
- Final Inspection

PERIODIC APPARATUS INSPECTIONS

At any time during the build process, representatives of the department are always encouraged to visit the factory at any time during business hours to check-in on the progress of their new custom built apparatus. A factory representative will always be on site to give updates and let department members see their truck as it is being built.

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Yes No

PROGRESS PICTURES

Progress pictures will be provided once body has started construction. Pictures will be provided throughout each phase of construction, paint and assembly.

DELIVERY

The completed apparatus will be delivered under its own power to the customer's designated location. A factory delivery technician will accompany the apparatus.

Apparatus review will be provided by an authorized representative of the manufacturer as prescribed by the customer.

SEATING CAPACITY PLATE

A permanent plate indicating seat belt use and occupancy shall be installed in a visible location.

HELMET WARNING PLATE

A permanent plate stating "DO NOT WEAR HELMET" shall be installed in a visible location.

FLUID CAPACITY PLATE

A permanent plate listing all fluids and capacities shall be installed in a visible location.

OVERALL HEIGHT PLATE

A plate indicating overall height, overall length, overall width and the vehicle GVRW shall be installed in a location visible to driver.

TAILBOARD PLATE

A permanent plate shall be installed at the rear indicating "DO NOT RIDE ON REAR STEP".

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Yes No

FORD COMMERCIAL CHASSIS

A Ford F550 4x4 chassis cab chassis shall be supplied with the following selected options.

- F550 4x4 Chassis Cab DRW/169
- 169 inch wheelbase
- Rapid Red paint
- 40/20/40 cloth seats
- Medium dark slate
- Preferred equipment package
- XLT trim
- AM/FM Stereo MP3/CLK
- 6.7L Power stroke V8 diesel
- 10 Speed auto torqshift
- 225/70R19.5G BSW Max Trac Tire
- 4.30 ratio limited slip axle
- Payload plus package upgrade
- Carpet delete
- XLT Value package
- Backglass defrost
- Fog lamps
- Adjustable gas / brake pedal
- Remote start system
- 8 way power seat driver
- 19500 GVWR Package
- Pro power onboard - 2kw
- Snow plow prep package
- High capacity trailer tow mirror
- Polished forged aluminum 19.5" wheels

CHASSIS WARRANTY

The chassis shall be warranted by the chassis manufacturer per the terms outlined in the detailed warranty document. The warranty will be provided with the completed apparatus.

CHASSIS SETUP

The chassis shall have adjustments made to ensure the proper configuration for accepting pumps and/or bodies. This shall include the repositioning of air tanks, frame cross members, step adjustments, etc.

CAB RUNNING BOARDS

There will be two (2) aluminum open grit running boards provided and mounted to the chassis cab. The running boards will run from the front wheel well to the back of the chassis cab, one (1) each side. The running boards shall be powder coated black.

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Yes No

SUPER SINGLE WHEELS AND TIRES

The chassis supplied tires and wheels shall be replaced with a Buckstop conversion kit with the following features.

- Speedometer Calibration Module
- High Arch Fender Flares and Body Modification Kit
- 20x11 Aluminum DOT Compliant Wheels QTY 5
- 335/80r20 Continental Tires w/Mount and Balance QTY 5
- 3-1/2" Coil Springs
- Radius Arms
- HD Track Bar Mount
- Shock Absorbers Premium Nitrogen, 35mm shaft, 10 Stage Valve QTY 4
- Bump stop drop mounts
- Rear Leaf Spring Blocks and U-Bolts

BATTERY CONDITIONER

A Pro-Power PS1ES single battery conditioner will be installed in a dry, protected area of the apparatus. The maximum output will be 15 amperes, supplied as required to the battery system. When fully charged, the conditioner will shut down.

- The conditioner will be wired to the 120-V shore power inlet.

BATTERY CONDITIONER GAUGE

An LED waterproof charge display shall be installed adjacent to the shore power inlet.

SHORE POWER RECEPTACLE

A KUSSMAUL 20-amp super auto-eject type receptacle shall be provided. This receptacle shall eject the male shore line from the apparatus when the engine starter switch is energized. The receptacle will be provided with a weather-proof cover. An appropriate end shall be provided.

Location: Rear of body

WEATHER PROOF COVER

The cover for the shore power receptacle shall be Yellow in color.

BACKUP ALARM

There shall be an electronic beeper that sounds when the truck is placed in reverse. The beeper shall be heard over all engine noise to warn persons on or near the truck.

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Yes No

CONSOLE / STORAGE BOX

A Plastix Plus Poly console and storage box will be installed between the driver and officer seats of the commercial chassis.

The apparatus switch box, siren and other accessories will be installed on the top face of the box with recessed brackets.

There shall be a storage area towards the back of the top face for books and binders. A padded hinged lid shall be provided.

Two (2) cup holders shall be included in the console rear of the accessories and forward of the storage box.

The console exterior shall be black.

BRUSH GUARD

A heavy duty steel replacement bumper and tubular brush guard will be installed on the apparatus chassis. The bumper shall replace the factory bumper and brush guard will extend to approximately the same level as the hood and to the sides of the vehicle fenders. The front bumper shall include mounting provisions for a permanent mounted front winch and electronic speaker mounts.

The unit will be powder-coated BLACK.

TRAILER HITCH

There shall be a Class III trailer hitch securely installed to the rear frame rails.

TRAILER WIRING

Wiring to accommodate the trailer hitch shall be installed on the apparatus. A weather resistant cover shall be included.

HITCH STEP

A step will be designed and installed in the rear hitch. It will be made from aluminum and have an open grit standing surface. The unit shall be powder coated black.

REAR TOW EYES - THROUGH REAR SHEETS

There shall be two (2) 3/4" thick heavy duty steel tow eyes supplied and securely attached to the rear of the frame rails.

WINCH - PERMANENT MOUNT

A Warn, model 16.5ti-S, 12-volt electric winch, with 16,500 lb. capacity shall be provided and mounted behind the front bumper of the chassis. The winch shall be secured directly to the chassis frame rails by a heavy steel support structure designed to withstand the pulling force of the winch.

The winch shall include 80 ft. of spydura pro rope with clevis hook, 12 foot remote control pendant, 4-way roller fairlead through the bumper.

WIRELESS CONTROL

A Warn wireless control system shall be provided.

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Yes No

WATEROUS PTO PUMP

The pump shall be a PTO driven Waterous 500 GPM single stage model CLVK Centrifugal Fire Pump.

The Waterous CL provides versatility with single-stage simplicity at NFPA 1902 rated capacity of 500 GPM (1900 L/min) and pressure to 350 psi (24 bar). The CL pump is compact and lightweight, with a one-piece design that makes it easy to service and maintain.

Specifications

- High-tensile, one-piece, gray iron casing (bronze optional on CLV only).
- Bronze, double-hubbed, precision-balanced impeller
- 17-4 stainless steel impeller shaft, heat-treated, machined and ground to precision.
- Bronze replaceable wear rings to increase pump life and minimize maintenance costs.
- Maintenance-free, self-adjusting shaft seal.
- Standard transmission includes hardened, helical cut constant mesh gears for maximum power, quiet operation and long life.

Oil- or grease-lubricated deep-groove ball bearings, situated outside the pump casing for accurate alignment.

LIVE DRIVE PLUS

A Live Drive Plus system shall be provided and installed to run the pump.

The Super Duty® Chassis Cab offers the available class-exclusive live-drive power takeoff provision. Because it is integrated into the transmission's design, upfitting your truck at the shop happens a lot faster and with fewer headaches. The live-drive power takeoff utilizes an output gear linked directly to the engine crankshaft to power upfits anytime the engine is running, whether you're in motion or at a stop - and lets you use applications like salt spreaders, tree-trimming equipment and more.

CHELSEA PTO

A Chelsea PTO shall be installed on the side of chassis transmission for powering the pump.

VPO/VPOS OILLESS PRIMING SYSTEM

A Waterous VPO/VPOS oil-less priming system shall be supplied with the pump. The unit shall have a push button control.

PUMP PRESSURE GOVERNOR

A Fire Research PumpBoss series PBA404-DOO pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor and cables. The control module case shall be waterproof and have dimensions not to exceed 6-3/4" high x 4-5/8" wide x 1-1/2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1-3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring. Inputs to the control module from the pump discharge and intake pressure sensors shall be electrical.

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**Bidder
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Yes No

The following continuous displays shall be provided:

- Engine RPM: shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LED's
- Oil pressure: shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature: shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) bar LED bar graph display
- Battery voltage: shown on a dual color (green/red) LED bar graph display
- Pressure and RPM operating mode LED's
- Pressure / RPM setting: shown on a dot matrix display
- Throttle ready LED

The dot matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operations.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (engine off)
- Low Battery Voltage (engine running)
- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response (visual alarm only)

The program features shall be accessed via push buttons located on the front of the control module. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 PSI. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The PumpBoss shall be located on the driver's side pump panel door.

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**Bidder
Complies**

Yes No

PUMP CONTROL PANEL

A control panel for the pump and related systems shall be included. The panel will include the following:

- Panel light
- Master pressure gauge
- Master suction gauge
- FRC Pump Boss Pressure Governor
- Waterous Electric Primer Controller
- Hose Rewind Button
- Work Light Switch
- Tank Level Gauge

The panel will be mounted on or near the pump plumbing assembly at the rear of the truck.

STAINLESS STEEL FOAM DISCHARGE MANIFOLD

A stainless steel manifold shall be installed on the portable water pump.

The manifold is to be connected to the discharge port on the water pump and be ported for a foam system.

STAINLESS STEEL FOAM SUCTION MANIFOLD

A stainless steel manifold shall be installed on the portable water pump.

The manifold is to be connected to the intake port on the water pump and have ports for a foam system.

4" SUCTION

A 4" suction valve shall be installed on the stainless intake manifold. Valve shall be plumbed to the suction side of pump.

GATE VALVE

A 4" TFT Gate Valve with handwheel control shall be provided and installed.

A 4" Cap shall be provided.

TANK TO PUMP

The tank to pump valve shall be a 3" inline, installed on the stainless intake manifold between the water tank and the pump. The control shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valve.

The valve shall be Akron brand.

MASTER PUMP DRAIN

A Master drain that will have the capacity to drain all lines and the main pump at the same time shall be supplied.

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**Bidder
Complies**

Yes No

PUMP TO TANK LINE

There shall be a 1.5" pump to tank fill line installed with a 1.5" inline valve. The control shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valve.

The valve shall be Akron brand.

2-1/2" DISCHARGES (2)

Two (2) 2-1/2" discharges shall be located on stainless steel pump discharge manifold. The 2" valves shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valves. The threads on the valves shall be 2-1/2" National Standard. A chrome cap and chain shall also be supplied with each valve.

The valves shall be Akron brand.

REMOTE BUMPER SPRAY NOZZLES

A pair of bumper spray nozzles shall be installed under the front bumper. The electric valves shall be controlled from a switch in the cab.

The nozzles shall be controlled separately in the cab, one for the left side and one for the right side.

BUMPER SPRAY PLUMBING

There shall be a 1" inline valve installed between the pump and the cab control unit. The control shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valve. A 1" flexible high pressure hose shall be installed between the valve and cab mounted electric valve.

The manual valve shall be Akron brand.

PRECONNECT LINE

There shall be a 1-1/2" preconnect line installed with a 1-1/2" inline valve. The piping shall be flexible high pressure hydraulic hose lines using stainless steel couplings. There will be a fitting on the end for the appropriate appliance. The control shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valve.

The valve shall be Akron brand.

PRECONNECT LINE

There shall be a 2-1/2" preconnect line installed with a 2-1/2" inline valve. The piping shall be flexible high pressure hydraulic hose lines using stainless steel couplings. There will be a fitting on the end for the appropriate appliance. The control shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valve.

The valve shall be Akron brand.

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Complies**

Yes No

BOOSTER REEL PLUMBING

There shall be a 1" inline valve installed between the pump and the booster reel. The control shall be a quarter-turn lock-type of the fixed pivot design, with the handle located along side the valve. A 1" flexible high pressure hose shall be installed between the valve and hose reel.

The valve shall be Akron brand.

BOOSTER REEL

A Hannay steel booster reel with painted disc shall be installed as directed. Reel shall be constructed utilizing a steel welded base. Rewind will be a 12-volt electric motor and will chain drive the reel drum. The booster reel shall have an automatic brake to prevent the booster hose from unwinding . Reel shall have a capacity for **200' of 1"** booster hose. A fully shielded, rewind switch shall be provided in a convenient location as directed. A gear driven manual rewind shall be included.

Location: Centered at forward of body to deploy off both sides

BOOSTER REELROLLERS / GUIDES

Two (2) sets of stainless steel rollers with guides shall be furnished for the booster reel, one (1) each side to allow for deployment off either side of the truck.

BOOSTER HOSE

There shall be two (2) length(s) of 1" x 100' non collapsing hose with 1" NST couplings supplied. The hose shall be Niedner Reeltex.

DRY HOSE REEL

A Hannay steel booster reel with painted disc shall be installed as directed. Reel shall be constructed utilizing a steel welded base. Rewind will be a 12-volt electric motor and will chain drive the reel drum. The booster reel shall have an automatic brake to prevent the booster hose from unwinding . Reel shall have a capacity for **700' of 1.5"** forestry hose. A fully shielded, rewind switch shall be provided in a convenient location as directed on the pump panel. A gear driven manual rewind shall be included.

There shall be no fitting or plumbing supplied on the booster reel.

Location: At rear of body left of suction hose storage for deployment off rear

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**Bidder
Complies**

Yes No

POLYPROPYLENE WATER TANK

The booster tank shall have a capacity of **500** US gallons.

CONSTRUCTION:

The water tank shall be constructed of polypropylene or Polyrene sheet stock. This material shall be a non-corrosive thermo plastic.

The booster and/or foam tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. The tank shall be constructed utilizing latest thermo plastic welding technology. The tank shall undergo extensive testing prior to installation in the truck. In addition, the completed tank shall be water pressure tested. Baffles, both longitudinal and latitudinal shall be interlocking and thermo welded to minimize water surge during travel, enhancing road handling stability. Openings in the baffles shall be positioned to allow water flow to NFPA standards during filling or pumping operations. The tank shall be mounted on hard rubber cushions to isolate the tank from road shock and vibrations. The tank shall be mounted according to manufactures recommendations. The tank shall be completely removable without disturbing or dismounting the apparatus body structure. A lifetime manufacturer's statement of Warranty shall warrant each tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle.

FILL TOWER AND COVER:

The tank shall have a combination vent and manual fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the customer. The tower shall have a 1/4" thick removable polypropylene screen and a hinged cover. Inside the fill tower approximately 4" down from the top shall be fastened a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I. D. of 4" that is designed to run through the tank and shall be piped behind the rear wheels to maximize traction.

SUMP:

There shall be one (1) sump standard per tank. On tanks that require front suction, 4" schedule 40 polypropylene pipe shall be installed that will incorporate a dip tube from the front of the tank to the sump location. The sump shall have a minimum 3" NPT threaded inlet on the bottom for a drain plug. This shall be used as a combination clean out and drain.

OUTLETS:

There will be two (2) standard tank outlets: One for tank to pump suction line which shall be a minimum of 3" NPT coupling; and One for a tank fill line which shall be a minimum of 2" NPT coupling. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

POLYPROPYLENE TANK WARRANTY - LIFETIME

The water tank manufacturer shall warrant the booster/foam tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle. The tank must be installed in accordance with tank manufacturer's installation recommendations.

A copy of the tank manufacturer's warranty, including terms and limitations will be provided upon delivery of the completed apparatus.

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**Bidder
Complies**

Yes No

WATER TANK LEVEL GAUGE

A FRC Tank vision water level display with ultra-brite LED display shall be installed. A single pressure transducer shall be installed in the main water tank.

CAB WATER TANK LEVEL GAUGE

A FRC mini tank level light shall be installed as directed. The light will be installed in the cab on the switch panel.

HOSEBED

A hosebed shall be provided and located on the top of the apparatus on the passenger side.

The hosebed shall include a divider to split the two preconnected hose storage areas.

Minimum Hose Capacity: 150' of 2-1/2" preconnected, 150' of 1-3/4" preconnected

DRIP CAP HOSEBED SIDES

An 1/8" smooth aluminum drip cap shall be supplied on the upper side walls of the body.

HOSEBED COVER

A 22 oz. hose bed cover shall be provided. The cover shall be fire retardant Hypalon material and installed over the hose bed. The cover shall have bungee straps along the sides and awning track on the front edge. The end of the hose bed cover shall be weighted and cover hose bed opening.

The hosebed cover shall be black.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

EXTRUDED ALUMINUM BODY SUPERSTRUCTURE

The body subframe is to be entirely welded, constructed of 6061-T6 extruded aluminum tubing with **minimum** dimensions of 4"x2"x1/4". All vertical components are to be reinforced to the substructure with 2"x2"x1/4" 6061-T6 TUBULAR gussets at strategic points to assure structural integrity.

The body sides are to be constructed from 2"x2"x1/4" 6061-T6 structural aluminum tubing welded to form a continuous support matrix for the hose body and compartments. The interior components will be welded along perimeter and along each side for additional support.

The upper body side panels shall be constructed with a single sheet to present a seamless construction and maximum corrosion protection.

The tank cradle will be designed to support the bottom of the water tank to prevent movement and structural damage when the unit is loaded and under motion. Reinforced rubber pads with a 60# rating will be installed in the cradle and at the corner angles to cushion the tank; no mechanical attaching devices will protrude through the rubber. Multiple 1-3/4" x 2" solid bar shall be welded into the sub frame for the tank mounting brackets.

Fender liners will be independent from the compartment sides to provide maximum corrosion and impact protection. Wheelwell fastening support angles shall be welded and be made from 1" x 1" x 1/4" angle.

The apparatus body shall be entirely independent from the chassis frame. It is to be attached to the frame over 1/2" x 3" 60# rubber pads running the full length of body. The unit is to be designed so as to be removable from the chassis in the event of future chassis replacement.

EXTRUDED ALUMINUM APPARATUS BODY

The apparatus body compartments are to be constructed from 1/8" - 3/16" aluminum alloy. All compartments are to be formed and welded to the substructure and sidewalls. Lower compartment floors are to be fitted with hat section supports to allow for loading of heavy equipment.

COMPARTMENTATION:

Each compartment shall be "sweep-out" style. The compartments shall not share a common wall and shall be individually vented. The compartments shall be divided as follows:

Compartment	Interior Dimensions			Door Opening	
	Width	Height	Depth	Width	Height
L1	52	39	Transverse / 16	48	39
L2	47	19	16	47	17
L3	33	39	16	31	39
R1	52	39	Transverse / 16	48	39
R2	83	19	16	83	17
R3	33	17	16	31	17

SUPERSTRUCTURE AND BODY WARRANTY - LIFETIME

The manufacturer shall warrant to the original purchaser that the apparatus superstructure and body is structurally sound and free of all structural defects of workmanship and material and further warrants that it will maintain its structural integrity for the life of the apparatus. This warranty shall not pertain to issues of paint finish, hardware, moldings or accessories. The warranty shall terminate upon transfer of possession or ownership by the original purchaser.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

L1 COMPARTMENT

The following is a description of items included with the compartment.

HINGED DOORS

The double compartment doors are to be constructed from 3/16" (.190) aluminum plate material, with 1/8" material being used for inner pan construction. Doors are to be exterior overlap type, with a continuous rubber seal of closed cell neoprene. Hinges to be stainless steel continuous piano-type, attached to the doors and apparatus body with threaded stainless steel fasteners. A C-section reinforcement shall be installed between the outer and interior door panels. A 1/4" drain hole shall be installed in the lower corners of the inside door pans for drainage.

Door handles to be Eberhard chrome ambulance style latches.

The doors will utilize gas or spring door checks.

ADJUSTABLE SHELF TRACKING

There shall be tracking installed in one (1) compartment to accommodate the installation of adjustable shelves and/or roll-outs. The tracks shall be installed vertically on the walls of the compartment.

LED COMPARTMENT LIGHTS

Two (2) extruded aluminum LED strip lights shall be installed in the compartment. The strip lights shall be installed in a vertical position and run the full height of the compartment, one (1) each side.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

L2 COMPARTMENT

The following is a description of items included with the compartment.

HINGED DOOR

The horizontally hinged lift-up compartment door is to be constructed from 3/16" (.190) aluminum plate material, with 1/8" material being used for inner pan construction. Doors are to be exterior overlap type, with a continuous rubber seal of closed cell neoprene. Hinges to be stainless steel continuous piano-type, attached to the doors and apparatus body with threaded stainless steel fasteners. A C-section reinforcement shall be installed between the outer and interior door panels. A 1/4" drain hole shall be installed in the lower corners of the inside door pans for drainage.

Door handles to be Eberhard chrome ambulance style latches.

The door will utilize gas or spring door checks.

ADJUSTABLE SHELF TRACKING

There shall be tracking installed in one (1) compartment to accommodate the installation of adjustable shelves and/or roll-outs. The tracks shall be installed vertically on the walls of the compartment.

LED COMPARTMENT LIGHTS

Two (2) extruded aluminum LED strip lights shall be installed in the compartment. The strip lights shall be installed in a vertical position and run the full height of the compartment, one (1) each side.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

L3 COMPARTMENT

The following is a description of items included with the compartment.

HINGED DOOR

The vertically hinged swing open compartment door is to be constructed from 3/16" (.190) aluminum plate material, with 1/8" material being used for inner pan construction. Doors are to be exterior overlap type, with a continuous rubber seal of closed cell neoprene. Hinges to be stainless steel continuous piano-type, attached to the doors and apparatus body with threaded stainless steel fasteners. A C-section reinforcement shall be installed between the outer and interior door panels. A 1/4" drain hole shall be installed in the lower corners of the inside door pans for drainage.

Door handles to be Eberhard chrome ambulance style latches.

The door will utilize gas or spring door checks.

ADJUSTABLE SHELF TRACKING

There shall be tracking installed in one (1) compartment to accommodate the installation of adjustable shelves and/or roll-outs. The tracks shall be installed vertically on the walls of the compartment.

LED COMPARTMENT LIGHTS

Two (2) extruded aluminum LED strip lights shall be installed in the compartment. The strip lights shall be installed in a vertical position and run the full height of the compartment, one (1) each side.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

R1 COMPARTMENT

The following is a description of items included with the compartment.

HINGED DOORS

The double compartment doors are to be constructed from 3/16" (.190) aluminum plate material, with 1/8" material being used for inner pan construction. Doors are to be exterior overlap type, with a continuous rubber seal of closed cell neoprene. Hinges to be stainless steel continuous piano-type, attached to the doors and apparatus body with threaded stainless steel fasteners. A C-section reinforcement shall be installed between the outer and interior door panels. A 1/4" drain hole shall be installed in the lower corners of the inside door pans for drainage.

Door handles to be Eberhard chrome ambulance style latches.

The doors will utilize gas or spring door checks.

ADJUSTABLE SHELF TRACKING

There shall be tracking installed in one (1) compartment to accommodate the installation of adjustable shelves and/or roll-outs. The tracks shall be installed vertically on the walls of the compartment.

LED COMPARTMENT LIGHTS

Two (2) extruded aluminum LED strip lights shall be installed in the compartment. The strip lights shall be installed in a vertical position and run the full height of the compartment, one (1) each side.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

R2 COMPARTMENT

The following is a description of items included with the compartment.

HINGED DOOR

The horizontally hinged lift-up compartment door is to be constructed from 3/16" (.190) aluminum plate material, with 1/8" material being used for inner pan construction. Doors are to be exterior overlap type, with a continuous rubber seal of closed cell neoprene. Hinges to be stainless steel continuous piano-type, attached to the doors and apparatus body with threaded stainless steel fasteners. A C-section reinforcement shall be installed between the outer and interior door panels. A 1/4" drain hole shall be installed in the lower corners of the inside door pans for drainage.

Door handles to be Eberhard chrome ambulance style latches.

The door will utilize gas or spring door checks.

ADJUSTABLE SHELF TRACKING

There shall be tracking installed in one (1) compartment to accommodate the installation of adjustable shelves and/or roll-outs. The tracks shall be installed vertically on the walls of the compartment.

LED COMPARTMENT LIGHTS

Two (2) extruded aluminum LED strip lights shall be installed in the compartment. The strip lights shall be installed in a vertical position and run the full height of the compartment, one (1) each side.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes

No

R3 COMPARTMENT

The following is a description of items included with the compartment.

HINGED DOOR

The vertically hinged swing open compartment door is to be constructed from 3/16" (.190) aluminum plate material, with 1/8" material being used for inner pan construction. Doors are to be exterior overlap type, with a continuous rubber seal of closed cell neoprene. Hinges to be stainless steel continuous piano-type, attached to the doors and apparatus body with threaded stainless steel fasteners. A C-section reinforcement shall be installed between the outer and interior door panels. A 1/4" drain hole shall be installed in the lower corners of the inside door pans for drainage.

Door handles to be Eberhard chrome ambulance style latches.

The door will utilize gas or spring door checks.

ADJUSTABLE SHELF TRACKING

There shall be tracking installed in one (1) compartment to accommodate the installation of adjustable shelves and/or roll-outs. The tracks shall be installed vertically on the walls of the compartment.

LED COMPARTMENT LIGHTS

Two (2) extruded aluminum LED strip lights shall be installed in the compartment. The strip lights shall be installed in a vertical position and run the full height of the compartment, one (1) each side.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

UPPER BODY STORAGE COMPARTMENT (1)

One (1) open top upper compartment running the length of the body shall be installed on the driver side outer edge of the body.

The compartment interior shall be co-polymer or aluminum. Drain holes are to be installed at the front corners of the floor.

COMPARTMENT COVER

A 22 oz. compartment cover shall be provided. The cover shall be fire retardant Hypalon material and installed over the compartment top. The cover shall have bungee straps along the sides and ends. The cover shall be black.

DRI-DECK MATTING - UPPER BODY STORAGE COMPARTMENT

The surface of one (1) upper body storage compartment floor shall be covered with black Dri-Deck mat.

LED COMPARTMENT LIGHTS - UPPER STORAGE

One (1) LED strip light with a clear cover shall be installed in each upper compartment as directed. The strip light shall be installed in a horizontal position as best fits the application.

COMPARTMENT INTERIOR FINISH

All exterior compartments of the pumper/rescue apparatus will be constructed from fire apparatus quality aluminum material. All exterior seams will be welded and sealed from weather and dust. The interior compartment seams will all be carefully caulked with a gray sealant for further protection and cosmetics.

The apparatus compartment interiors will be polished aluminum diamondplate.

RUBRAILS

Poly rub rails shall be provided along the lower edge of the apparatus body. The rub rail assemblies shall be spaced-out and isolated from the body with non-metallic materials. Each rub rail shall be a minimum of 1" thick and tapered at each end.

BODY FACE PACKAGE

The front face of the apparatus body will be trimmed with 1/8" polished diamondplate aluminum. Body support extrusions will be drilled and tapped for application of stainless steel fasteners to hold the panels in place. The panels are to be easily removable for service.

The rear face of the body will be trimmed with 1/8" smooth plate aluminum to allow easy application of chevron material.

All exterior edges will be sanded and rounded to prevent the catching of equipment or any injuries. The exterior seams shall be carefully caulked for water prevention and cosmetics.

REAR TAILBOARD

An 11" rear tailboard step will be provided. The step will be constructed from 1-1/2" extruded aluminum. Extrusion shall have a non-slip surface with punched holes. Tailboard shall be supported by heavy 2" x 2" x 3/8" angles welded directly to the body superstructure.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

REAR WHEELWELL TRIM

The area around the rear wheel openings shall be constructed from aluminum diamondplate. The wheelwells shall be completely removable for ease of service and replacement.

RUBBER FENDERETTES

Rubber fenderettes shall be installed on the rear wheelwells. They shall be bolted so as to be easily removable for service and/or replacement.

MISCELLANEOUS HARDWARE

One bag of miscellaneous hardware shall be supplied with the finished apparatus. This hardware shall consist of nuts, bolts, screws, washers, etc. used in the manufacture of the apparatus.

REAR MUDFLAPS

Mud flaps shall be installed made from hard black rubber and shall be installed on the body, behind the rear tires.

FUEL INLET

There shall be a cast aluminum bezel around the fuel inlet. The bezel will be clearly marked "DIESEL FUEL ONLY".

DEF INLET

There shall be a DEF fill located on the front of the body, driver side. The bezel will be clearly marked "DEF ONLY".

SUCTION HOSE STORAGE

A hard suction hose compartment shall be provided on the top of the body between the reels and the hosbed. The compartment shall hold two (2) 3"x 10' hoses.

A velco strap shall be provided at rear of compartment to hold suction hoses.

OPEN STORAGE COMPARTMENT

The apparatus shall be equipped with an open storage compartment configured above the suction hose storage area. The compartment shall be open to the top and rear of the truck.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

LIGHTED FOLDING STEP - REAR - DRIVER SIDE

There shall be a cast folding step mounted as required on the rear of the apparatus, driver side. The step will be NFPA compliant. The step shall include an LED light to light up the top of the step and another LED light to light up the area below the step. The lights will be activated with the parking brake.

LIGHTED FOLDING STEP - REAR - PASSENGER SIDE

There shall be a cast folding step mounted as required on the rear of the apparatus, passenger side. The step will be NFPA compliant. The step shall include an LED light to light up the top of the step and another LED light to light up the area below the step. The lights will be activated with the parking brake.

REAR BODY HANDRAILS

There shall be two (2) 30" long handrails manufactured from 1-1/4" diameter extruded aluminum with chrome end stanchions. They shall be mounted vertically at the rear of the apparatus body.

In the event there is telescoping scene light, ladder or folding step installed in the same location(s), these items may be substituted in an effort to conserve mounting space on the body.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

ALUMINUM BODY PAINT FINISH

All paintable surfaces shall conform to the following procedure, ensuring a durable finish:

- Aluminum body exterior shall not have components mounted to paintable surfaces prior to application of protective anti-corrosion and topcoat refinish materials.
- All paintable aluminum surfaces shall be sanded/ground to remove all burrs, rough edges and other imperfections from the fabrication process.
- All paintable metal surfaces shall have an anti-corrosion coating and an epoxy-based primer applied to them before the application of body fillers.
- After application and finishing of all filler work, any bare metal areas shall be recoated with an anti-corrosion coating and an epoxy-based primer before continuing the refinish process.
- The unit shall be sprayed with a high quality urethane primer-surfacer. The primer-surfacer shall be sanded to provide a smooth appearing surface that will facilitate adhesion of a urethane-based sealer. The urethane-based sealer shall be applied in such a manner to provide a uniform surface for the application of subsequent topcoats. The apparatus body shall be top-coated with basecoat/ clear coat polyurethane paint system. The finished paint surface shall have a high gloss- >85 using a 60° gloss meter.
- Any location where aluminum is penetrated after the refinish process has been completed, shall be treated with a corrosion inhibiting compounds.

Color/Code: Match chassis color

PAINT WARRANTY - FIVE YEARS

The paint performance guarantee will cover the areas of the vehicle finished with the specified product for a period of five (5) years beginning the day the vehicle is delivered to the purchaser.

The areas as outlined on the Guarantee Certificate will be covered for the following paint failures:

GUARANTEE INCLUSIONS: FULL APPARATUS BODY MANUFACTURED AND PAINTED BY THE MANUFACTURER:

- Peeling or de lamination of the topcoat and/or other layers of paint.
- Cracking or checking.
- Loss of gloss caused by cracking, checking, or hazing.
- Any paint failure caused by defective finishes which are covered by this guarantee.

All guarantee exclusions, limitations, and methods of claims are covered in the full certificate provided to the original purchaser.

Not included in the guarantee is paint finish deterioration due to:

- Body corrosion/rust
- Scratches, abrasions, or stone chips
- The use of detergents or waxes not designed for automotive use
- Acid rain, chemicals, industrial fallout or other environmental effects
- Physical damage caused by accidents, vandalism or any negligent acts of the apparatus operators
- Paint or coatings on the vehicle's undercarriage, interior, or aerial structure
- Applied or painted graphics, reflective material

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes

No

- Paints or coatings of supplier parts
- Mechanical abrasion or external foreign object damage
- Application of, or removal of, stickers or decals including replacement.
- Body compartment interior coatings, undercarriage and frame
- Bedliner finished or powder coated items

The paint warranty is a full term (non-prorated) warranty.

TOUCH UP PAINT

A container with touch-up paint shall be provided with each truck. The container shall have a small touch-up brush that is attached to the top of the container.

DISSIMILAR METALS

The body and components shall be thoroughly protected against corrosion and/or oxidation caused by contact between dissimilar metals. These areas shall be protected by the use of corrosion resistant primers, gaskets and "ECK" (electrolic corrosion material) or any equivalent material.

BODY UNDERCOATING

Undercoating of the apparatus body shall conform to the following;

- The rubberized undercoating shall be black in color and uniform in texture.
- The underside (chassis frame rails downward) of the apparatus body shall be sprayed with rubberized undercoating.
- The wheel well sections of the apparatus will be undercoated completely (above and below the chassis frame rail).
- The undercoating shall have corrosion-preventative properties.
- The undercoating material shall contain no asbestos.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

LETTERING

Lettering will be provided by the manufacturer as follows:

Per customer design
3-1/2" shaded letters / numbers Scotchlite material shaded in black.

Cab Fenders:
TRUCK #####

Front License Plate Holder:
TRUCK #####

Upper Body Sides:
MELROSE TOWNSHIP
FIRE & RESCUE

Body Doors:
DIAL 911 (In stripe)

Rear Body:
TRUCK #####

DEPARTMENT LOGO/EMBLEM

One set of department logo will be supplied with the truck and put on front doors of chassis unless otherwise specified or approved.

NFPA BODY STRIPE

A 4" body stripe of black reflective is to be furnished around the entire apparatus with the exception of the wheel wells, pump panels, grille and rear of the apparatus over the chevron material.

The stripe will transform to a "Z" configuration on the body compartment directly ahead of the rear wheels up to the point 6" above the over-wheel compartment door hardware.

Customer approval of the final design is required.

CHEVRON STRIPING - REAR

Chevron striping shall be applied to the entire rear wall of the apparatus body. The chevrons shall consist of 6" wide Diamond Grade reflective striping at 45 degree angles from the tailboard in an inverted "V" pattern. The stripes shall alternate red reflective, lime reflective, red reflective, etc. Chevron striping shall not be included on the roll-up door if one is present, unless otherwise noted.

CAB DOOR REFLECTIVE

The interior of each door shall include high visibility reflective tape. A white reflective tape that measures 1" in width shall be provided vertically along the outer rear edge of the door.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

APPARATUS BODY ELECTRICAL SYSTEM

All electrical equipment installed by the apparatus builder shall conform to current automotive electrical system standards and the latest standards as outlined in NFPA #1901.

All electrical wire installed by the apparatus builder shall be rated to carry 125 percent of the maximum current for which the circuit is protected. A high-temp automotive primary wire that is insulated with chemically cross-linked Polyethylene and withstands prolonged temperatures of up to 350 degrees F. without melting or fusing shall be used. Wire shall be highly resistant to grease, oil, acids, brake fluid and abrasion. Wire shall meet or exceed S.A.E. specifications J1127.

Electrical connections in exposed areas outside of the cab shall be made using heat shrink or weather-proof connections. All connections shall have a corrosion preventative compound applied to them. All weather exposed lights shall have the sockets coated with this same compound.

Wire shall be individually color coded and be labeled every six (6") inches on the insulation. Wiring installed by body builder shall be run in a heat protective loom that is held in place with a rubber coated bracket that is fastened in place with stainless steel screws.

There will be two (2) wire terminal points that will be used as test points and for service. The location of these points will be in the apparatus cab and in an enclosed box recessed into the side or back wall of a rear compartment. All wire connections shall be protected to promote a lasting, corrosion-free connection. All exterior terminal blocks will be installed in a weather resistant box. All wire harnesses will be easily accessible and replaceable. All wires shall be protected by automatic circuit breakers that will reset.

WHELEN CENCOM CORE SYSTEM

The apparatus shall be equipped with a Whelen Cen-Com core electrical control system.

CEM-COM Core is a CAN-based communication system that provides true system synchronization, greater speed capabilities, expanded peripheral add-ons, full support of diagnostics, and is designed for optimal situational awareness programming.

Included features are;

- Supports any combination of 99 WeCanX devices.
- Support for multiple Whelen® peripherals of the same type on the same vehicle.
- All CANport™ signals are configurable as triggerable Events.
- Allows for access to every connector and fuse from the top of the box.
- Supports firmware updates via USB-C with Whelen Command™, our newest programming software.
- 12 logic inputs
- 1 ignition power-up input
- 4 analog inputs
- 2 15A outputs
- 4 10A outputs
- 16 2.5A outputs
- 1 dry contact relay
- Battery voltage sensor
- 200W amplifier

The following components shall be included:

- 1) C399 Core System
- 1) CCT6 Siren and Light Control Head

All necessary expansion modules and harnessing shall also be included.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

CONTROLLER BRACKET

A flush mount siren / light controller bracket shall be supplied and installed in the center console/dash.

CAB MOUNTED SWITCH PANEL

A Whelen CCTL6 switch panel, designed for the specified chassis and body will be provided and mounted in the center console. Backlighting will glow at low intensity with the ignition on and at high intensity when the circuit is activated.

Each switch label will be specifically identified.

12-V NFPA TEST

The following NFPA 9-14 test requirements shall be performed:

- Reserve capacity test
- Alternator test at idle
- Alternator test at full load
- Low voltage alarm test

CLEARANCE LIGHTS AND REFLECTORS

Clearance lights and reflectors shall be installed to meet current DOT standards and include:

- Two (2) Red LED marker lights
- Four (4) Red reflectors
- Two (2) Amber reflectors
- One (1) Red LED three-light cluster under the rear step.

STOP/TAIL, TURN AND BACKUP LIGHTS

Whelen M6 series lights shall be installed at the rear of the apparatus as follows:

- Red LED stop/tail/turn light, one (1) each side
- Clear LED backup light, one (1) each side

Each shall be installed inside a one-piece housing, one each side. The lower rear warning light shall be included in the 3 light housing.

REAR LOWER LIGHTS BEZEL COLOR

The surface mounted lower stop/tail/turn and back up lights shall include chrome bezels.

REAR LOWER LIGHTS LENS COLOR

The surface mounted lower stop/tail/turn and back up lights shall include colored lenses to match the light color.

LICENSE LIGHT AND BRACKET

A polished aluminum LED license plate light and bracket shall be installed on the rear of the vehicle.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

LED CAB GROUND LIGHTS (2)

Under body lighting will be provided for the apparatus cab doors. Two (2) LED strip lights with clear lenses will be mounted below the apparatus cab, one (1) under each cab door. The lights will be controlled by the parking brake switch.

LED BODY GROUND LIGHTS (4)

Under body lighting will be provided for the apparatus body. Four (4) LED strip lights with clear lenses will be mounted below the apparatus body, one (1) under each full height compartment. The lights will be controlled by the parking brake switch.

LED REAR TAILBOARD / BUMPER GROUND LIGHTS (2)

Under tailboard/bumper lighting will be provided for the rear of the apparatus. Two (2) LED strip lights with clear lenses will be angle mounted below the rear tailboard/bumper. The lights will be controlled by the parking brake switch.

PUMP SERVICE LIGHT

There shall be an LED light with clear lens mounted inside the pump compartment to provide sufficient lighting.

COMPARTMENT DOOR SWITCHES

All exterior compartment doors will be provided with a door switch that shall activate the "Door Ajar" indicator light. The switch shall be installed not to interfere with loading or unloading the equipment stored within the compartment.

DOOR AJAR INDICATOR

There shall be a red flashing door-ajar indicator located on the cab in easy view of the driver. The light shall be illuminated automatically whenever the apparatus parking brake is released and the following conditions exist:

- Any passenger or equipment door is open.
- Any ladder or equipment rack is not in the stowed position.
- Powered light tower is extended.
- Any other device is opened, extended or deployed that creates a hazard, or is likely to cause damage to the apparatus if it is moved.

HOSEBED LIGHT

A LED strip light shall be installed to light the hosebed. The light shall be activated by the park brake switch. The light shall be protected and be mounted at the front of the hosebed.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

REMOTE SPOT LIGHTS

The cab shall include two (2) Whelen ARGES1 (black) remote controlled spotlights.

- Proclera® Optic Technology
- 360° of continuous rotation and a 180° tilt range
- Program Arges with Whelen Command™ or use alone with its paired control head
- The drivetrain is electronically and mechanically protected
- Control head features a paddle and three push-buttons
- Arges installs quickly and requires no A-pillar drilling or airbag interference
- Black die-cast aluminum housing

Location: Cab fenders, one each side

SIDE SCENE LIGHTS

The front upper sides of the body shall include two (2) Whelen M6 scene lights, one (1) each side which shall be surface mounted. The Whelen lights shall offer LED directional lighting from 2 to 40-degrees with internal and external optics.

SIDE SCENE LIGHTS

The rear upper sides of the body shall include two (2) Whelen M6 scene lights, one (1) each side which shall be surface mounted. The Whelen lights shall offer LED directional lighting from 2 to 40-degrees with internal and external optics.

REAR SCENE LIGHTS

The rear of the body shall include two (2) Whelen M6 scene lights, one (1) each side which shall be surface mounted. The Whelen lights shall offer LED directional lighting from 2 to 40-degrees with internal and external optics.

SCENE LIGHTING BEZEL COLOR

The surface mounted scene lights shall include black bezels.

SCENE LIGHTING SWITCHING

The body and/or cab mounted scene lights shall include switches in the cab. Each side of the apparatus will include its own switch if applicable.

SIDE LED TELESCOPING SCENE LIGHTS

Two (2) Whelen Pioneer spot/flood single head 12V push up telescopic lights shall be installed on the sides of the apparatus, one (1) each side. The light poles shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as a NPFA compliant handrail. The pole mounting brackets shall have a 3-1/2" offset. Wiring shall extend from the pole bottom with a 4' retractable cord. The lamp head shall be powder coated black.

SIDE TELESCOPING SCENE LIGHTING LOCATION

The apparatus mounted telescoping scene lights shall be located on the front of the body.

TELESCOPING SCENE LIGHTING HEAD COLOR

The apparatus mounted telescoping scene lights shall include black heads.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

TELESCOPING SCENE LIGHTING SWITCHING

The telescoping scene lights shall include switches in the cab. Each side of the apparatus will include its own switch if applicable.

POWER AND GROUND STUDS - RADIO WIRING

An auxiliary set of power and ground studs shall be provided and installed in the console.

Both 12V constant hot and 12V master power shall be provided.

RADIO INSTALLATION

The apparatus shall have a customer supplied single head radio installed as directed. Programming of the radio is not included.

RADIO BRACKET

A flush mount radio bracket shall be supplied and installed in the center console/dash.

ANTENNA WIRING

The apparatus shall have one (1) antenna base and cable supplied and installed on the cab roof. The whip shall be customer supplied. The antenna cable shall be ran to the cab console.

BACKUP CAMERA

A back-up camera with color monitor shall be installed on the apparatus. The monitor shall be a minimum 7" color LCD display and be on the dash, center console or in place of the rear view mirror. A waterproof I/R camera shall be mounted on the rear of the apparatus. The camera shall provide not less than 270 pixel resolution. The system shall automatically activate when the vehicle is placed in reverse. An on/automatic selector switch shall be mounted on the chassis dash.

CAB FRONT LIGHTBAR

One (1) Whelen brand Justice JE2NFPA lightbar shall be mounted centered on the front of the cab roof. The lightbar shall be 56.00 inches in length. The lightbar shall feature eight (8) red LED lights and two (2) clear LED lights. The clear lights shall be disabled with park brake engaged. The cable shall exit the lightbar on the right side of the cab.

INBOARD FRONT WARNING LIGHTS

The front grille shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the grille within a bezel.

The warning lights shall be red.

INTERSECTION WARNING LIGHTS

The front bumper tail or the corner of a commercial cab hood shall include two (2) Whelen M4 series Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the apparatus within a bezel.

The warning lights shall be red.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

REAR WHEEL WELL WARNING LIGHTS

The rear wheel wells shall include two (2) Whelen M4 LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the sides of the body within a bezel.

The warning lights shall be red.

REAR UPPER BODY SIDE WARNING LIGHTS

The rear upper body sides shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the apparatus within a bezel.

The warning lights shall be red.

UPPER REAR WARNING LIGHTS

The upper rear of the apparatus shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the apparatus within a bezel.

The warning lights shall be red.

LOWER REAR WARNING LIGHTS

The lower rear of the apparatus shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the apparatus within a bezel.

The warning lights shall be red.

WARNING LIGHTING BEZEL COLOR

The body and/or cab surface mounted warning lights shall include black bezels.

WARNING LIGHTING LENS COLOR

The body and/or cab mounted warning lights shall include clear lenses.

WARNING LIGHTING SWITCHING

The body and/or cab mounted warning lights shall include switches in the cab. Each side of the apparatus will include its own switch if applicable.

A master warning light switch shall also be included.

SIREN CONTROL HEAD

The siren shall be controlled by the Whelen Core system along with the CCTL6 controller.

ELECTRONIC SIREN SPEAKER

The bumper shall include one (1) Whelen Engineering Inc. model SA315P, 100 watt speaker which shall be mounted within the bumper fascia.

MELROSE TOWNSHIP FIRE DEPARTMENT

**Bidder
Complies**

Yes No

APPARATUS WARRANTY - ONE YEAR

The completed apparatus shall be warranted to be free from defects in workmanship and materials under normal use and service for a period of one (1) year from the date of delivery to the Fire Department. This warranty shall cover the costs for parts and labor for this period of time.

SUCTION HOSE

Two (2) 3" x 10 foot lengths of AWG flexible suction hose shall be provided and equipped with lightweight couplings.

DELIVERY PREP

The apparatus shall be detailed and cleaned prior to delivery.

All metal edges shall be carefully sanded and rounded. All compartment and exterior sheeting seams shall be carefully caulked.

Any loose equipment shall be stored on the truck.