

Weiser Rural Fire Department

Bidder Complies:

Y ___ N ___

FIRE APPARATUS SPECIFICATIONS

Information for Contractors

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, triple combination pumper, Midship mounted fire pump, apparatus body, booster tank, and all other equipment in accordance with the following;

Bidder Complies:

Y ___ N ___

GENERAL REQUIREMENTS

Each bid must be accompanied by bidders accurate and fire department specific 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 purchaser, 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.

No exceptions will be allowed relating to the make and model of fire pump, valves and plumbing, gauge and types of materials, size of compartments, methods of construction, and overall design features of the apparatus.

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 bid proposal 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.

Bidder Complies:

Y ___ N ___

UNDERWRITERS LABORATORIES TESTING

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

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Any statements of "Third Party Tested" will not be acceptable. Underwriter Laboratories will be the only testing authority approved by the fire department. The original and notarized copy shall be delivered to the fire department upon completion.

There will be no exceptions to this requirement.

Bidder Complies:

Y ___ N ___

RELIABILITY OF CONTRACTOR

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

Proposals will only be considered which are submitted by full time fire apparatus manufacturers who are current members of the Fire Apparatus Manufacturers Association (FAMA). FAMA is a non-profit organization designed to keep fire truck manufacturers abreast with latest technologies and governing standards, and to act as a liaison to the IAFC and NFPA. Bidder shall include evidence of their affiliation to the FAMA in the bid proposal.

All bidders shall provide with their proposal, **pictures of similar** apparatus as that being specified, and the names of ten cities where similar apparatus has been furnished and in service for a minimum of 15 years. Bidders shall provide the name and telephone number of a contact person for each City listed. Failure to provide pictures and required users list with the bid proposal will be cause for rejection of that proposal.

Bidder Complies:

Y ___ N ___

SUBMISSION OF PROPOSALS

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

All proposals shall be submitted on manufacturer's letterhead, and not a reproduction of these specifications.

Each bid proposal shall be signed by an Officer of the manufacturing company being bid.

Any proposal which is not signed by an Officer of the manufacturing company being bid, not submitted on manufacturers letterhead or not in sequence with the advertised specifications will be immediately rejected.

Bidder Complies:

Y ___ N ___

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PROPOSAL GUARANTEE

Each proposal must be accompanied by a Bidder's Bond or Cash in the amount of 10% of the bid submitted a proposal guarantee, which it is agreed by the contractor will be forfeited in the event this proposal is accepted and the contract is not executed. Bid bond shall be signed by an Officer of the manufacturing company being bid. Personal or Company checks are not acceptable as a Bonding medium.

All bidders must have the ability to provide the requested Bidder's Bond and Performance Bonds when called for in these specifications. Companies who are only able to provide Supply Bonds in lieu of Performance Bonds will not be considered.

The bid bonds shall be provided only by the fire apparatus manufacturer and not by a local supplier or chassis company.

Bidder Complies:

Y ___ N ___

INSURANCE REQUIREMENTS

Each bidder must submit with their bid proposal a Certificate of Insurance listing the proposed manufacturer's product liability insurance coverage. Liability insurance shall be a minimum amount of ten (10) million dollars with coverage attained with a minimum of \$2,000,000.00 underlying insurance and \$8,000,000.00 umbrella coverage. Submitted Certificate shall name the apparatus manufacturer, insurance company, policy number, and effective dates of the insurance policy. Bids submitted without the required Certificate, or for Certificates listing less than two (2) million dollars of underlying coverage, plus the eight (8) million dollar umbrella coverage, will be considered non responsive and automatically rejected. No exceptions are allowed to the minimum insurance coverage requirement.

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. No exceptions. Purchaser reserves the right to require proof of insurance from the manufacturer's insurance carrier prior to entering into a contract for the apparatus.

Bidder Complies:

Y ___ N ___

DELIVERY AND OPENING OF PROPOSAL

Each proposal and all papers bound and attached thereto, together with the proposal guarantee, shall be placed in an envelope and securely sealed therein. The envelope shall be marked "Bid On Fire Equipment".

Proposals will be received at or prior to the time set for the opening of bids. Proposals received after the "Bid Opening" will be returned unopened. The

bids will be opened publicly and read aloud at the time and date stated on the

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advertisement for bids.

Bidder Complies:

Y ___ N ___

DRAWINGS

A CAD produced line drawing of the exact apparatus being proposed must be furnished with the bid. Since the blueprint drawing is required of all bidders, any bid submitted without a drawing as specified will be considered non responsive and automatically rejected. Drawing must include the left side with chassis cab, right, and rear views of the vehicle, and is to fully detail all compartment sizes, door openings, crew cab layout, pump panels, and hose bed arrangement. Drawing must be a large size "D" 22" x 34", 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 bid proposal.

All submitted proposal and/or engineering drawings shall be signed by an on staff degreed engineer to assure that the apparatus and all components are built in full compliance to current acceptable engineering practices. Bidder shall submit proof of on staff degreed engineer with the bid proposal.

Failure to provide a blueprint drawing that is signed by a degreed engineer, with the bid proposal, will be cause for rejection of that proposal.

Bidder Complies:

Y ___ N ___

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 purchaser.

All bid requirements and specifications as written are considered minimum.

Bids will be rejected which substitute less substantial materials and/or methods of body construction than those specified. Since all manufacturers have the ability to purchase the materials described as well as to shear, fabricate and assemble body panels as specified, these areas are considered a strict requirement of the specification.

Bidders taking "total exception" to these specifications, providing specifications not in this order, or sub-standard offers for in-stock apparatus are hereby advised that any such offer may result in immediate rejection of the bid proposal.

Purchaser does not, in any way, obligate itself to accept the lowest Bid.

Proposals may be rejected for any alteration, erasures, or penciled entries. No bidder may withdraw his proposal for at least 30 days after the scheduled closing time for the receipt of bids.

Bidders taking "total exception" to these specifications are hereby advised that any such statement will result in immediate rejection of the bid proposal.

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Bidder Complies:

Y ___ N ___

COMPLETION DATE

Bidders shall indicate in their proposals the number of working days for delivery of the completed apparatus, from the date of bid acceptance by the Purchaser.

Bidder Complies:

Y ___ N ___

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 2000 pounds.

A permanent placard shall be affixed and visible to the driver which states the maximum number of personnel the vehicle is designed to carry.

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

A CAD produced line chart of the **exact apparatus being proposed** must be furnished with the bid. Since the weight chart is required of all bidders, any bid submitted without a drawing as specified will be considered non responsive and automatically rejected.

The weight chart must be a large size, and shall be of the exact apparatus as proposed, not a chart of another similar unit. All submitted drawings will become a part of the bid proposal.

Bidder Complies:

Y ___ N ___

ENGINEERED APPARATUS

The apparatus shall be designed and the equipment mounted with due consideration to distribution of load between the front and rear axles, so that all specified equipment, including filled water tank, a full complement of personnel, and equipment will be carried without injury to the apparatus. Weight balance and distribution shall be in accordance with the National Fire Protection Association and the Society of Automotive Engineers. Special consideration will be given to accessibility of various components that require periodic maintenance, ease of operations, and symmetrical proportions. A detailed accurate weights and balance chart will be submitted with the proposal for the proposed apparatus.

Bidder Complies:

Y ___ N ___

DESIGN REQUIREMENTS

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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 bidders 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, as well as ease of operation and maintenance of the apparatus. The vehicle shall be free from hazardous protrusions, angles or sharp corners which might bring injury to a firefighter or equipment. Previously delivered units will be judged for compliance to these factors.

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 checkpoints 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.

Bidder Complies:

Y ___ N ___

CONTRACT AWARD

Contract will be awarded to the most "responsible bidder", provided that bid is in the best interest of the purchaser.

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

A Dun & Bradstreet financial rating could be used, at the discretion of the fire department/district, as a determining factor of the financial strength and stability of the manufacturing company being bid, and could be considered

when the final decision has been made to the successful bidder. The bidder shall include in their bid proposal the Dun & Bradstreet number and Contact Person at the Body Builder place of financial banking company. This

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documentation shall demonstrate to the fire department the financial stability of the manufacturing company and display an example of future service and customer support.

These specifications, together with any other documents required herein, shall be included in the contract executed by the Purchaser and the successful bidder. Each bidder shall submit a copy of his proposed contract form. If there is any deviation or misunderstanding of the published specification, the Fire Department's published specifications will override the vendor's specification in all cases.

Purchaser reserves the right to waive any formality in the bids received once such waiver is in the best interest of the purchaser and, also, to accept any item in the Bid found to be of superior quality or otherwise preferred by the Purchaser. In no way will the Fire Department assume any liability for the contractor's negligence

Bidder Complies:

Y ___ N ___

ACCEPTANCE TESTS AND REQUIREMENTS

Acceptance tests on behalf of the purchaser shall be prescribed and conducted prior to delivery or within 10 days after delivery, by the manufacturer's representative in the presence of such person or persons as the purchaser may designate in the requirements for delivery.

The apparatus, loaded with a full complement of hose and men, a full water tank, and equipment as specified in "Carrying Capacity" on this page, shall meet the tests on paved roads, dry and in good condition. Tests shall be on the basis of two runs, in opposite directions over the same route, the engine not operating in excess of the manufacturer's maximum rpm.

From a standing start, through the gears, the vehicle shall attain a true speed of 35 mph within 25 seconds. From a steady speed of 15 mph the vehicle shall accelerate to a true speed of 35 mph within 30 seconds.

The vehicle shall attain a minimum top speed of 50 mph on a level road. The apparatus shall be able to maintain a speed of at least 20 mph on any grade up to and including 6 percent.

Manufacturers 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.

Bidder Complies:

Y ___ N ___

APPARATUS AND EQUIPMENT

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Responsibility for the apparatus and all equipment shall remain with the contractor until the apparatus and equipment is delivered to the purchaser. The fire department will be responsible to provide all equipment items required by NFPA that are not otherwise addressed in these specifications. The items shall be installed by the fire department.

Bidder Complies:

Y ___ N ___

FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements on first trial, a second trial may be made at the option of the Contractor within thirty days of the date of the first trial. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to make such changes as the Chief of the Fire Department and/or the purchaser may consider necessary to conform to any clause of the specifications within thirty days after notice is given to the Contractor to make such changes shall also be cause for rejection of the apparatus.

Bidder Complies:

Y ___ N ___

PAYMENT

Final payment for the apparatus shall be made at time of delivery of the completed vehicle. Due to insurance liability, the apparatus will not be left at the purchasers' location without full acceptance and payment or prior agreement between the Purchaser and Bidder. Final delivery price shall not include any Local, State or Federal taxes. The Bidder shall not be liable for any State or Federal mandated tax or program after sale or delivery of the apparatus.

Bidder Complies:

Y ___ N ___

PERFORMANCE BOND

A 100% Performance Bond, which guarantees delivery AND performance must be supplied by the successful bidder at the time of award of contract. Supply Bonds will not be accepted in place of the requested Performance Bond. Bond must be supplied by the manufacturer of the apparatus. Bonds furnished by salesman or other agents will not be accepted. BIDDER SHALL INDICATE INTENTION TO PROVIDE THE REQUIRED PERFORMANCE BOND IN THE PROPOSAL PACKET. The Performance Bond shall be supplied by the apparatus body builder and not by the dealer or any other sub contractor. The surety company must be listed in United States Treasury Department Circular #570 and licensed in the State of Idaho.

Bidder Complies:

Y ___ N ___

PRE-CONSTRUCTION CONFERENCE AT FIRE DEPARTMENT

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A pre-construction conference shall be conducted at the Fire Department Headquarters, at which time all final designs and equipment mounting locations will be approved, 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. All expenses for travel, meals, and lodging shall be included. **BIDDER SHALL INDICATE INTENTION TO PROVIDE THE REQUIRED PRE-CONSTRUCTION CONFERENCE IN THE PROPOSAL PACKET.**

Bidder Complies:

Y ___ N ___

INSPECTION TRIPS

Inspection trip(s) for Fire Department personnel shall be made to the facility during the course of construction of the apparatus. Successful bidder shall consult with Fire Department committee chairperson as to the proper timing of the inspection trip(s). Air travel (for distances over 250 miles), meals, and lodging expenses shall be included. **BIDDER SHALL INDICATE INTENTION TO PROVIDE THE REQUIRED INSPECTION TRIP(S) IN THE PROPOSAL PACKET.**

Bidder Complies:

Y ___ N ___

DOCUMENTATION

The manufacturer must supply at time of delivery, at least one copy of:

1. Engine manufacturer's certified brake horsepower curve showing the maximum no load governed speed.
2. Manufacturer's record of pumper construction details.
3. Pump manufacturer's certification of suction capability.
4. Pump manufacturer's certification of hydrostatic test.
5. Certification of inspection and testing by Underwriter's Laboratories Incorporated.
6. A copy of the apparatus manufacturer's approval for stationary pumping applications.
7. Weight documents from a certified scale showing actual loading on the front axle, rear axle, and overall vehicle (with water tank full but without personnel, equipment, or hose).
8. At least two copies of the complete operation and maintenance manual covering the completed apparatus as delivered, including the pump and fire fighting equipment delivered with the apparatus.

A test data plate shall be provided at the pump operators position which gives the rated discharges and pressures together with the speed of the engine as determined by the manufacturer's test for this unit. Plate must comply with requirements of NFPA #1901.

A permanent data plate shall be affixed in the drivers compartment specifying and quantity and type of the following fluids used in the vehicle.

1. Engine Oil

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2. Engine Coolant
3. Chassis Transmission Fluid
4. Pump Transmission Lubrication Fluid
5. Pump Primer Fluid
6. Drive Axle Lubrication Fluid
7. Air Conditioning refrigerant
8. Air Conditioning lubrication oil
9. Power steering fluid
10. Cab tilt mechanism fluid
11. Transfer case fluid
12. Equipment rack fluid
13. Air compressor system lubricant
14. Generator system lubricant

Permanent placards shall be affixed and visible to all seated occupants instructing the occupants to wear their seat belts. A permanent placard shall be affixed to the rear step area to instruct that riding on the rear step is prohibited.

Bidder Complies:

Y ___ N ___

TRAINING:

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. Training shall be made by a factory-trained specialist who shall be responsible for complete instruction as to operation and maintenance of the chassis, and the completed vehicle.

Training specialist shall remain at the Fire Department for a sufficient amount of time to provide thorough training of all personnel, or as instructed by Chief of the Department. All meals, motel and travel costs shall be the responsibility of the successful bidder.

Bidder Complies:

Y ___ N ___

DELIVERY

The apparatus shall be delivered complete and ready for operation. The apparatus, to insure proper break-in of all components, shall be delivered under its own power. Rail or truck freight is not acceptable.

Bidder Complies:

Y ___ N ___

SPECIAL INSTRUCTIONS TO BIDDERS:

Bidders are requested to read the complete bid invitation carefully and submit their proposals in strict accordance with the requirements set forth. Any questions regarding this specification must be submitted in writing and be

received by the Fire Chief a minimum of five (5) business days prior to the bid opening date. Clarifications, corrections and / or changes will be sent out in writing VIA fax to all prospective bidders. The purchaser reserves the right to reject any or all bids, or except any bid presented which meet or exceed

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these specifications and which the purchaser may deem and shall be in the best interest of the Department regardless of the amount proposed. The complete apparatus body shall be manufactured and assembled within the United States. Apparatus that are manufactured and assembled outside of the continental USA will not be considered. (NO EXCEPTIONS)

Bidder Complies:

Y ___ N ___

QUALIFICATIONS OF THE BIDDERS:

Bids will only be considered from manufacturers with an established reputation in the field of fire apparatus construction. Each bidder shall furnish satisfactory evidence of continuous legal corporate entity for a minimum of 15 years. The manufacturer shall supply the following information: the location of the factory where the apparatus is to be built, a list of a minimum 15 U/L certified fire apparatus a year for at least the last 5 years and in addition a list of regional users with a contact persons phone number and name. (NO EXCEPTIONS)

Bidder Complies:

Y ___ N ___

BID PRICE FORM:

Bidders must complete bid price form and enclose completed sheet in their bid.
(NO EXCEPTIONS)

Bidder Complies:

Y ___ N ___

AUTHORIZED REPAIR FACILITY:

All bidders must specify in their bid proposal the location of the closest to the bidders authorized Warranty and Repair Facility. Enclosed in the bid packet will be the Name of the Company, person or persons of contact to authorize the repairs, the complete address with City, State and Zip Code as well as the phone number listing the area code. There shall be an Insurance Certificate listing the coverage that will be made available to the Fire Department to protect the interest of the new fire apparatus while under possible repairs at the bidders facility. In no way will the Fire Department assume any liability for the contractor's service facility negligence. The Fire Department reserves the right to inspect the facilities that will be made available to them for possible repairs.

Bidder Complies:

Y ___ N ___

AUTHORIZED REPAIR PERSONNEL:

All bidders shall show that they are in a position to render prompt service and

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to furnish replacement parts throughout the useful life of the apparatus. All repair personnel shall be professionally trained on all components on the completed apparatus. The factory-trained personnel shall provide and serve in the best interests of the Fire Department. The purchaser reserves the right to make the final determination as to the bidder's ability.

Bidder Complies:

Y ___ N ___

WARRANTY

The body builder shall warrant each new motorized fire apparatus manufactured for a period of ONE YEAR from the date of delivery, except for chassis and other components noted herein.

The warranty on the chassis and chassis supplied components, storage batteries, generators, electrical lamps and other devices subject to deterioration is limited to the warranty of the manufacturer thereof and adjustments for the same are to be made directly with the manufacturer by the customer.

This warranty shall not apply to those items which are usually considered normal maintenance and upkeep services: including, but not limited to, normal lubrication or proper adjustment of minor auxiliary pumps or reels.

Bidder Complies:

Y ___ N ___

5-YEAR BODY WARRANTY

The body builder shall warrant to the purchaser, that the Premium Extruded Apparatus body fabricated, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of FIVE (5) years.

Bidder Complies:

Y ___ N ___

PAINT WARRANTY

The PPG 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.

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

Bidder Complies:

Y ___ N ___

Each bidder shall check box either Yes or No for the full compliance of the paragraph. This allows the fire department to easily compare each bid specification.

1000 GPM, Rear Panel, Type I Pumper

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Review Of Special Instructions To Bidders:

Bidder Complies: Body Builder Supplied 10% Bid Bond Y ___ N ___

Bidder Complies: Body Builder Supplied 100% Performance Bond Y ___ N ___

Bidder Complies: Body Builder Supplied 5 Million Dollar Insurance Certificate Y ___ N ___

Bidder Complies: Detailed scaled drawing of the proposed and completed apparatus Y ___ N ___

Bidder Complies: Weight distribution chart of the proposed and completed apparatus. Y ___ N ___

Bidder Complies: Listing and Insurance Certificate for Warranty Repair Facility. Y ___ N ___

Bidder Complies: Certificates of Warranties listed. Y ___ N ___

1000 GPM, Rear Panel, Type I Pumper

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BID PRICE FORM

DELIVERY WILL BE _____ CALENDAR DAYS FROM CONTRACT AWARD.

APPARATUS BODY PRICE AS PROPOSED: \$ _____

CHASSIS PRICE AS PROPOSED: \$ _____

TOTAL COST OF COMPLETE FIRE APPARATUS: \$ _____

INSPECTION TRIP: 2-PERSONS: INCLUDED __ NOT INCLUDED __ COST \$ _____

CHASSIS PREPAYMENT: INCLUDED __ NOT INCLUDED __ COST \$ _____

DELIVERY CHARGES: INCLUDED __ NOT INCLUDED __ COST \$ _____

MISC. EQUIPMENT PACKAGE: INCLUDED __ NOT INCLUDED __ COST \$ _____

100% PERFORMANCE BOND: INCLUDED __ NOT INCLUDED __ COST \$ _____

PRODUCTS LIABILITY INSURANCE: INCLUDED __ NOT INCLUDED __

(5 million)

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One (1)

Y___N___

CHASSIS

MODEL: INTERNATIONAL Model 7400, 4 X 4, four door

ENGINE: International DT530E electronic, 330 HP @ 2000/2200 RPM, 950 lb/ft torque @ 1200 RPM, 2200 RPM governed speed with engine alarm (light and buzzer) for low oil pressure and high water temperature, air cleaner restriction gauge on air cleaner, magnetic drain plug, oil, water and fuel filters.

TRANSMISSION: ALLISON MD-3060P 5 speed with transmission oil filter and temperature gauge in cab.

TRANSFER CASE: Meritor T-4210 2, 2 speed, 10000 lb-ft total capacity, with provision for PTO, electric over air control.

FRONT AXLE: Meritor MX-12-120, single reduction driving axle, 12,000 lbs. capacity with engaged indicator light, and magnetic drain plug.

FRONT SPRINGS: 12,000 LBS. Capacity, taper leaf, with shock absorbers.

FRONT TIRES: 11R22.5 G164 RTD Goodyear, load range H, 16 ply.

FRONT WHEELS: Steel disc, 22.5" Painted steel, 10 stud, 8.25" with steel hubs.

REAR AXLE: Meritor RS-23-160, single reduction, 23,000 lbs. capacity, with magnetic drain plug.

REAR SPRINGS: 23,500 LBS. Capacity, multi-leaf variable rate with 4,500 lbs. capacity rear auxiliary multi-leaf springs.

REAR TIRES: 11R22.5 G164 RTD Goodyear, load range H, 16 ply.

REAR WHEELS: Steel disc, 22.5" Painted steel, 10 stud, 8.25" with steel hubs.

CAB: Conventional steel, 80" wide, dual arm rests, vinyl headliner, charcoal/pearl gray interior color, dome light, center swivel map light, dual padded sun visors, storage pocket in driver's door, dual exterior grab handles, speedometer with tachometer, heater/defroster, air

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	conditioning and fiberglass tilt hood with painted integral grille.
FRAME:	110,000 PSI yield strength heat-treated steel alloy, 10.13" x 3.06" x 0.31", plus outer inverted "L" reinforcement, 9.50" x 3.31" x 0.25", two front tow hooks.
BUMPER:	Chrome plated steel, full width.
BRAKE SYSTEM:	Vehicle shall be equipped with an all wheel anti-lock brake system. Air type dual system, with dual air pressure gauges, dust shields rear, air compressor air supply line through air cleaner, color coded nylon air lines, an automatic moisture ejector, automatic slack adjusters front and rear, manual drain valves, Bendix AD-9 heater air dryer, Bendix Tu Flo 550 16.5 CFM air compressor.
FRONT BRAKES:	S-Cam type 16.5" X 5.0", 20 sq. in. brake chambers.
REAR BRAKES:	S-Cam type 16.5" X 7.0", 30 sq. in. brake chambers, with MGM spring actuated parking brake.
STEERING GEAR:	Sheppard M-100, power type with 18" 2-spoke steering wheel.
EXHAUST:	Single horizontal muffler and short tail pipe, aluminized steel, frame mounted on left side.
ENGINE EXHAUST BRAKE	Jacobs for International I-6 Engines
ELECTRICAL SYSTEM:	12-volt, wiring to be color-coded and continuous numbered, automatic reset circuit breakers, dual sealed beam headlights with dimmer switch integral with turn signal switch, windshield wiper switch, 2 speed, integral with turn light switch with washer and mist wiper feature, engine oil pressure gauge, water temperature gauge, single electric horns, jump start stud, parking lights with front turn signal and rear taillight, electric key operated ignition switch, turn signal switch with self-canceling feature and hazard switch.
	An engine hour meter and voltmeter shall be provided in the cab.
ALTERNATOR:	270 AMP, 12-volt, 270-amp capacity.

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- BATTERY SYSTEM:** Three 12-volt 1875 CCA total, mounted LH side under cab.
- COOLING SYSTEM:** Soldered radiator, down flow, 940 sq. in. area and 1025 charge air cooler with anti freeze to - 20 degrees (F), deaeration system with tank, sight glass, premium rubber radiator and heater hoses and auxiliary engine water cooler (Sen-Dure).
- FUEL TANK:** 50 (US) gallon rectangular steel with center step, mounted right side under cab.
- MIRRORS:** Two rectangular West Coast type retractable satin anodized aluminum finish, 6" x 7" with 102" wide spacing.
- SEATING:** Front full width bench type with fixed back, 3-point shoulder belts, and (1) lap belt in center. Rear full width bench type with fixed back, (3) lap belts.

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One (1)	CHASSIS MODIFICATIONS AND ADDITIONS	Y__N__
	BUMPER EXTENSION	
	The chassis front bumper is to be extended forward approximately 18". The area between the bumper and the front of the chassis grille is to be reinforced and covered on the top and both sides with aluminum treadplate material. Aluminum fabrications are to be completely bolted in place and removable.	
One (1)		Y__N__
	CENTER HOSEWELL	
	A recessed style hose well for storage is to be provided in the center of the front bumper extension. Hose well shall be constructed of .125 #5052 aluminum treadplate material and have a smooth interior surface.	
	Hose well shall have a drain hole in each corner.	
One (1)		Y__N__
	HOSEWELL COVER	
	A hinged aluminum treadplate cover, with latches, is to be provided and installed over the center front hose well.	
One (1)		Y__N__
	CHASSIS STEP OVERLAY	
	The commercial chassis step area on the passenger side shall have slip resistant overlay material installed on each step surface.	
One (1)		Y__N__
	CHASSIS STEP OVERLAY COMPARTMENTS	
	Step under the driver's side cab entrance door shall be provided with fully enclosed, storage compartment designed as large as possible and constructed of the same material as the running boards. The step surface of the compartment shall have slip resistant overlay material installed. A vertically hinged door with stainless steel D-handle latch shall be provided for each compartment.	
One (1)		Y__N__
	CHASSIS STEP OVERLAY COMPARTMENTS	
	Step under the passenger's side cab entrance door shall be provided with fully enclosed, storage compartment designed as large as possible and constructed of the same material as the running boards. The step surface of the compartment shall have slip resistant overlay material installed. A vertically hinged door with stainless steel D-handle latch shall be provided for each compartment.	
	Compartment shall house the booster reel.	
One (1)		Y__N__
	STEP TYPE FUEL TANK	
	There shall be a step type fuel tank furnished with the chassis.	
One (1)		Y__N__

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FRONT MUD FLAPS

Heavy-duty, white colored, rubber mud flaps shall be furnished and installed behind the front wheels of the vehicle. Mud flaps shall extend the full width of the front tires and are to be attached with stainless steel fasteners.

One (1)

Y__N__

REAR MUD FLAPS

Heavy-duty, white colored, rubber mud flaps shall be furnished and installed behind the rear wheels of the vehicle. Mud flaps shall extend the full width of the rear duals and are to be attached with stainless steel fasteners.

One (1)

Y__N__

HORIZONTAL CHASSIS EXHAUST

The chassis exhaust system shall be extended to the front of the right rear wheel.

One (1)

Y__N__

ALTERNATOR

The alternator shall be of adequate size to meet the NFPA requirements and to accommodate the specific apparatus electrical load.

One (1)

Y__N__

UL TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per Class A requirements of NFPA #1901 prior to delivery of the completed apparatus. The UL acceptance certificate shall be furnished with the apparatus on delivery.

One (1)

Y__N__

PUMP COOLING LINE

A 3/8" cooling line shall be installed to recirculate water from the pump back to the water tank, to cool the pump during pro-longed pumping operations. The cooling line shall be controlled at the operator's position with a quarter turn valve.

One (1)

Y__N__

HEAT EXCHANGER

A heat exchanger shall be provided on the chassis cooling system. The heat exchanger shall not allow mixing of the chassis coolant and water from the fire pump.

A gated line shall be installed to provide water from the fire pump to the chassis heat exchanger to assist in engine cooling during pumping operations. The heat exchanger line shall be controlled at the pump operator's panel.

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One (1)

Y___N___

1000 GPM COMBINATION NORMAL & HIGH PRESSURE PUMP SYSTEM W/ PTO DRIVE SYSTEM

A Rosenbauer Model NH40 fire pump shall be rear mounted with a rated capacity of 1000 GPM. In addition to meeting NFPA 1901 requirements, it shall be constructed and mounted in accordance with the following specifications.

Pump shall deliver the percentage of rated discharge at pressures indicated below:

- 100% of rated capacity at 150 pounds net pressure
- 70% of rated capacity at 200 pounds net pressure
- 50% of rated capacity at 250 pounds net pressure
- 100% of rated capacity at 165 pounds net pressure

The pump shall incorporate a high pressure, three-stage pump. The high-pressure side shall be capable of developing 100 GPM at 600 PSI simultaneously while pumping the rated volume specified above.

The high-grade light alloy impellers shall be accurately balanced and mounted on a stainless steel pump shaft. The shaft shall be supported by three roller bearings; two located in the gearbox and one in the suction inlet. Bearings shall be protected from water and sediment by maintenance free self-adjusting mechanical seals.

The main pump body shall be easily removable without disturbing setting of the pump on the chassis.

The pump body is to be of high quality seawater resistant light alloy. All parts that come into contact with water to be special treated light alloy or stainless steel.

The pump manufacturer shall test the pump for 10 minutes hydrostatically at a pressure of 500 psig. Hydrostatic Certification by the pump manufacturer shall be provided.

Fire pump shall incorporate high strength helical gear drive single stage transmission. Pump drive system shall be with a heavy duty PTO system bolted directly to the chassis transmission. There shall be a heavy-duty driveline assembly with hanger bearings furnished from the PTO to the rear mounted pump transmission.

The pump shall be provided with a plate giving the rated flow at "capacity" and "pressure" test pressures, together with the R.P.M. Of the engine at those pressures and deliveries and mounted in clear view of the pump operators panel. Data plate shall include model and serial numbers of the pump body and chain transmission, hydro and discharge test pressures, and the date of pump and transmission manufacture.

PRIMING SYSTEM

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The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose of appropriate size. It shall be capable of developing a vacuum of 22" at an altitude of up to 1000 feet.

A high capacity, electrically driven rotary vane priming pump shall be provided.

The priming system shall include a one-gallon oil reservoir tank that is conveniently located for easy access. Priming tank shall be properly vented so as to provide priming pump lubrication.

A vacuum test with a capped suction of at least 20' long shall develop 22" of vacuum and hold a vacuum with a drop not in excess of 10" in five minutes.

One (1)

Y__N__

DISCHARGE PRESSURE RELIEF VALVE

Pump pressure on the high volume/low pressure side shall be controlled by an automatic relief valve that is capable of operation over a range of 75 to 300 psi net pump pressure. The Relief Valve shall be controlled at the pump operator's position. Relief valve shall have two controls, one for pressure adjustment and the other an on/off control. Pilot valve shall maintain set pressure until manually reset by the pump operator. Relief valves requiring pressure reset after each use of the pump are not acceptable.

Relief pilot valve orifice shall be protected from malfunction due to sand or other sediment in the water by a strainer that can be removed, cleaned, and replaced at the operator's panel while the pump is operating. Relief valves that require orifice cleaning within or below the pump enclosure are not acceptable.

Operator's panel mounted relief valve indicator lights shall be provided. Lights shall include two color-indicating lights to show position of relief valve. A green light shall indicate a fully closed relief valve and an amber light shall display when the valve begins to open.

Relief valves requiring pressure reset after each use of the pump do not meet the technical fire ground operational requirement of these specifications.

One (1)

Y__N__

MANUAL CONTROL PRIMING PUMP

Priming pump shall be activated by a mechanical/electric valve with a single pull control located at the pump operator's panel area. Valve actuation may be accomplished while the main pump is operational, if necessary to assure a complete prime.

One (1)

Y__N__

PUMP SHIFT INDICATOR LIGHTS

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Fire pump shall be driven by a heavy duty 10 bolt PTO capable of enough torque to operate the fire pump at rated capacity for continuous duty. The PTO shall be approved by Allison for this type of service. The PTO shall be of a "Hot Shift" style capable of either full capacity stationary pumping or pump and roll. Stationary pumping shall be done with chassis transmission in neutral. Pump engagement lights and safety interlock system for PTO driven pumps that are to be used for Stationary Pumping or Pump and Roll shall be as follows:

- A "Pump Engaged" indicator light shall be provided both in the driving compartment and on the pump operator's panel to indicate that the pump shift has been successfully completed.
- An "OK to Pump" indicator light shall be provided in the driving compartment to indicate that the pump is engaged, the chassis transmission is in neutral, and the parking brake is engaged. An "OK to Pump and Roll" indicator shall be provided in the driving compartment and shall be energized when the pump is engaged, the chassis transmission is in road gear, and the parking brake is released. When the "OK to Pump and Roll" indicator is energized, the "OK to Pump" shall not be energized.
- A "Throttle Ready" indicator shall be provided at the pump operator's panel that is energized when the "Ok to Pump" indicator is energized or when the chassis transmission is in neutral and the parking brake is engaged.
- An interlock system shall be provided to prevent advancement of the engine speed at the pump operator's panel unless the chassis transmission is in neutral and the parking brake is engaged, or the apparatus is in "OK to Pump" mode.
- Controls for the pump shift are to be in the cab, and easily accessible.

The driveline shall be routed from the transmission mounted PTO to the rear mounted pump with the appropriate number of hanger bearings and slip shafts.

One (1)

Y___N___

ROSENBAUER PTO PUMP INSTALLATION

The Rosenbauer PTO fire pump shall be installed in conjunction with the body manufacturing process. Fire pump installation shall include installation of the fire pump; modification and/or fabrication of new drivelines and all pump mounting brackets. PTO drive shaft(s) shall be spin balanced prior to final installation.

One (1)

Y___N___

INTAKE RELIEF VALVE

A 2-1/2" intake relief valve preset at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 250 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

Discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from the pump operator, and

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shall terminate with a 2-1/2" NST male chrome threaded adapter, marked with an engraved tag "Intake pressure relief outlet - Do Not Cap".

One (1)

Y__N__

HOT DIP GALVANIZED INTAKE MANIFOLD

The suction manifold shall be fabricated from heavy-duty tubular steel. The suction manifold shall have radiused sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to the galvanizing process. After testing the entire suction manifold shall be hot dip galvanized to minimize corrosion. The hot dip galvanized suction manifold shall be attached to the pump intake volute with a heavy-duty, flexible victaulic coupling.

The hot dip galvanized manifold assembly shall have a ten (10) year warranty.

One (1)

Y__N__

REAR STEAMER INLET

There shall be one (1) steamer inlet furnished on the rear pump panel. The suction inlet shall have 5" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

Steamer inlet to be as short as possible to allow suction fittings to be attached without extending past the rear of the body.

One (1)

Y__N__

REAR SUCTION CAP

The rear suction inlet shall have a chrome-plated, long handled, cap capable of withstanding 500 PSI.

One (1)

Y__N__

2-1/2" GATED SUCTION INTAKE - REAR

One (1) 2-1/2" independent gated suction intake shall be provided at the rear of body. Intake shall be provided with a quarter turn valve and control handle. The intake shall have a 1/4 turn bronze flange mounted drain valve with handle. The intake shall have chrome-plated female swivel adapter with removable internal screen and a chrome-plated plug type cap with end chain.

One (1)

Y__N__

INTAKE VALVE CONTROL

The 2-1/2" intake valve shall have swing type control handle located adjacent to valve.

One (1)

Y__N__

HOT DIP GALVANIZED DISCHARGE MANIFOLD

The discharge manifold shall be fabricated from heavy-duty tubular steel. The discharge manifold shall be fabricated, welded, all fittings attached and pressure tested prior to the galvanizing process. After testing the entire suction manifold shall be hot dip galvanized to minimize corrosion. The hot dip galvanized discharge manifold assembly shall be bolted to the pump and have stabilizer arms

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attached to reinforce the discharge manifold.

One (1) The hot dip galvanized manifold assembly shall have a ten (10) year warranty. Y__N__

PUMP DISCHARGES

Each gated discharge outlet shall include an Akron heavy-duty brass, quarter-turn, swing out ball valve. All lines to have victaulic couplings or hose with stainless steel fittings installed where flex may occur to prevent cracking of the plumbing system. Each discharge shall have 3/4" cast bronze 1/4 turn drain valve complete with reinforced teflon seals, and blowout proof stem rated to 600 psi. A chrome-plated zinc handle shall be provided on each drain valve, complete with a 1" X 1 1/2" recessed identification label. Drains shall be aligned in a straight horizontal row at the lower edge of the corresponding pump panel so as to allow for ease of identification and operation. Each drain shall be labeled and numbered to correspond to the respective discharge outlet and coloring.

One (1) Individual discharge controls are to be aligned in a straight horizontal row across the pump operator's control panel, directly in-line with the corresponding discharge outlet line pressure gauges. Y__N__

GALVANIZED PLUMBING

Four (4) All rigid piping five-inch diameter or less shall be galvanized type with tapered thread or victaulic type couplings. Y__N__

REAR DISCHARGE OUTLETS

Four (4) There shall be four (4) discharge outlets provided at the rear of the apparatus. Each discharge outlet shall have a 2-1/2" quarter turn, swing out valve with control on pump operator's panel. There shall be a chrome-plated 2-1/2" NST adapter that extends through the rear of the body. The discharge shall be provided with a chrome-plated 30-degree discharge elbow. Y__N__

MANUAL VALVE

Four (4) Each 2-1/2" discharge valve shall be swing out type with manual control handle located on pump operator's panel. Y__N__

2-1/2" CAPS AND CHAINS

Two (2) All 2-1/2" discharge outlets shall be equipped with a 2-1/2" chrome-plated caps and chains. Y__N__

DRIVER SIDE HOSEBED PRECONNECT

Two (2) 1-1/2" discharge outlets shall be located on the driver's side at the rear of the hose bed. Each discharge shall be plumbed with two-inch pipe and a two-inch quarter turn swing out valve with control on pump operator's panel. Each discharge outlet shall have 1-1/2" NST

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Two (2)	male fitting.	Y__N__
	MANUAL VALVE	
One (1)	Each 1-1/2" discharge valve shall be swing out type with manual control handle located on pump operator's panel.	Y__N__
	1-1/2" FRONT DISCHARGE	
One (1)	One (1) 1-1/2" discharge shall be located at front bumper. The front discharge shall be plumbed using two-inch (2") pipe and wire reinforced high-pressure hose coupled with stainless steel fittings. The front discharge outlet shall have two-inch quarter turn swing out valve with control on pump operator's panel. The front discharge shall be provided with a 1-1/2" brass 90-degree swivel adapter with 1-1/2" NST male outlet.	Y__N__
	MANUAL VALVE	
One (1)	The 1-1/2" front discharge valve shall be swing out type with manual control handle located on pump operator's panel.	Y__N__
	MANUAL DRAIN VALVE	
One (1)	The front discharge outlet shall have a 3/4" drain. There shall be additional automatic drains furnished as required to drain the plumbing system between the pump and the front discharge connection.	Y__N__
	FRONT DISCHARGE HOSE CONNECTION	
One (1)	The hose connection for the front discharge outlet shall be located on top of the front bumper extension. The hose connection shall have a continuous swivel adapter located on top of the front bumper extension.	Y__N__
	MONITOR PROVISION	
One (1)	There shall be a three-inch (3") deluge discharge above fire pump. Deluge outlet shall be plumbed with 3" quarter turn, swing out valve and 3" I.D. schedule 40 galvanized pipe with 3" NPT male thread. The three-inch valve shall have a slow close device. Deluge outlet shall have control on pump operator's panel.	Y__N__
	MANUAL VALVE WITH SLOW CLOSE	
One (1)	The 3" monitor discharge valve shall be swing out type, with slow close and manual control handle located on pump operator's panel.	Y__N__
	MANUAL DRAIN VALVE	
One (1)	The monitor plumbing shall have a 3/4" drain with individual control.	Y__N__

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BOOSTER HOSE REEL

There shall be a Hannay booster hose reel with leak proof ball bearing swing joint, adjustable friction brake and electric rewind furnished. The reel capacity shall be at least 200 feet of 1" booster hose. Reel shall be plumbed with wire reinforced, high-pressure hose coupled with reuseable stainless steel fittings, and have one-inch (1") swing out, ball valve with control on pump operator's panel.

Booster hose reel is to be mounted in the chassis step area behind the fuel tank and below the rear crew cab area.

One (1)

Y__N__

MANUAL VALVE

The booster discharge valve shall have manual control handle located on pump operator's panel.

One (1)

Y__N__

BOOSTER REEL PLUMBED TO HIGH-PRESSURE SIDE OF PUMP

The booster reel shall be plumbed to the high-pressure side of the pump using high-pressure flexible hose with stainless steel fittings.

One (1)

Y__N__

PAINTED BOOSTER REEL

The booster reel shall have a steel frame and drum assembly with side discs. The frame, drum, drive chain, sprocket, hub assembly swivel joint and fasteners shall be painted silver. The booster reel assembly shall be Hannay model F.

One (1)

Y__N__

BOOSTER HOSE

One hundred (100) foot length of 1-inch rubber covered booster hose, high-pressure type at least 800 lbs test, coupled and installed on the specified booster hose reel.

One (1)

Y__N__

REEL AIR BLOW OUT

A quick disconnect air chuck fitting shall be provided adjacent to the booster reel to charge booster hose and plumbing with compressed air to eliminate water and prevent freezing.

One (1)

Y__N__

HOSEREEL REWIND SWITCH

A bush button hose reel rewind switch shall be located adjacent to the hose reel.

One (1)

Y__N__

FOAM SYSTEM

The apparatus shall be equipped with a FoamPro 2001, electronic, fully automatic, direct injection, discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrates and most Class B foam concentrates. The foam proportioning operation shall be based on direct measurement of water flows with no water flow restriction. The proportioning system shall

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meet NFPA Standards for foam proportioning systems and the design shall have passed testing against SAE automotive reliability standards appropriate for the application. The foam system shall be installed in accordance with the manufacturer's recommendations.

The system shall be equipped with a digital electronic control display, suitable for installation on the pump panel.

The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

1. Activate the foam system.
2. Provide foam concentrate proportioning rates from 0.1% to 3.0% in 0.1% increments.
3. From discharges plumbed after the paddlewheel type flow meter: show current flow in gpm, show total volume of water pumped, and show total amounts of foam concentrate used.
4. Provide simulated flow for manual operation.
5. Perform setup and diagnostic functions.
6. Flash a "low concentrate" warning for two minutes when the foam concentrate tank(s) run low of concentrate.
6. Flash "no concentrate" warning if foam concentrate tank was not changed or foam concentrate was not added to the low tank and shut down foam concentrate pump.

The display shall have the capabilities when using a Hypro/FoamPro manual or electronic dual tank switching system of the following additional functions:

1. Display which foam concentrate tank is selected (tank A: PA or tank B: PB)
2. Separate default setting for foam concentrate injection rate.
3. Total amount of foam concentrate used from selected tank.
4. Dual foam concentrate foam pump calibration.

The foam system shall have a 12-volt 1/2 h.p. "TENV" electric motor designed for wet and high humidity environments, direct coupled to a positive displacement piston type foam concentrate pump with a rated capacity of .01 to 2.6 gpm with operating pressures up to 400 psi.

The foam injection system shall be plumbed to the onboard foam concentrate tank or tanks and to the discharge or discharges as specified.

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The FoamPro system must be installed by a FoamPro Certified Dealer.

The foam system shall be plumbed to the following discharge outlets:

Both rear 1-1/2" discharges
Front bumper discharge
Booster reel

One (1)

Y__N__

SINGLE FOAM TANK PLUMBING SYSTEM

The foam tank shall be plumbed with three-quarter inch (3/4") valve and corrosion resistant hose from the foam tank to the foam inlet. There shall be a three-quarter inch (3/4") drain line furnished on the foam tank. Drain valve to be located on foam tank with corrosion resistant hose piped to below the frame level of the chassis.

One (1)

Y__N__

FOAM TANK

A 20-gallon foam concentrate tank shall be furnished and installed on the apparatus. The foam tank shall have a separate fill tower provided in a location to allow easy access for filling. Fill tower shall be equipped with a pressure/vacuum vent and have a sealed airtight cover. Tank shall be plumbed to the on board "Class A" foam system. A valved drain shall be provided at the lowest point of the foam tank. The drain shall be plumbed to drain directly to the surface below the apparatus without contacting other body or chassis components.

The following labels shall be attached to the foam tank:

"CLASS A FOAM TANK FILL"
"WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM"

One (1)

Y__N__

TANK TO PUMP PLUMBING

A 3" Akron ball type gated suction valve shall be furnished from the tank to the pump, complete with a flexible connection and enclosed in the pump compartment.

A check valve shall be provided and installed in the line between the tank and the pump to prevent the possibility of backfilling the booster tank through the tank to pump suction line.

Tank suction shall be located in a sump assembly located below the bottom of the tank, properly baffled to prevent surging of water. A 3" cleanout plug shall be provided in the bottom of the tank sump.

One (1)

Y__N__

TANK FILL/COOLING LINE

A gated discharge line from the pressure side of the pump to the tank shall be furnished so the tank can be filled from draft or hydrant. Valve shall have control on the operator's panel. The valve is to be one and one-half inch, (1-1/2") swing out type ball valve and be plumbed to tank with flexible type hose.

One (1)

Y__N__

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HOT DIP GALVANIZED BOOSTER TANK

The booster tank shall be constructed of hot dip galvanized 10-gauge steel with 7-gauge steel end heads and bottom. Booster tank shall be of a "T" shape and design to allow for maximum compartmentation. Tank manufacturer shall provide a twenty (20) year warranty against defects in materials or workmanship to the original owner.

Tank shall have a bolted on, removable top for inspection and clean out of all tank compartments. Removable top shall be bolted on with corrosion resistant external bolts. Bolts are not to be in contact with the contents of the tank. There shall be a reuseable gasket between the tank and cover. Booster tank shall be provided with proper splash baffles according to the latest edition of NFPA pamphlet 1901. All baffles are installed with the top flange of the baffles flush to the inner side of the fully removable lid to insure support for any hose bed weight load.

The tank shall be removable from the body without disturbing the body side panels. The booster tank shall be mounted on a steel subframe. The steel subframe shall consist of longitudinal 3" x 4.1# channels, and 3" x 4.1# transverse channels to provide bottom support and an interlocking tank cradle. The cradle shall be installed to prevent fore/aft and side-to-side movement of the tank. The booster tank shall rest on rubber pads to isolate the tank frame from the body subframe.

There shall be a minimum of a 4" overflow to discharge under the tank and behind the rear axle. Sump to be 10" x 6 x 6" and have a 3" clean out plug. The sump shall have an anti-whirlpool baffle plate attached on the topside. Fill opening shall have a hinged lid and an open release if the tank is filled at an excess rate. Fill opening shall have a hinged stainless steel screen to prevent any objects from dropping into the tank.

One (1)

Y__N__

BOOSTER TANK

A 750-gallon hot dip galvanized booster tank shall be provided.

One (1)

Y__N__

BOOSTER TANK SUBFRAME

The booster tank shall be mounted on a steel subframe. Steel subframe shall consist of two (2) longitudinal 3" x 4 pound channels and two (2) 3" x 4 pound channels welded together to form a tank retention cradle. The tank retention cradle shall prevent fore and aft, and side to side movement of the tank. Additional 3" x 4 pound transverse cross member channels shall be installed to support the floor of the booster tank. The cross members shall have a maximum spacing of 20" for the polypropylene tanks. There shall be an additional full-length longitudinal member installed in the center of the tank support area. The booster tank shall rest on heavy rubber channels that isolate the polypropylene tank from the subframe.

One (1)

Y__N__

EXTERNAL TANK FILL

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- One (1) An external tank fill shall be provided and installed at the rear of the body. The tank fill shall include a quarter turn 2-1/2" Akron ball valve with a chrome-plated female swivel, plug and chain. Y__N__
- DRIVER SIDE REAR MOUNTED PUMP OPERATORS CONTROL PANEL**
- The fire pump shall be located in the center rear compartment of the apparatus body. All NFPA required gauges and controls shall be installed on the driver side, exterior rear compartment wall.
- All pump suction and discharge controls are to be mounted in the center pump operator's panel so as to permit operation of the pump from a central location.
- All of the pump controls shall be clearly identified with permanently engraved plate type labels.
- A full panel width polished light hood with a minimum of three light assemblies shall be provided to illuminate the entire pump operator's control panel.
- GAUGE PANEL**
- All gauges shall be suitably enclosed and mounted on a gauge panel constructed of the same material as the pump operators control panel. The gauge panel shall be bolted in place and have removable access panel in the drivers side rear compartment for access to the backside of all gauges and gauge lines. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines.
- PUMP COMPARTMENT ACCESS DOORS**
- There shall be two access panels furnished for the center rear mounted pump, one in each rear side compartment. Each panel shall be approximately 18" high and as wide as possible, and shall be constructed of polished aluminum treadplate. The access panels shall be removable, and have two (2) flush mounted, push type latches to hold the access panel in place. Y__N__
- One (1) **PUMP PANEL**
- The rear mount pump panel shall be constructed entirely of aluminum, and be coated with black thermo-plastic material. The panel shall be completely "bolted" in place for ease of removal.
- One (1) **HEAT PAN ENCLOSURE** Y__N__
- A removable casing constructed of galvanized steel, completely enclosing the underside of the pump compartment and heated by the

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engine exhaust shall be provided. The heat pan assembly shall include two individual panels that can be easily removed from their mounting locations. The two outer slide-out panels shall be bolted in place.

One (1)

Y__N__

PUMP OPERATORS PANEL

The following equipment shall be installed on the pump operator's panel.

One (1)

Y__N__

MASTER GAUGES

Class One #LFP410, 4-1/2" diameter liquid filled pressure gauge registering up to 600-lbs per square inch with 1/4" pipe thread connection. The gauge shall be of the type that will not be injured when subjected to a vacuum. The gauge is to have a white face with black lettering. The gauge is to be located at the right of the gauge panel and labeled "DISCHARGE" with an engraved label.

Class One #LFP410, 4-1/2" diameter liquid filled compound gauge shall be provided on the suction side of the pump registering at least 600-lbs pressure and 30-inches of vacuum. The gauge shall have a white face with black lettering. The gauge is to be located to the left of the master discharge gauge and labeled "INTAKE" with an engraved label.

One (1)

Y__N__

PRESSURE GAUGES

Class One #LFP210, 2-1/2" diameter liquid filled pressure gauges shall be provided. The gauges are to have white faces with black lettering. Line pressure gauges shall be individually identified with engraved labels.

Individual line pressure gauges are to be mounted adjacent to the corresponding discharge valve control.

Three (3)

Y__N__

There shall be one (1) pressure gauge for each 1-1/2" discharge outlet.

Four (4)

Y__N__

There shall be one (1) pressure gauge for each 2-1/2" discharge outlet.

One (1)

Y__N__

There shall be one (1) pressure gauge for each deck gun outlet.

One (1)

Y__N__

ENGINE THROTTLE

An electronic vernier engine control throttle shall be provided on the pump operator's control panel for the Navistar electronic engine. The electronic throttle shall be positive locking, crank operated and have a quick release center button. There shall be an engraved identification label provided that reads **THROTTLE**.

One (1)

Y__N__

INFORMATION CENTER

A Class 1 Enfo III master engine gauge and warning device shall be furnished and installed on the pump operator's panel. The device will

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monitor the following engine systems:

- Engine RPM display
- System voltage display and alarm
- Engine oil pressure display and alarm
- Engine water temperature display and alarm.

One (1)

Y__N__

PUMP PANEL IDENTIFICATION LABELS

All discharges shall be provided with color-coded labels. Identification labels shall be provided at the discharge control, the discharge outlet, and at the discharge drain valve control, color-coded according to NFPA recommended standards.

One (1)

Y__N__

PUMP PANEL TANK LEVEL GAUGE

A Class One TLW bar-graph water tank level gauge shall be provided on the pump operator's panel. Bar-graph display shall flash as an indicator when the tank level reaches 25% of capacity. The sending unit is to be easily cleaned and accessible from the front of the booster tank.

One (1)

Y__N__

PUMP PANEL FOAM TANK LEVEL GAUGE

A Class One TLF bar-graph foam tank level gauge shall be provided on the pump operator's panel. Bar-graph display shall flash as an indicator when the tank level reaches 25% of capacity. The sending unit is to be easily cleaned and accessible from the front of the tank.

One (1)

Y__N__

UL TEST CONNECTIONS

A pump pressure and vacuum test block assembly shall be provided and mounted at the pump operator's control panel. The test block assembly shall include plug type caps.

One (1)

Y__N__

HOSEBODY

The apparatus hose body is to be properly reinforced without the use of angles or structural shapes, and free from all projections that might injure the fire hose.

The main apparatus hose body shall run the full length of the apparatus body from behind the pump panel area to the rear face of the body.

The upper rear interior of the beavertail extrusions on the right and left side shall be overlaid with brushed stainless steel to protect the painted surface from damage by hose couplings

One (1)

Y__N__

HOSEBED CAPACITY

The hose bed will be configured to be 55 cubic feet, unless the desired hose load requires more area.

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- One (1) Exact hose bed requirements shall be determined during the pre-construction conference. Y__N__
- HOSEBED FLOORING**
- Floors of the hose beds are to be provided with removable slat style extruded aluminum hose bed gratings, spaced 1/2" apart for proper hose ventilation. Hose bed gratings are easily lifted out of the main hose bed for access to the top of the specified booster water tank.
- Two (2) Y__N__
- MAIN HOSEBED DIVIDER**
- Two (2) adjustable hose bed dividers shall be provided in the main hose bed.
- The hose bed dividers shall be fabricated of 1/4" smooth aluminum sheet stock, pressed into a "T" shaped aluminum extrusion for added strength along the bottom and front edges of the divider. The dividers shall be fully adjustable, mounted using aluminum "C" channel tracks at the front and rear of the divider for full side-to-side adjustment.
- One (1) Y__N__
- VINYL HOSEBED COVER**
- A vinyl coated nylon hose bed cover shall be provided and designed to cover the entire main hose bed area. The hose bed cover shall be fastened with velcro and three (3) quarter turn fasteners across front and velcro on both sides. The rear flap shall be weighted.
- One (1) Y__N__
- LADDER MOUNTINGS, LADDERS AND PIKE POLES**
- The ladders and pike poles shall be mounted in a compartment, beside the water tank and below the hose bed, on individual poly scratch resistant slides. There shall be an aluminum treadplate door on the rear with push button latch for access to the interior of the compartment.
- One (1) Y__N__
- GROUND LADDERS FURNISHED BY BODY BUILDER**
- The ground ladders shall be furnished by the body builder. See equipment section of this document for make and model of ladders.
- One (1) Y__N__
- HARD SUCTION HOSE TRAYS**
- Hard suction hoses shall be mounted in extruded aluminum, self-draining carrier trays with hold down device. The carrier trays shall be mounted one on each side of body.
- One (1) Y__N__
- HARD SUCTION HOSE FURNISHED BY BODY BUILDER**
- The hard suction hose shall be furnished by the body builder. See equipment section of this document for make and model of hard suction hose.

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One (1)

Y__N__

APPARATUS BODY

The apparatus body compartments shall be fabricated of twelve gauge A-60 Galvanneal steel.

The side compartments shall be an integral assembly with the rear fenders.

Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.

Compartment floors shall be of the sweep out design with the floor higher than the compartment door lip.

Drip protection shall be provided above the doors by means of bright aluminum extrusion or formed bright aluminum treadplate.

The top of the compartment shall be covered with bright aluminum treadplate formed over the edges on the front, rear and outward side. The corners of the aluminum covers shall be "TIG" welded.

All screws and bolts that protrude into a compartment shall have acorn nuts installed to prevent injury and snagging.

FASTENERS

All aluminum and stainless steel components shall be attached using stainless steel fasteners.

Compartment door hinges, handrails and running boards shall be attached using minimum 1/4" diameter machine bolt fasteners.

3/16" diameter fasteners shall only be used in nonstructural areas such as; door handles, trim moldings, gauge mounting, etc.

One (1)

Y__N__

BODY DIMENSIONS

Apparatus body shall be up to 144" long and 96" wide, reference drawing for actual body length. Body compartments shall be divided into upper and lower areas with the upper area approximately thirteen-inches in depth, and the lower area approximately twenty-three inches in depth. The hose bed shall be 68" wide.

One (1)

Y__N__

APPARATUS BODY SUB-FRAME

The apparatus body subframe shall be constructed entirely of heavy steel structural channel material.

Two full frame lengths, three-inch (3") 4 pound per foot longitudinal steel channels shall form the sides of the body subframe and sides of the water tank cradle. Subframe cross members shall be fabricated with three inch (3") 4 pound per foot heavy steel channel cross members welded to the longitudinal body subframe sides and the full-

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length frame pads.

Two full frame length 1/2" x 3" flat steel frame pads shall be attached to the body subframe and rest on top of the chassis frame rails for proper frame weight distribution.

The steel frame pads, longitudinal steel channels and subframe cross members shall be attached to the chassis frame rails using heavy "U" bolt fasteners to allow removal of the subframe and body assembly from the chassis. There shall be a barrier provided between the subframe and body to prevent electrolysis.

A minimum of two rear platform support channels shall be provided and constructed of 4.3 lb. per foot heavy steel material. Each support channel shall have welded in gusset where the support meets the rear subframe rails.

One (1)

Y__N__

COMPARTMENT VENTS

All body compartments shall have a minimum of one (1) louvered panel bolted into a wall to provide the proper airflow inside the compartment. There shall be a filter installed behind the louvered panel. The filter shall be accessible for cleaning by removing the louvered panel on the interior of the compartment.

One (1)

Y__N__

WHEEL WELL LINER AND FENDERETTES

For ease of accessibility and maintenance, wheel well panels shall be double break formed painted smooth plate that is welded in place.

To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 25") radius wheel well liner shall be provided. Wheel well liner shall be smooth galvanized steel to prevent corrosion.

The rear wheel wells shall be radius cut for a streamlined appearance. A polished aluminum fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless steel fasteners.

One (1)

Y__N__

REAR TOW EYES

There shall be two tow eyes furnished under the rear of the body and attached directly to each chassis frame rail. There shall be a reinforcement spreader bar connecting the two tow eyes. Tow eyes are to be constructed of 3/8" plate steel with a 4" I.D. hole, large enough for passing through a tow chain end hook.

One (1)

Y__N__

APPARATUS COMPARTMENTATION

There shall be large enclosed compartments on both sides of the body, starting at the front of the hose body and continuing to the rear of the apparatus. These compartments shall be as large as possible, using all available space.

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The aluminum treadplate compartmentation tops on each side of the body shall be extended out and downwards a minimum of .50" over the compartment doors forming a drip rail. Corners shall be TIG welded.

Lower or rear face compartments, if specified shall be provided with polished aluminum drip rails.

One (1)

Y__N__

HINGED COMPARTMENT DOOR CONSTRUCTION

All hinged compartment doors shall be of the flush style so that the entire door fits flush against the apparatus body sides. Doors shall be designed, in the closed position, to have the painted edges protected from damage on the tops by forming the treadplate compartment tops into an extended drip edge, on the bottoms by the rub rail.

Doors shall be a minimum 2" thick, fabricated of a minimum of .125 smooth aluminum. Full panel inner compartment door liners shall be provided and constructed of .125" polished aluminum treadplate. The compartment doors shall have a foam panel glued in place between the exterior and interior door skin. Exterior door panels shall be smooth with no welds visible on the exterior skin. Double door compartments shall be equipped with a secondary latch to hold the secondary door in position.

All compartment door hinges shall be full-length piano type constructed of a minimum 14-gauge type 304 polished stainless steel with 3/16" stainless steel hinge pin with dual directional bolt holes for ease of adjustment.

When horizontally hinged lift-up doors are specified, they shall be equipped with heavy-duty gas filled props to hold the doors in the open position. All other hinged doors shall be equipped with spring loaded hold open device specifically designed for use on vertically hinged doors. Door holders shall be bolted in position. The door ajar switches shall be fully enclosed within structural members and shall not extend into the clear door opening.

All compartment doors shall be provided with hollow core weather stripping to provide a weather tight seal at the door opening and to prevent road spray and debris from entering the compartment.

One (1)

Y__N__

EXTERIOR DOOR LATCHES

Side exterior compartment doors shall be furnished with a large stainless steel spring loaded D-handle with slam type latches. D-handles shall have the large "bent" D-ring for ease of grabbing the handle even when wearing mitts or gloves.

A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

One (1)

Y__N__

DRIVER SIDE

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One (1)	<p>The driver side of the apparatus body shall consist of the following configuration.</p> <p>DRIVER SIDE COMPARTMENTS</p> <p>Three body compartments shall be furnished as follows:</p> <ul style="list-style-type: none">▪ One compartment ahead of the rear wheels with full height double hinged doors.▪ One compartment above rear wheel with one lift-up door.▪ One compartment behind the rear wheels with full height single hinged door.	Y__N__
One (1)	<p>PASSENGER SIDE COMPARTMENTS</p> <p>The passenger side of the apparatus body shall consist of the following compartment configuration.</p>	Y__N__
One (1)	<p>PASSENGER SIDE COMPARTMENTS</p> <p>Three body compartments shall be furnished as follows:</p> <ul style="list-style-type: none">▪ One compartment ahead of the rear wheels with full height double hinged doors.▪ One compartment above rear wheel with one lift-up door.▪ One compartment behind the rear wheels with full height single hinged door.	Y__N__
One (1)	<p>FLAT BACK BODY</p> <p>The rear vertical surface of the body shall be flat from side to side.</p>	Y__N__
One (1)	<p>EXTERIOR COMPARTMENT FLOOR COVERING</p> <p>All enclosed compartment floors with exterior opening doors on the apparatus body shall be covered with black colored rigid Turtle Tile for improved ventilation and added scuff protection for the compartment floor.</p>	Y__N__
One (1)	<p>SHELF FLOOR COVERING</p> <p>All shelving in compartments with exterior opening doors on the apparatus body shall be covered with black colored rigid Turtle Tile for improved ventilation and added scuff protection for the compartment floor.</p>	Y__N__
Two (2)	<p>ALUMINUM UNISTRUT CHANNEL</p> <p>Extruded aluminum unistrut channel shall be provided in all compartments for future addition of adjustable shelves.</p>	Y__N__
Four (4)	<p>ADJUSTABLE SHELVES</p>	Y__N__

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Compartment shelves shall be constructed of .125" smooth Aluminum. Shelves shall have formed edges on three sides for added strength. Shelves shall be fully adjustable, with extruded aluminum unistrut channels provided on the front and rear compartment walls.

Two (2) The location of the shelves shall be determined by the fire department. Y__N__

DRIVER SIDE AIR BOTTLE COMPARTMENTS IN WHEELWELL

SCBA storage compartment shall be provided and located in the driver side rear wheel well of the apparatus body. Compartment door and frame shall be constructed entirely of cast aluminum and have hinged style door. The compartment bottom and rear wall shall be lined with rubber material to protect paint finish of the air cylinder.

Two (2) Y__N__

PASSENGER SIDE AIR BOTTLE COMPARTMENTS IN WHEELWELL

SCBA storage compartment shall be provided and located in the passenger side rear wheel well of the apparatus body. Compartment door and frame shall be constructed entirely of cast aluminum and have hinged style door. The compartment bottom and rear wall shall be lined with rubber material to protect paint finish of the air cylinder.

Four (4) Y__N__

SCBA COMPARTMENT WITH O-RING GASKET

All SCBA compartments mounted in the wheel well area shall have an o-ring gasket with push button latch assembly.

One (1) Y__N__

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the right and left body sides and in the pump panel area. The rub rails shall extend outward beyond the body sides for protection of the compartments and doors. There shall be a bolt on aluminum corner casting on each rear corner to blend the rear tailboard assembly with the side rub rails.

One (1) The side rub rails shall be a heavy extruded aluminum "C" channel. Y__N__

SIDE AND REAR OVERLAYS

Overlay panels shall be constructed of 3003 polished aluminum treadplate. Polished aluminum overlay shall be provided and installed in the following areas:

- The front face of each side compartment.
- The rear body face and vertical area above tailboard and below hose bed.
- Drivers side and passenger compartment top extending down over the side to the compartment doors and forming a drip rail above doors.
- Front face of hose bed above booster tank.

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- One (1) Overlay shall be installed with "Aluminized" stainless steel bolts to prevent corrosion. Y__N__
- SLIP-RESISTANT WALKWAY SURFACE**
- All exterior surfaces designated as stepping, standing, and walking areas shall have an aluminum slip-resistant overlay material installed. The slip-resistant overlay material shall have a raised serrated surface that will allow moisture to drain out either side. The recessed surface shall be one piece solid material to prevent road spray and debris from entering the top surface from below. The slip-resistant overlay material shall meet the requirements of NFPA 13-7.3. The slip-resistant surface shall be installed in the following areas of the apparatus body:
- Step areas of the side running boards.
 - Rear step running board step.
 - Walkway and standing platforms
- One (1) Y__N__
- REAR STEP/RUNNING BOARDS**
- The apparatus body running boards and rear step shall be constructed with slip-resistant surface and shall have bright aluminum treadplate trim around the outside edges. Side running boards and rear step shall be removable for ease of service in case of damage.
- One (1) Y__N__
- REAR STEP/TAILBOARD**
- A single piece .188 rear step/tailboard shall be furnished that is a minimum of 10.00" deep and full width of the apparatus body, from rub rail to rubrail. The tailboard shall be provided with a removable casting on each corner for a pleasing appearance.
- One (1) Y__N__
- HANDRAILS**
- Access handrails shall be 1 1/4" in diameter extruded aluminum with rubber insert. Access rail escutcheons and brackets shall be chrome plated brass and attached with stainless steel bolts and locking nuts. Anchoring of posts and framing members for railings of all types shall be of such construction that the completed railing structure shall be capable of withstanding a load of at least 225 pounds applied in any direction at any point along the rail.
- One (1) Y__N__
- REAR HANDRAILS**
- Two (2) vertical access handrails shall be provided and mounted on the rear of the apparatus body, one on each side. Each rear handrail to be approximately 48" long.

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One (1)

Y__N__

ELECTRICAL

Electrical wiring, hydraulic lines, air system tubing, and control cables shall be fastened to the frame or body structure of the apparatus and shall be furnished with protective looms, grommets, or other devices, so that any such connector and/or wiring will be protected from shear or tear.

The body 12-Volt electrical system shall be designed specifically for the apparatus body. Automatic reset circuit breakers shall be provided and installed in all circuits.

Wiring data shall be provided with the completed apparatus.

The following electrical equipment and lights shall be provided and installed:

One (1)

Y__N__

WIRING SYSTEM

All electrical wiring shall be 14-gauge heavy strand copper with type GXL crosslink high temperature insulation, being circuit function printed every three-inches along its entire length.

Wiring data shall be provided with the completed apparatus.

The following electrical equipment and lights shall be provided and installed:

One (1)

Y__N__

TAIL & STOP LIGHTS

Two (2) Weldon #2010 rectangular red stop/tail lights shall be provided and mounted at the rear of the body, one on each side.

One (1)

Y__N__

DIRECTIONAL LIGHTS WELDON 2010

Two (2) Weldon #2010, rectangular amber directional signal lights with black arrows shall be provided and mounted at the rear of the body, one on each side below the stop/tail lights.

One (1)

Y__N__

BACKUP LIGHTS WELDON 2010 (RECT)

Two (2) Weldon #2010, rectangular clear backup lights shall be provided and mounted, one on each side at the rear of the body. The backup lights shall be mounted below the rear stop/tail and directional lights.

One (1)

Y__N__

CLEARANCE LIGHTS

There shall be clearance marker lights installed meeting all DOT requirements. The vehicle clearance lights shall be recess mounted within the rear center tailboard step.

One (1)

Y__N__

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LICENSE PLATE BRACKET

A license plate mounting bracket shall be provided complete with a chrome-plated shielded indirect type light. Bracket shall be mounted at the rear of the apparatus body.

One (1)

Y__N__

BACKUP ALARM

An automatic, electronic reverse alarm shall be provided and installed. An alarm shall activate whenever the reverse gear is selected in the transmission.

One (1)

Y__N__

LOAD MANAGER

The apparatus shall be equipped with a Kussmaul model 091-79 Automatic Load Shedding System for performing continuous electrical load management. The Load Manager shall have the following features:

- Monitor 12-volt system and detect low voltage.
- Capability to control two (2) loads.
- Automatic reset when voltage rises.
- Adjustable voltage setpoint.

The load manager shall be protected against reverse polarity and shorted outputs, and be enclosed in a metal enclosure to enhance EMI/RFI protection. CSFA shall provide for all electrical loads in excess of the NFPA minimum electrical requirements that exceed the alternator output.

One (1)

Y__N__

HIGH IDLE SYSTEM

There shall be a high idle system furnished and installed on the apparatus. The high idle system shall have an on/off switch located in the chassis on the switch console. The system shall have an interlock that will disable the solenoid if the parking brake is not completely set.

Six (6)

Y__N__

COMPARTMENT LIGHTING

All side and rear exterior equipment compartments shall be provided with one (1) clear compartment light mounted to the top of the compartment ceiling. Compartment lights shall switch on automatically when the compartment door is opened and switch off when the door is closed.

One (1)

Y__N__

OPEN COMPARTMENT/HAZARD WARNING LIGHT

A red flashing, warning light shall be provided and installed in the driver's compartment to indicate an open passenger or apparatus compartment door. The hazard light shall also be attached to folding equipment racks and light towers as specified. Light shall be properly marked and identified.

One (1)

Y__N__

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BATTERY DISCONNECT SWITCH

A master battery on/off switch shall be provided and mounted in a convenient location to the driver. The master battery switch shall disconnect the batteries from all chassis and body accessories.

One (1)

A "Battery-On" pilot light shall be provided, visible to the driver.

Y__N__

AIR COMPRESSOR/BATTERY CONDITIONER

A 110-volt Kussmaul Auto-Charge 1000, single system, 15-amp, automatic battery charger and power supply shall be provided and installed within the chassis cab and wired to the battery system. Battery charger shall be 15-amp output type designed to automatically charge the battery system when shoreline power is connected. The charger shall be equipped with a bar graph type charge level indicator to indicate the charge rate. The charger shall have an electronic sensing circuit to sense the true battery voltage while eliminating the need for external sensor wires. Charging is completely automatic, when the battery is fully charged, all charging stops. There is no over charging and no water boil off.

The charger shall have a built in 3-amp battery saver for rechargeable hand lights.

There shall be an air compressor furnished to maintain the air pressure in the vehicle brake system. The compressor shall be wired to the vehicle electrical system and plumbed to the vehicle air system.

One (1)

Y__N__

AUTO-EJECT

A Kussmaul "Super Auto-Eject" 20-amp automatic disconnect device shall be provided and installed on the 110 volt shoreline connection complete with weatherproof cover and matching plug. The Auto-Eject shall be activated by the chassis starter switch to disconnect the plug. The Super Auto-Eject shall be completely sealed to prevent contamination of the mechanism by inclement weather and road conditions. The Super Auto-Eject shall have an internal switch to open and close the A.C. circuit after the mating connector is inserted and before the connector is removed.

One (1)

Y__N__

ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL

An electrical console shall be constructed of .125" smooth aluminum material and mounted in the cab of the truck chassis. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be hinged for easy access to the switch connections.

All emergency light switches shall be lighted, rocker style. Switches shall be internally lit when the switch circuit is in the on position. A plug-in identification label is to be provided and installed adjacent to

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each rocker switch with backlighting provided behind the label.

A rocker style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. Switch shall allow for pre-selection of emergency lights and shall be identified; MASTER SWITCH.

One (1)

Y__N__

REAR STEP LIGHTS

Two (2) chrome plated lights shall be furnished and installed on the rear face of the body to illuminate the rear step area. Lights shall be wired to the panel light switch at the pump operator's panel.

One (1)

Y__N__

ENGINE COMPARTMENT WORK LIGHT

An engine compartment work light shall be provided complete with a switch mounted on the light head.

One (1)

Y__N__

PUMP COMPARTMENT WORK LIGHT

A pump compartment work light shall be provided and installed within the pump compartment area complete with a switch mounted on the light head.

One (1)

Y__N__

UNDER CAB LIGHTING

There shall be four (4) lights furnished below the chassis cab, one on each side below each door. The lights shall be wired to switch on and off automatically when the cab doors are opened.

One (1)

Y__N__

UNDER BODY LIGHTING REAR STEP

There shall be two (2) lights furnished below the rear step, one on each side. The lights shall be wired to turn on and off with a switch located on the driver's side pump panel.

One (1)

Y__N__

REAR DECK LIGHTS

Fire Research FOCUS 12-volt spot/flood light Model FC540-D30 lamp head, with swivel type mount, shall be mounted on the rear of the apparatus.

Two (2)

Y__N__

TELESCOPING 12 VOLT SPOT/FLOODLIGHTS

Two (2) Fire Research FOCUS 12-volt spot/flood lights, Model FC540-D30, shall be provided and mounted on side mount/top raise type telescopic poles. The lights shall be mounted on the front of the body area of the apparatus body, one each side. The lights shall be wired to the chassis 12-volt system with a switch provided on each light.

One (1)

Y__N__

AIR HORNS

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Two (2) chrome-plated Grover "Stuttertone" air horns shall be provided and mounted on the sides of the engine hood. A pressure protection valve to prevent the use of air horns or other air operated accessories when the system air pressure drops below 80 psi shall be provided.

One (1) Air horns shall be controlled from the following switch positions. Y__N__

One (1) overhead lanyard control shall be provided in the front of the cab for activation of the air horn. The lanyard control shall be accessible to both the driver and the officer when seated. Y__N__

ELECTRONIC SIREN

One (1) A Code 3 Model 3692 V-CON, 200-watt electronic siren with Hi-Lo and hardwired microphone shall be provided and mounted in the cab. Y__N__

SPEAKER

One (1) Cast Products Model GS1004, 100-watt speaker shall be provided and recess mounted in the front bumper of the chassis. The speaker shall be connected to the electronic siren control unit. Y__N__

HEADLIGHT FLASHER

One (1) The headlight circuit of the chassis shall be provided with a heavy-duty headlight flasher system designed for emergency vehicles. Flasher shall include override for high beam headlights and controlled by switch located on the electrical module in the chassis cab. Headlight flasher to be turned off when the park brake is set. Y__N__

EMERGENCY LIGHTING

One (1) The upper and lower zones "A", "B", "C", "D" of the apparatus shall have the following emergency lighting equipment: Y__N__

LIGHT BAR

One (1) Whelen model 9310 NFPA Edge 9000, 72" light bar mounted on chassis cab roof to meet the NFPA upper zone A lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console. Light bar to have the following equipment:

- (10) Strobe Lights
- (3) Power Supplies

One (1) Y__N__

REAR WARNING

Two (2) Whelen model RB6 rotating beacons mounted on the rear of the apparatus body to meet the NFPA Zone B, C, D upper level lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console. Each light to have the following equipment:

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- (1) 50-watt Halogen Rotator
- (1) Large Reflector
- Amber lens on passenger side, Red lens on driver side.

One (1)

Y__N__

UPPER ZONE "B, C, D" LIGHT MOUNTING

The upper rear lights designated for Upper Zone "B" shall be mounted on the upper outside corners of the apparatus body, one on each side.

One (1)

Y__N__

ZONE A FRONT LIGHTS

There shall be two (2) Whelen model 7E0C20RU strobe lights furnished on the front grill to meet the NFPA Zone A lower level lighting requirement. The strobe lights shall be connected to a power supply and be activated through the master emergency light switch located on the electrical console. Each light shall have a red lens.

One (1)

Y__N__

ZONE B & D SIDE LIGHTS

There shall be two (2) Whelen model 7E0C20 strobe lights furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. One strobe light mounted as far forward as possible and one strobe light mounted as far to the rear as possible. The strobe lights shall be connected to a power supply and be activated through the master emergency light switch located on the electrical console.

One (1)

Y__N__

ZONE C REAR LIGHTS

There shall be two (2) Whelen model 7E0C20RU strobe lights furnished on the rear of the apparatus body to meet the NFPA Zone C lower level lighting requirement. The strobe lights shall be connected to a power supply and be activated through the master emergency light switch located on the electrical console. Each light shall have a red lens.

One (1)

Y__N__

12 VOLT ELECTRICAL CERTIFICATION

The low voltage electrical system shall be tested and certified per NFPA 1901 requirements.

A certificate of compliance shall be provided with the completed vehicle upon delivery.

Minimum electrical load consists of the total amperage required to simultaneously operate the following in a stationary mode at the incident scene.

- The propulsion engine and transmission.
- All Clearance and marker lights.
- The communication radio. (Default of 5.0 amps used for testing).
- Illumination of all walking surfaces, the ground at all egress points, controls and instrument panels and 50% of the total compartment

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lighting load.

- Minimum warning lights required for "Blocking Right of Way" mode.
- The current to simultaneously operate any fire pump, aerial device & hydraulic pumps.
- Anything defined by the purchaser to be critical to the mission of the apparatus.

The first test for the electrical system is the **Reserve Capacity Test**. All the above listed components operate with the engine shut off. After 10 minutes all electrical loads are shut off and the battery system must have adequate reserve power to start the engine.

The second test is the **Alternator Performance Test at Idle**. All the above listed components operate with the engine at an idle. There can be no current draw from the batteries of the apparatus.

The third test is the **Alternator Performance Test at Full Load**. All electrical components shall be activated with the engine operating at governed RPM for two hours. During the test the system voltage cannot drop below 11.7-volts or have excessive battery discharge for more than 120 seconds. Any loads not listed in the minimum electrical load may be load managed in order to pass the test.

All of the above tests must be conducted with the engine compartment at approximately 200 degrees.

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One (1)

Y__N__

PAINTING

All bright metal fittings if unavailable in stainless steel shall be heavily chrome-plated. Iron fittings shall be copper plated prior to chrome plating.

All seams shall be caulked both inside and along the exterior edges with an automotive sealant to prevent moisture from entering between any body panels.

The body and all parts shall be thoroughly washed with grease cutting solvents prior to any sanding. After the body has been sanded and the minor imperfections filled and sanded, the body shall be washed again with a solution to remove any contaminants on the surface. The first coating to be applied is a self-etching primer for maximum adhesion to the body metal. The next three coats shall be an acrylic, urethane, primer surfacer. The primer surfacer coat is to be hand sanded with 600-grit sandpaper to insure maximum gloss of the paint. The last step is the application of at least three coats of Concept Acrylic Urethane two component color.

The fire pump and all rigid discharge and suction plumbing shall be painted silver in color.

While constructing the truck body, all aluminum parts shall be properly fitted on the body. The backside of all aluminum parts shall be sanded smooth of any burrs and sharp edges.

All aluminum parts shall be bolted to the body using stainless steel fasteners. Cadmium plated fasteners are not acceptable.

During reassembly of the apparatus, care shall be exercised in fitting and fastening the parts back in their respective position on the vehicle.

One (1)

Y__N__

UNDERCOATING

The body subframe shall be undercoated with a heavy-duty automotive type undercoating before the rubber backing and the compartments are attached. After the body has been attached to the subframe and all final items have been installed the entire body assembly shall be undercoated

One (1)

Y__N__

INTERIOR COMPARTMENT LINER

The interior compartment walls shall be coated with a heavy spray on lining material. The lining material shall dry to form an impervious one-piece covering to protect the compartment interiors from damage. The lining material shall be gray in color.

One (1)

Y__N__

WHEEL PAINTING

The exterior faces of the front and rear wheels, shall be finished painted to match the apparatus body. Wheels shall be properly

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prepared and finished with primer coats and topcoats as specified.

One (1) The outer two-inches of each outside wheel rim shall be painted Silver in color, unless otherwise specified. Y__N__

PAINT BODY TO MATCH CHASSIS

One (1) The apparatus body to be painted to match the chassis. Y__N__

LETTERING

One (1) Lettering shall be done in gold leaf mylar letters, shaded in black, and encapsulated in clear mylar. Lettering to be placed on each cab door as directed by fire department. Maximum of fifty (50) letters. Y__N__

LETTERING SHALL BE AS FOLLOWS

One (1) **REFLECTIVE SAFETY STRIPE** Y__N__

A 4" wide 3M brand Scotchlite #680-10 reflective stripe shall be affixed to the perimeter of the vehicle. Striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 60% of the perimeter length of each side and width of the rear, and at least 40% of the perimeter width of the front of the vehicle shall have reflective stripe.

The side stripe shall be applied straight across the body.

One (1) The stripe shall be white in color. Y__N__

IDENTIFICATION & SAFETY LABELS

A permanent plate shall be installed in the driver's compartment to specify the quantity and type of the following fluids in the vehicle:

1. Engine oil.
2. Engine coolant.
3. Transmission fluid.
4. Pump Transmission Lubrication Fluid.
5. Pump Primer Fluid (If applicable).
6. Drive Axle Lubrication Fluid.
7. Air-conditioning refrigerant.
8. Air-conditioning lubrication oil.
9. Power steering fluid.
10. Transfer case fluid.
11. Equipment rack fluid.
12. Air compressor system lubricant.
13. Generator system lubricant.

When trucks have been UL certified, a permanent plate with pump

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performance data and serial numbers shall be installed on the pump panel.

A permanent plate shall be installed in the driver's compartment specifying the maximum number of personnel the vehicle is designed to carry per NFPA standards. It shall be located in an area visible to the driver.

An accident prevention sign stating "DANGER PERSONNEL MUST BE SEATED AND SEAT BELTS MUST BE FASTENED WHILE VEHICLE IS IN MOTION OR DEATH OR SERIOUS INJURY MAY RESULT". The warning sign shall be placed so it is visible from all seating positions.

An accident prevention sign stating "DANGER DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION, DEATH OR SERIOUS INJURY MAY RESULT". The warning sign shall be placed so it is visible from the rear step of the vehicle.

If an inlet located at the pump operator's position is valved, it shall be provided with a permanent label that states "WARNING SERIOUS INJURY OR DEATH COULD OCCUR IF INLET IS SUPPLIED BY A PRESSURIZED SOURCE WHEN THE VALVE IS CLOSED".

One (1)

Y__N__

OPERATION/SERVICE MANUALS

The following applicable documentation shall be supplied upon delivery:

- Two (2) copies of Operation/Service manual of the apparatus operations and service manuals supplied by components manufacturers.
- Pump certification including manufactures record of apparatus construction details.
- Certificate of compliance to Electrical Warning System Low Voltage test.
- Water tank capacity certificate.
- Line Voltage Electrical System test certificate.
- (NFPA 19-14.4.1 - 19.14.4.2)
- Certificate of approval for stationary pumping.

Weiser Rural Fire Department

One (1)	ADDITIONAL EQUIPMENT	Y__N__
	The following equipment shall be furnished by the apparatus body builder:	
	LADDERS	
One (1)	A 24-foot, 2-section aluminum fire department extension ladder, ALCO-LITE Model PEL-24, shall be furnished.	Y__N__
One (1)	A 14-foot aluminum roof ladder with folding hooks, ALCO-LITE model PRL-14, shall be furnished.	Y__N__
One (1)	A 10-foot folding aluminum attic ladder, with mounting brackets, ALCO-LITE model FL-10, shall be furnished.	Y__N__
	PIKE POLES	
One (1)	8-foot pike pole with fiberglass handle and steel hook shall be furnished.	Y__N__
One (1)	10-foot pike pole with fiberglass handle and steel hook shall be furnished.	Y__N__