

Request for Proposals (RFP)

AGENCY: Delton Fire Commission

RFP NUMBER: 21-01

RFP TITLE: Interior Top Mount Fire Engine

PURPOSE: The purpose of this document is to provide interested parties with information to enable them to prepare and submit a proposal for one (1) interior top mount fire engine.

DEADLINE FOR

RFP SUBMISSIONS: January 10, 2022 12:00 P.M. Central Time

LATE, FAXED, ELECTRONIC MAIL OR UNSIGNED PROPOSALS WILL BE REJECTED

SUBMIT RFP TO THIS ADDRESS:

Delton Fire Department
P.O. Box 716
Lake Delton, WI 53940
Attn: Captain Kevin Foster

SPECIAL INSTRUCTIONS:

- ❑ **Submit one original and one copy of your technical proposal**
- ❑ **Submit one original and one copy of your cost proposal**
- ❑ **Submit one complete copy in Microsoft Word or PDF format**

DIRECT ALL INQUIRES TO: Captain Kevin Foster
Phone: (608) 254-8404
E-Mail: kfoster@lakedeltonfd.org

Date Issued: 12/06/2021

CONTRACT AWARD

Contract will be awarded to the most “responsible manufacturer”, provided that proposal is in the best interest of the Delton Fire Department.

When analyzing the proposals and in recommending a successful manufacturer, superior design, workmanship, materials, operating costs, location of factory, past experience, length of incorporation and compliance to specifications will be taken into consideration.

The Delton Fire Department reserves the right to waive any formality in the proposals received once such waiver is in the best interest of the Delton Fire Department and, also, to accept any item in the RFP found to be of superior quality or otherwise preferred by the Delton Fire Department.

FIRE APPARATUS SPECIFICATIONS

Sealed proposals are desired from reputable makers of automobile fire apparatus in accordance with these specifications and with the advertisement, a copy of which is attached, for the piece of apparatus listed as follows:

Fire Truck, midship mounted fire pump, apparatus body, tank, and all other equipment in accordance with the following;

GENERAL REQUIREMENTS

Each RFP must be accompanied by submitter’s accurate written specifications covering the apparatus and equipment, which it is proposing to furnish and to which the apparatus furnished under the Contract must conform.

It is the intent of these specifications to cover the furnishing and delivery to the Delton Fire Department, complete apparatus equipped as specified. All specifications herein contained are considered as minimum. Some items have been specified by brand name or model number. These have been carefully selected because of their reliability, compatibility with present equipment, and local availability of parts.

In an effort to receive a complete and thoughtful proposal, vendors are encouraged to contact Captain Kevin Foster with questions. It is acknowledged that not every detail related to all aspects of the fire truck is addressed in this RFP. Submitters are urged to present a proposal that addresses all aspects required to construct and deliver a high quality and masterfully designed fire engine. All references to specific parts using a brand name include equivalent parts by other brands so long as said equivalent parts are truly equivalent. All parts of the fire truck shall be new.

Exceptions taken in areas other than listed above must be listed on a separate page and marked “Exceptions to Specifications”. Every exception taken shall be listed as to page number and

paragraph. Failure to provide the required exception list with the RFP will be cause for rejection of that proposal.

Such details and other construction features not specifically covered herein shall conform with all State and Federal requirements, and the NFPA Pamphlet No. 1901 “Standard for Automotive Fire Apparatus” in effect at the time the contract is signed.

Any test equipment required or expense incurred for the UL pump test shall be borne by the contractor supplying this equipment.

RELIABILITY OF CONTRACTOR

Contractor shall furnish satisfactory evidence that they have the ability to construct the apparatus specified and shall state in the RFP the location of the factory where the apparatus is to be built, and also where future service work will be performed.

SUBMISSION OF PROPOSALS

Each proposal shall be submitted in the same exact sequence with the attached specifications for ease of checking compliance of bids with submitters specifications.

Each proposal shall be signed by an authorized representative of the manufacturing company being submitted.

INSURANCE REQUIREMENTS

Each submitter must submit with their proposal a Certificate of Insurance listing the proposed manufacturer’s product liability insurance coverage. Submitted Certificate shall name the apparatus manufacturer, insurance company, policy number, and effective dates of the insurance policy.

The manufacturer shall maintain full insurance coverage on the purchaser’s cab and chassis from time of first possession by the manufacturer until the apparatus is delivered and accepted by the purchaser. The Delton Fire Commission reserves the right to require proof of insurance from the manufacturer’s insurance carrier prior to entering into a contract for the apparatus.

DELIVERY AND OPENING OF PROPOSAL

Each proposal and all papers bound and attached thereto shall be placed in an envelope and securely sealed therein. The envelope shall be marked:

**Delton Fire Department
P.O. Box 716
Lake Delton, WI 53940
Attn: Captain Kevin Foster**

Proposals will be received at or prior to the time set for the deadline. Proposals received after the Deadline will be declined.

The proposals will be turned over to the apparatus committee for review and possible action.

DRAWINGS

A CAD produced line drawing of the exact apparatus being proposed must be furnished with the RFP. Since the blueprint drawing is required of all submitters, any proposal submitted without a drawing as specified will be considered non-responsive. Drawing must include the left side with chassis cab, right, and rear views of the vehicle. Drawing must be a large size "D", (24" x 36") and shall be a drawing of the exact apparatus as proposed, not a drawing of another similar unit. All submitted drawings will become a part of the proposal.

REJECTION OF PROPOSALS

The right is reserved to reject any or all proposals or to accept such proposal as is in the best interest of the Delton Fire Department.

All RFP requirements and specifications as written are considered minimum. RFP's will be rejected which substitute less-substantial materials and/or methods of body construction than those specified.

The Delton Fire Department is not, in any way, obligated to accept the lowest RFP.

COMPLETION DATE

Submitters shall indicate in their proposals the number of working days for delivery of the completed apparatus, from the date of proposal acceptance by the Manufacturer.

CARRYING CAPACITY

The GAWR and GCWR or GVWR of the chassis shall be adequate to carry the fully equipped apparatus including full water and other tanks, the specified hose load, unequipped personnel weight, ground ladders, and a miscellaneous equipment allowance of at least 2000 pounds.

The height of the fully loaded vehicle's center of gravity shall not exceed the chassis manufacturer's maximum limit.

WARRANTY

All warranties shall be disclosed and provided to the fire department.

DESIGN REQUIREMENTS

Specified design features of the apparatus have been carefully selected because of their safety, integrity and consistency with existing apparatus. It is expected that all submitters will adhere to the compartmentation layout, etc., since these features can be produced by all fire apparatus manufacturers.

All aspects of the vehicle shall be properly engineered with priority given to firefighter safety, ease of operation, and maintenance of the apparatus. The vehicle shall be free from hazardous protrusions, angles, or sharp corners that might injure a firefighter or equipment.

All water, air, fuel, hydraulic, and/or oil lines on the chassis and apparatus shall be properly located and securely tie wrapped to prevent scuffing or abrasion. Durable type grommets or loom material shall be used to protect the lines wherever a line passes through the apparatus body or frame rail sections.

All grease fittings, bleeders, filler plugs, drains, and check points shall be located so as to be easily accessible. No special tools shall be required to access these components for normal service or maintenance of the vehicle.

All parts and components on the vehicle shall be positioned for ease of inspection, and recognition of wear or failure. Easily removable access or cover plates shall be provided for all items requiring periodic service or adjustment. Access panels shall be of the hinged or quick disconnect design, allowing ease of access.

Design of the apparatus shall be such that no disassembly of the body or any of its parts is required for normal maintenance.

All components of the chassis and apparatus shall be protected against rain, snow or other adverse weather conditions.

ACCEPTANCE TESTS AND REQUIREMENTS

Manufacturer's pump test and Certification tests shall be conducted by the manufacturer in accordance with requirements of NFPA #1901. Certificate of testing shall be furnished to the purchaser.

NOTE

Responsibility for the apparatus and all equipment shall remain with the contractor until the apparatus and equipment is delivered to the Delton Fire Department.

APPARATUS DESIGN

ENGINEERING BLUEPRINTS

The manufacturer shall provide construction drawings for approval prior to actual construction of the vehicle.

PRE-CONSTRUCTION CONFERENCE AT THE DELTON FIRE DEPARTMENT

A pre-construction conference shall be conducted at the Delton Fire Department, at which time all final designs and equipment mounting locations will be approved or disapproved, prior to any sheet metal being cut. A factory-trained dealer shall be present during the pre-construction conference to answer any design questions relating to the layout of the apparatus

INSPECTION TRIPS

Inspection trips for Delton Fire Department personnel (up to 5 personnel) shall be made to the facility during the course of construction of the apparatus. Typical inspections are mid-point and final. Successful bidder shall consult with the Delton Fire Department truck build committee chairperson or Fire Chief as to the proper timing of the inspection trips.

DEMONSTRATION

Delton Fire Department personnel shall be properly instructed as to the proper use of the entire apparatus including, but not limited to, chassis, fire pump system, the apparatus and all equipment.

The initial demonstration will take place in conjunction with the final inspection of the completed vehicle.

COMPLETE PRINTED MANUAL

The manufacturer shall provide with the vehicle upon delivery, one (1) complete owner's manual. This manual shall be in a notebook type binder, with reference tabs for each section of the vehicle. A USB drive with all of the printed material in an electronic format (PDF required; other file types may be included) shall also be provided.

Within each section shall be:

- Individual component manufacturer instruction and parts manuals
- Warranty forms for the body
- Warranty forms for all major components
- Warranty instructions and format to be used in compliance with warranty obligations
- Wiring diagrams
- Installation instruction and drawings for major parts
- Visual graphics and electronic photos for the installation of major parts

- Necessary normal routine service forms, publications, and components of the body portion of the apparatus
- Technical publications for training and instruction on major body components
- Warning and safety related notices for personnel protection
- Cab and chassis manuals on parts, service and maintenance shall be provided

CHASSIS

The proposed chassis shall be, or be equivalent to, the Spartan Metro Star.

CAB

The cab shall be, or be equivalent to, the Spartan LDF model with the 24” raised roof option. There shall be three (3) rearward facing seats in the rear of the cab.

PAINT

The primary/lower paint color shall be the same red as the current Engine 1. The secondary/upper paint color shall be black. Confirm the paint colors with the customer prior to paint.

The majority of metal surfaces that are not painted the body colors, (i.e. bumpers, pump panel, rear ladder...) shall have a LINE-X or equivalent coating. To be finalized in a pre-construction meeting.

REFLECTIVE STRIPING AND LETTERING

As specified by NFPA requirements and designed to closely match striping and lettering schemes in use by the Delton Fire Department on current apparatus.

ENGINE

The chassis engine shall be a Cummins L9.

AUXILIARY ENGINE BRAKE

One (1) Jacobs engine brake shall be installed to assist in slowing and controlling the vehicle as required by NFPA 1901. An on-off control switch and a high-medium-low selector switch shall be mounted in the cab accessible to the driver.

When the on-off switch is in the “on” position, the engine brake shall be automatically applied whenever the accelerator is in the idle position and the automatic transmission is in the lock-up mode. If the accelerator is depressed or if the on-off switch is placed in the “off” position, the engine brake shall immediately release and allow the engine to return to its normal function.

FAST-IDLE SYSTEM

A fast-idle system shall be provided and controlled by a switch accessible by the driver. The system shall increase engine idle speed to a preset RPM for increased alternator output.

TRANSMISSION

The transmission shall be an Allison EVS automatic transmission.

REAR AIR SUSPENSION

The rear axle shall be equipped with heavy-duty air ride suspension.

REAR AXLE DIFFERENTIAL CONTROL

The rear axle shall include a driver controlled differential lock. This shall allow the main differential to be locked and unlocked.

FRONT WHEELS

The front wheels shall be 22.50-inch polished aluminum Alcoa wheels with Dura-Bright finish.

REAR WHEELS

The rear wheels shall be 22.50-inch polished aluminum Alcoa wheels with Dura-Bright finish.

FRONT BUMPER EXTENSION

The chassis frame shall be extended in the front by roughly 24” and shall be designed to support the bumper and other equipment to be installed.

One (1) recessed fire hose compartment shall be installed in the center of the front bumper extension sized to adequately house 150’ of 1.75” diameter fire hose with nozzle. Shall be plumbed with 2.5” pipe from the pump. Water drain holes shall be drilled in the bottom of the compartment.

The center fire hose compartment section of the front bumper shall be cleanly and precisely cut out. This section shall then be re-attached with a heavy-duty stainless-steel piano hinge at the bottom and one (1) latch shall be installed to hold the center section in the closed position. An aluminum tread plate top cover for the center front bumper compartment shall be supplied. The top cover shall have a stainless-steel hinge at the rear and a hold open device. When the center-hinged section of the front bumper is released the top cover may be opened providing quick and easy access to the front bumper compartment. The front bumper extension assembly shall be adequately re-enforced to accommodate the hinged front face bumper compartment door.

OVERALL BODY LENGTH

The preferred overall body length is 384 inches (excluding bumpers). Priorities are to achieve full depth side storage cabinets, a rectangular 1,000-gallon water tank, and a maximum hose bed height of 86 inches from the ground. It is understood these priorities could result in a change to the preferred overall length of 384 inches.

TOW HOOKS

Two (2) tow eyes shall be installed below the front bumper and be bolted directly to the frame.

Two (2) tow eyes shall be installed to the rear of the apparatus, properly attached the frame.

CLIMATE CONTROL

The cab shall be equipped with heater/defroster for the front windshield. The cab shall also contain heater and air conditioning units to provide climate control to the cab.

CAB INSULATION

The cab shall be lined with insulation to act as a noise barrier and assist in temperature control.

REARVIEW MIRRORS

Ramco model BLK-TX-1350-PCHR or similar style mirrors shall be included. The mirrors shall be mounted one (1) each on the driver and officer doors of the cab with black aluminum arms. The mirrors shall be heated and power adjustable. The mirror control switches shall be located within easy reach of the driver.

SWITCHES

A rocker style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. The emergency lights shall be activated by a single "MASTER SWITCH" on the electrical console. Emergency lights shall also be controlled by individual switches. Switch panel and switches shall be of similar layout to Delton Fire's Engine 1. Contact customer for more information.

SEATS

The driver seat shall have air suspension with multiple-way adjustment.

The officer seat shall also be equipped with multiple-way adjustment and an IMMI SmartDock SCBA bracket in the seat back with a padded cover.

The three (3) rear seats shall have an IMMI SmartDock SCBA bracket in the seat back and padded cover.

BATTERY SYSTEM

The battery system shall be supplied with the chassis. One (1) battery disconnect switch shall be located in a conveniently accessible location to the driver of the apparatus. The switch shall disconnect the 12 volt power supply from the battery system.

BATTERY CHARGER WITH DISPLAY

One (1) Kussmaul Autocharge shall be installed. The charger unit shall be mounted in a clean dry area and will be accessible for service and/or maintenance. It shall be of adequate size and capacity to handle all probable uses.

One (1) Kussmaul voltage display shall be supplied with the charger. The shore power plug shall be auto-ejecting and conveniently located near the drivers' door on the exterior of the apparatus.

AIR SHORELINE CONNECTION

One (1) compressed air inlet fitting shall be provided for connection to an external air source to maintain the air brake pressure. Inlet shall be located near the shore power plug and be auto-ejecting.

AIR HORNS

Two (2) air horns shall be recess mounted into the front bumper. An air protection valve shall be provided in the air horn piping that will not allow the chassis air brake system to drop below 90 PSI.

AIR HORN LANYARD

One (1) roof mounted pull cord shall be installed to activate the air horn system. The pull cord shall be installed within easy reach of the officer. A rocker switch shall be installed on the driver's switch panel to allow control of either the electric horn or the air horn from the steering wheel horn button.

12 VOLT RADIO POWER SOURCE

Two (2) 12-volt power and ground connection, rated at 30 amps, shall be provided on the apparatus for the installation of two, mobile two-way radios. The power source shall be run through the chassis master battery switch and shall be deactivated when the master switch is in the "OFF" position. The location shall be determined by the customer.

RADIO ANTENNA BASE

Two (2) radio antenna bases shall be supplied and installed on the apparatus, the antenna coax terminating in the cab. The location shall be determined by the customer.

MOBILE RADIOS

Two (2) mobile (dual head) radios will be provided by the Delton Fire Department to the manufacturer for installation. Two of the heads shall be installed in the dash near the officer's seat and two heads shall be located in the rear cab pump panel hood extension.

CAB INTERCOM SYSTEM

An in-cab intercom system must be provided by the manufacturer. The system must consist of a wireless headset for the driver and four wired headsets for the other seats. All necessary wiring, interface cables, base station, and hooks shall be included. Brands to be determined.

BACK-UP ALARM

One (1) automatic electric back-up alarm shall be wired to the back-up light circuit, and mounted under the rear of the apparatus body.

CAB DOOR LOCKS

It is preferred that the apparatus is not equipped with door locks unless required by the chassis manufacturer.

CAB DOOR WINDOWS

Full power roll-down windows shall be provided for the cab doors with power operated heavy duty regulators.

REAR FACING CAMERA & DIGITAL MONITOR

One (1) camera with and (2) two digital monitor shall be installed to provide rear facing view from the apparatus. The camera and monitor shall activate automatically when vehicle is placed into reverse driving mode. The camera and monitor shall be able to be manually activated by the driver. The monitor shall be installed in the cab in such a location as to be easily viewable by the driver. The second monitor will be located in the rear cab pump panel hood extension and shall be manually activated by the pump operator.

HEADLIGHTS

The cab must be equipped with LED high and low beam head lamps.

LIGHTS

LED lighting shall be included as required by DOT as well as LED scene lights, step lights, and any other lighting agreed upon by supplier and Delton Fire Department such as license plate lights, tail lights, turn signals, mid body turn signals, back up lights, ground lights, cab step lights, hose bed lights, water tank level indicators, storage compartment lights, etc.

EMERGENCY AND SCENE LIGHTS

Emergency and scene lighting must meet NFPA standards. Accepted brand are Whelen, FireTech, FRC, and Federal Signal. Lighting shall be equivalent to or provide greater lighting than the following:

- Fire Research Spectra 900 7000 Imns
 - (6) 3-on the top of each side (One on the cab, and front and rear of the body next to emergency lighting)
- Fire Research Focus Evolution - FCA800-V20
 - (2) 2- Front scene. Brow mounted above the windshield.
- Fire Research Spectra SPA260-Q15
 - (2) 2-rear mounted
- Whelen M9
 - (2) 2-top rear
 - (4) 2-on the top of each side (front and rear of the body next to scene lighting)
- Whelen Ultra Freedom F4N7QLED 72" light bar
 - (2) red Linear Super LED corner modules
 - (2) red Linear Super LED endcap lights
 - (6) red Linear Super LED lights
 - (2) white Linear Super LED lights w/clear lenses
- Other lower emergency lights Whelen M6

Body mounted emergency lights shall be red in color and placed in accordance with NFPA zone requirements.

LIGHT TOWER

One (1) #CL602A-FS4 - Command Light "CL" Series Light Tower with 4-SPECTRA-MAX-S LED 28,000 lmn Lamps.

One (1) #TFB-CL5 - 5 series Traffic Flow Board Mounted to the top of a #CL602A-FS4

WATER LEVEL LIGHT

There shall be two (2) Whelen PSTANK2 (or equivalent) surface mounted LED lights mounted on the sides of the cab to indicate the water level in the tank.

DOOR OPEN LIGHT

One (1) red flashing, warning light shall be provided and installed in the driver's compartment to indicate an open passenger or apparatus compartment door. The warning light shall also be attached to folding equipment racks.

ELECTRIC SIREN AND CONTROL

One electronic siren and 100 – watt speaker shall be installed which performs at least to the minimum specifications for electronic sirens on fire trucks in the NFPA. One (1) stainless steel grille shall be provided and installed on the speaker. The speaker shall be installed flush mount in the front bumper. One (1) Code3 3992 MicroCom2 siren controller must be installed.

FEDERAL MECHANICAL SIREN

One (1) Federal Signal Q2B mechanical siren shall be partially recess mounted into the front bumper. The grille will be outside the bumper.

Two (2) foot switches shall be provided on the driver's and officer's side of the cab floor to activate the Federal Signal Q2B siren.

One (1) push button siren brake switch for the Federal Signal Q2B siren shall be provided.

DATA & WARNING LABELS

A highly visible label indicating the overall height, length, and weight of the vehicle shall be installed in the cab area.

CAB USB CHARGING PORT

A dual USB charging port for cell phones, portable chargers, and similar devices shall be installed in the cab on the officer's side.

UNDERCOATING

The entire underside of the apparatus body is to be cleaned and properly prepared for application of a sprayed on automotive type undercoating for added corrosion resistance. Bidder shall include a separate line-item for the application of undercoating.

WHEEL CHOCKS

Two (2) folding wheel chocks shall be furnished with underbody, slide-out mounting brackets.

EMS CABINETS

Two (2) EMS cabinets shall be furnished in the rear of the cab on either side of the pump panel. Contact customer for features and size.

PUMP PANEL RECESSED HOSE TRAYS

Two (2) hose storage wells to be recessed into the running boards of the pump panel. The width of the compartment shall be able to fit 5" LDH hose with an unspecified length.

PUMP

The pump shall be a single-stage centrifugal Waterous CSU midship pump rated at 2000 GPM.

PUMP SEAL

The pump shall have a high quality, self-adjusting, maintenance free mechanical seal.

FIRE PUMP ANODE

Fire Pump Alloy Anode(s) shall be installed to reduce corrosion. The anode shall be a bolt-in or screw-in type and easily replaceable.

PRESSURE GOVERNOR

The pump governor shall be a PumpBoss 400.

PUMP PRIMER

A Trident Air Primer system shall be installed.

PRE-PRIME

Additional priming valve assemblies shall be provided for a pre-prime for all four suction intakes.

FIRE PUMP MASTER DRAIN

The fire pump plumbing system and fire pump shall be piped to a single push-pull type master pump drain assembly.

ADDITIONAL LOW POINT DRAINS

The plumbing system shall be equipped with additional low point, manually operated, quarter-turn drain valves to allow total draining of the fire pump plumbing system. These valves shall be accessible from the side of the vehicle and labeled.

HOSE THREADS

The hose threads shall be National Standard Thread (NST) on all base threads on the apparatus intakes and discharges.

PUMP DISCHARGES

The following discharges shall be provided:

- Two (2) 1-1/2" mid-mount speedlays
- Two (2) 2-1/2" discharges on the driver side pump panel

- One (1) 2-1/2" discharge on the officer side pump panel
- One (1) 2-1/2" discharges on the rear of the apparatus
- Two (2) 2-1/2" discharges in the front of the hose bed (one on each side)
- One (1) 2-1/2" discharge in the hose well located in the front bumper
- One (1) 5" Storz discharge on the officer side pump panel
- One (1) top deluge discharge
- Tank refill line

PUMP INTAKES

The following intakes shall be provided:

- One (1) 6" NST suction on the front bumper, officer's side corner
- One (1) 6" NST suction on the driver side pump panel
- One (1) 6" NST suction on the officer's side pump panel
- One (1) 6" NST suction on the rear of the apparatus
- One (1) 2-1/2" gated suction on the officer side pump panel
- One (1) 2-1/2" direct tank fill on the rear of the apparatus

REAR SUCTION

A rear 6" pump suction intake is to be provided. The intake shall be located on the rear body panel.

The rear suction may be sleeved through the water tank and may not pass through the side compartments.

ELBOWS AND CAPS

All appropriate elbows and caps for all side and rear discharges shall be provided by the manufacturer. All intakes shall include appropriate caps.

VALVES

The valves for all of the 1-1/2" discharges, 2-1/2" discharges, and tank-to-pump shall be manual valves. The large diameter discharge, large diameter intakes, and the deluge discharge shall all be equipped with electric valves. All electric valves shall have an override that is accessible from the exterior pump panel.

All manual valves shall be connected to the handles on the pump panel using rods. Cables will not be accepted. Valves shall open and close with little effort while in use.

WATER TANK TO PUMP LINE

One (1) 4" water tank to fire pump line shall be provided with a manual valve and 4" piping. The tank to pump line shall be equipped with a check valve to prevent pressurization of the water tank.

The line shall be flow tested during the fire pump testing and shall meet applicable requirements of NFPA standards.

The tank to pump valve shall be controlled at the pump operator's panel.

INTAKE RELIEF VALVE

All necessary intake relief valves shall be furnished.

FIRE PUMP COOLING

The fire pump shall be equipped with a cooling line from the pump to the water tank. This pump cooling re-circulation line shall be controlled at the pump panel by a quarter-turn in-line ball valve with mini-twist control handle.

CHASSIS ENGINE HEAT EXCHANGER COOLING SYSTEM

The apparatus shall be equipped with a heat exchanger for supplementary chassis engine cooling during fire pump operations. A manually operated quarter-turn in-line ball valve with mini-twist control handle mounted at the pump panel shall direct water from the fire pump to the heat exchanger.

PUMP COMPARTMENT HEATER SYSTEM

The interior of the pump enclosure shall be equipped with a hot water heater system. The heater unit shall be equipped with a 12-volt blower fan with control located on the pump operator's panel.

PUMP ENCLOSURE HEAT PAN

A removable casing fabricated from smooth aluminum, completely enclosing the underside of the pump compartment and heated by the engine exhaust shall be provided. The heat pan assembly shall include individual panel(s) that can be easily removed from their mounting location.

WATER TANK - 1000 GALLON

The apparatus shall be equipped with a rectangular 1000-gallon polyethylene water tank.

WIRELESS CONTROLLED DELUGE

One (1) Elkhart Cobra EXM2 1500 GPM electronically operated monitor shall be provided and installed. The monitor shall be located on the rear, driver's side of the apparatus.

The monitor shall have two (2) remotes. One shall be mounted on the pump panel and a second shall be usable as a portable remote. Confirm specific monitor with customer.

REMOVABLE ACCESS PANELS

The pump panel shall have removable access panels to allow for maintenance and servicing of the pump.

SPEEDLAY

There shall be two (2) 1 1/2" preconnected speedlays with removable polypropylene trays that hold at least 200' of 1-3/4" hose plus nozzle.

FOAM SYSTEM

The apparatus shall be equipped with the FoamPro 2002 electric proportioning system. This is to include a 30 gallon foam reservoir, manifold, and all required plumbing.

PUMP GAUGE PANEL

The panel shall be organized in a similar manner to Delton Fire's current Engine 1. Contact customer for more details.

"NoShok" brand gauges will not be accepted.

Electronic tank level indicators shall be required for both the water tank and foam tank.

HOSEBED

The maximum height of the hose bed is 86" from the ground.

A hinged hosebed wind deflector cover shall be provided at the front of the hosebed. The rear of the hosebed shall have nylon webbing cargo net that is attached by Velcro straps looped through three rings mounted on each side of the hose bed.

The hosebed shall be furnished with three (3) full length adjustable dividers.

The hose bed capacity shall be: 1000' of 5", 1000' of 2 1/2" hose, and (2) 2 1/2" pre-connect varying in length.

HARD SUCTION COMPARTMENT

A fully enclosed hard-suction hose sleeve compartment shall be provided above the rear suction intake.

The compartment shall house a 10-foot section of hard suction hose and a pre-attached strainer. The hard-suction and TFT low-level strainer A03HNX-JET 6.0" female w/1.5" f jet siphon shall be provided. This will be stored behind a hinged access door.

The hard-suction hose may be sleeved through the water tank.

APPARATUS COMPARTMENTS

There shall be three (3) full-depth cabinets on both sides of the apparatus and one compartment on the rear. The dimensions of the cabinets are allowed to vary based on the apparatus's body length and the size of the pump panel.

ROLL UP DOOR CONSTRUCTION

The compartment doors shall be of roll-up style doors and be painted to match. ROM brand doors will not be accepted.

FUEL FILL

A recessed fuel fill shall be provided at the driver side rear wheel well area.

REAR LADDER

A swing-out and down access ladder shall be furnished and installed on the rear driver's side of the apparatus.

PERIMETER UNDERBODY LIGHTS

The perimeter of the apparatus shall be furnished with LED perimeter underbody lighting.

MARKER LIGHTS

LED marker lights shall be installed on the vehicle in conformance to the Department of Transportation requirements.

120V/240V GENERATOR

One (1) 6-kilowatt hydraulic generator shall be furnished to include all necessary equipment and wiring.

125-VOLT POWER RECEPTICALS

There shall be 125-volt power receptacles furnished in compartments: D1, D3, P1, P3, both lower rear cab compartments, and both EMS cabinets in the cab.

CORD REEL

One (1) 200' cord reel of 10/3 wiring shall be installed with a 4-receptacle box that has a power indicating light. The reel must have electric rewind and the appropriate 4-way rollers. The cord reel shall be located in the cabinet on the back of the apparatus.

SCBA STORAGE

There shall be storage for six (6) SCBA bottles in two (2) triangle shaped cabinets that are located over the rear axle on the officer side.

SHELVING TRACKS

Shelving tracks shall run full height of all exterior equipment compartments.

EXTRICATION TOOL MOUNT

One (1) "Lazy Susan" rotating mounting bracket to accommodate battery powered cutters, spreaders, and ram shall be installed on a pull-out tray.

TOOLBOX

A (3) drawer compartment toolbox shall be provided. Installation requires a fixed shelf mounted above toolbox. The drawers shall be equipped with a motion latch that secures when closed to prevent opening in transit.

Preferred drawer heights should be roughly:

- (1) 9" drawer
- (2) 4" drawers

TOOL BOARD

One (1) PAC TRAC Tool swing out tool board shall be furnished. The PAC TRAC system must also be installed on the back wall of cabinet D2 for additional mounting.

Location of tool board:

- (1) Compartment D2

ROLL-OUT TRAYS

Heavy-duty roll-out trays shall be fabricated to the compartment's width and depth.

Location of roll out trays:

- (1) Middle of D1
- (1) Floor of P1
- (1) Floor of B1

ROLL-OUT VERTICAL BOARD

One (1) roll-out tool board panel shall be mounted vertically within compartment.

Location of roll out board:

- (1) Top to bottom of D3

VERTICAL CABINET DIVIDER

One (1) bolted in vertical divider panel shall be mounted vertically within compartments.

Location of dividers:

- (1) Top to bottom of D3
- (1) Top to bottom of P3

ADJUSTABLE SHELVES

Compartment shelves shall be fully adjustable within the compartments.

Location of shelves:

- (1) D1
- (1) Wall to divider of D3
- (2) P1
- (2) Wall to divider of P3

LADDER RACK

A hydraulic ladder rack shall be recessed on the top officer's side body. A single arm ladder rack is preferred. The ladder rack shall contain a 24' two-section extension ladder, a 14' roof ladder, an adjustable step ladder, a section of hard suction hose, an attic ladder, and (2) 8' pike poles.

This equipment will be provided by the fire department.

REFERENCE PHOTOS

The following photos are being provided strictly to aid in understanding the general idea of the engine design. There are multiple differences between this engine and the proposed engine.







