

PROPOSAL
FOR
CALHOUN COUNTY, South Carolina

2500 GALLON TANKER BID

09-25-2015

INVITATION TO BID

In accordance with the Calhoun County Procurement Code, the County of Calhoun will be accepting sealed bids for the purchase of (3) three new 2500 gallon tanker Fire Trucks. The method of bidding will be awarded by "Competitive Best Value Bidding" in accordance with State Statute 11-35-1528, as provided by the State Procurement Code, hence, the award for Contract will be made not only on price but, also on the quality of the proposal, vendor qualifications, technical expertise, warranties, guarantees, delivery time, service and training. Discounts for prepay of Chassis and the purchase of three (3) Fire Trucks must be applied in pricing. A bid bond will be required.

The bid opening will be conducted at 4:00 p.m. on October 26st, 2015 in the County Annex Council Chambers at 102 Courthouse Drive, Saint Matthews SC 29135.

Calhoun County reserves the right to reject any and all bids, to waive any informality and to award the Contract and conduct Contract negotiations with the successful bidder, as it appears, to be in the best interest of Calhoun County. Calhoun County also reserves the right to hold any and all bids for a period not to exceed (60) sixty days from the opening thereof.

Questions regarding the equipment specifications may be directed to: Mr. Randy Coleman at, ftmotte603@aol.com or Mr. James Brown at, bvfd4@mybluelight.com.

Questions regarding Calhoun County's bidding process may be directed to: Mr. Boyce Till at btill@calhouncounty.sc.gov.

A Pre-bid conference will be held on October 8th, 2015 at 4:00 p.m. in the County Annex Council Chambers, 102 Courthouse Drive, Saint Matthews SC 29135.

All bids must be submitted to:

Boyce Till , 102 Courthouse Drive, Courthouse Annex, Ste. 112, Saint Matthews SC 29135

The package must be marked as "2500 gallon Tanker bid "

The attached specifications are general guidelines. If equivalent or alternate specifications are available, they must be validated and clearly defined in your bid.

Specifications are as follows:

2500 Gallon Tanker

**Bidder
Complies**

Yes No

PROPOSAL

Questions or concerns pertaining to this proposal can be answered by contacting the following Calhoun County Rural Fire District representative:

Randy Coleman
(803) 664-1392
ftmotte603@aol.com

James Brown
(803) 516-1853
bvfd4@mybluelight.com

GENERAL INFORMATION

The proposed apparatus will be constructed to withstand the severe and continuous use encountered during emergency firefighting services. The apparatus will be of the latest type, carefully designed and constructed with due consideration to the nature and distribution of the load to be sustained.

This proposal details the general design criteria of cab and chassis components, aerial device (if applicable), fire pump and related components (if applicable), water tank (if applicable), fire body, electrical components, painting, and equipment.

All items of these proposal specifications will conform to the National Fire Protection Association Pamphlet No. 1901, latest edition.

The successful bidder will be responsible for preparing and maintaining a record file of parts at the factory for a minimum of twenty (20) years. The file will contain copies of any and all reported deficiencies, all replacement parts required to maintain the apparatus, and original purchase documents including specifications, contract, invoices, incomplete chassis certificates, quality control reports and final delivery acceptance documents. The purchaser will have access to any and all documents contained in this file upon official written request.

PAINT PERFORMANCE CERTIFICATION

The proposed apparatus meets or exceeds the required Commercial Vehicle Paint Performance Standards.

DELIVERY TIME

The Apparatus Manufacture is proposing to complete the apparatus delivery time based on the number of calendar days, starting from the date the sales contract is signed and accepted by the purchaser.

Delivery Time: _____ Calendar Days

APPROVAL DRAWING

A detailed drawing of the apparatus will be provided to the Calhoun County Rural Fire Commission for approval before construction begins. A copy of this drawing will also be provided to the manufacturer's representative. Upon Calhoun County Rural Fire Commission approval, the finalized drawing will become a part of the total contract.

2500 Gallon Tanker

Bidder Complies

Yes

No

The drawing will show, but is not limited to, such items as the chassis make and model, major components, location of lights, sirens, all compartment locations and dimensions, special suction, discharges, etc. The drawing will be a visual interpretation of the apparatus as it is to be supplied.

VEHICLE FLUIDS PLATE

As required by NFPA-1901, The Apparatus Manufacture will affix a permanent plate in the driver's compartment specifying the quantity and type of the following fluids used in the vehicle:

A permanent plate in the driving compartment will specify the quantity and type of the following fluids used in the vehicle:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Pump transmission lubrication fluid
- Pump primer fluid
- Drive axle(s) lubrication fluid
- Air-conditioning refrigerant
- Air-conditioning lubrication oil
- Power steering fluid
- Cab tilt mechanism
- Transfer case fluid

PRINCIPAL APPARATUS DIMENSIONS & G.V.W.R.

The principal dimensions of the completed apparatus will not exceed the following maximum acceptable dimensions:

PROPOSED DIMENSIONS:

- OVERALL LENGTH: 329"
- OVERALL WIDTH: 102 1/8"
- OVERALL HEIGHT: 104.5"
- WHEELBASE: 172.1/4"

The axle and total weight ratings of the completed apparatus will not be less than the following minimum acceptable weight ratings:

- MINIMUM FRONT G.A.W.R.: 14,600 lbs.
- MINIMUM REAR G.A.W.R.: 40,000 lbs.
- MINIMUM TOTAL G.V.W.R.: 54,600 lbs.

U.S.A. MANUFACTURER

The entire apparatus will be assembled within the borders of the Continental United States to insure more readily available parts (without added costs and delays caused by tariffs and customs) and service.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

GENERAL APPARATUS DESCRIPTION "MOBILE WATER SUPPLY"

The unit shall be designed to conform fully to the "Mobile Water Supply Fire Apparatus" requirements as stated in the NFPA 1901 Standard (2009 Revision), which shall include the following required chapters as stated in this revision:

- Chapter 1 Administration
- Chapter 2 Referenced Publications
- Chapter 3 Definitions
- Chapter 4 General Requirements
- Chapter 7 Mobile Water Supply Fire Apparatus
- Chapter 12 Chassis and Vehicle Components
- Chapter 13 Low Voltage Electrical Systems and Warning Devices
- Chapter 14 Driving and Crew Areas
- Chapter 15 Body, Compartments and Equipment Mounting
- Chapter 18 Water Tanks

CAB SAFETY SIGNS

The following safety signs shall be provided in the cab:

- A label displaying the maximum number of personnel the vehicle is designed to carry shall be visible to the driver.
- "Occupants will be seated and belted when apparatus is in motion" signs shall be visible from each seat.
- "Do Not Move Apparatus When Light Is On" sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).
- A label displaying the height, length, and GVWR of the vehicle shall be visible to driver.
- This label shall indicate that the fire department will revise the dimension if vehicle height changes while vehicle is in service.

CHASSIS DATA LABELS

The following information shall be on labels affixed to the vehicle:

Fluid Data

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Pump Transmission Lubrication Fluid
- Pump Primer Fluid (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air Conditioning Refrigerant
- Air Conditioning Lubrication Oil
- Power Steering Fluid
- Cab Tilt Mechanism Fluid
- Transfer Case Fluid (if applicable)
- Equipment Rack Fluid (if applicable)
- Air Compressor System Lubricant
- Generator System Lubricant (if applicable)
- Front Tire Cold Pressure
- Rear Tire Cold Pressure
- Aerial Hydraulic Fluid (if applicable)
- Maximum Tire Speed Rating

2500 Gallon Tanker

**Bidder
Complies**

Yes No

Chassis Data

- Chassis Manufacturer
- Production Number
- Year Built
- Month Manufactured
- Vehicle Identification Number

Manufacturers weight certification:

- Gross Vehicle (or Combination) Weight Rating (GVWR or GCWR)
- Gross Axle Weight Rating, Front
- Gross Axle Weight Rating, Rear

Chassis

Freightliner

001-172 M2 106 CONVENTIONAL CHASSIS
 004-216 2016 MODEL YEAR SPECIFIED
 002-004 SET BACK AXLE - TRUCK
 019-002 STRAIGHT TRUCK PROVISION
 003-001 LH PRIMARY STEERING LOCATION

General Service

AA1-002 TRUCK CONFIGURATION
 AA6-001 DOMICILED, USA 50 STATES (INCLUDING CALIFORNIA AND CARB OPT-IN STATES)
 A85-020 FIRE SERVICE
 A84-1EV EMERGENCY VEHICLES BUSINESS SEGMENT
 AA4-002 LIQUID BULK COMMODITY
 AA5-002 TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS
 AB1-008 MAXIMUM 8% EXPECTED GRADE
 AB5-001 SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE
 995-091 MEDIUM TRUCK WARRANTY
 A66-99D EXPECTED FRONT AXLE(S) LOAD : 14000.0 lbs
 A68-99D EXPECTED REAR DRIVE AXLE(S) LOAD : 40000.0 lbs
 A63-99D EXPECTED GROSS VEHICLE WEIGHT CAPACITY : 44000.0 lbs

Truck Service

AA3-003 TANK BODY
 A88-99D EXPECTED TRUCK BODY LENGTH : 190 inches
 AF7-99D EXPECTED BODY/PAYLOAD CG HEIGHT ABOVE FRAME "XX" INCHES : 32.0 in

Engine

2500 Gallon Tanker

**Bidder
Complies**

Yes No

101-2XM CUM ISL 350 HP @ 2000 RPM, 2200 GOV RPM,
1000 LB/FT @ 1400 RPM

Electronic Parameters

- 79A-064 64 MPH ROAD SPEED LIMIT
- 79B-000 CRUISE CONTROL SPEED LIMIT SAME AS
ROAD SPEED LIMIT
- 79K-011 PTO MODE ENGINE RPM LIMIT - 1400 RPM
- 79P-002 PTO RPM WITH CRUISE SET SWITCH - 700 RPM
- 79Q-003 PTO RPM WITH CRUISE RESUME SWITCH - 800
RPM
- 79S-001 PTO MODE CANCEL VEHICLE SPEED - 5 MPH
- 79U-007 PTO GOVERNOR RAMP RATE - 250 RPM PER
SECOND
- 80G-002 PTO MINIMUM RPM - 700
- 80J-002 REGEN INHIBIT SPEED THRESHOLD - 5 MPH

Engine Equipment

- 99C-015 2015 ONBOARD DIAGNOSTICS/2010
EPA/CARB/GHG14
- 99D-012 2008 CARB EMISSION CERTIFICATION -
EXEMPTED VEHICLE; NO CLEAN IDLE LABEL
REQUIRED
- 13E-001 STANDARD OIL PAN
- 105-001 ENGINE MOUNTED OIL CHECK AND FILL
- 133-004 ONE PIECE VALVE COVER
- 014-1BX SIDE OF HOOD AIR INTAKE WITH NFPA
COMPLIANT EMBER SCREEN AND FIRE
RETARDANT DONALDSON AIR CLEANER
- 124-1CE LN 12V 320 AMP 4962PA PAD MOUNT
ALTERNATOR
- 292-058 (3) ALLIANCE MODEL 1031, GROUP 31, 12 VOLT
MAINTENANCE FREE 2280 CCA THREADED
STUD BATTERIES
- 290-017 BATTERY BOX FRAME MOUNTED
- 281-001 STANDARD BATTERY JUMPERS
- 282-003 SINGLE BATTERY BOX FRAME MOUNTED LH
SIDE BACK OF CAB
- 291-017 WIRE GROUND RETURN FOR BATTERY
CABLES WITH ADDITIONAL FRAME GROUND
RETURN
- 289-001 NON-POLISHED BATTERY BOX COVER
- 33M-001 AUXILIARY POWER NET DISTRIBUTION BLOCK
FOR BODY BUILDER USE
- 295-029 POSITIVE AND NEGATIVE POSTS FOR
JUMPSTART LOCATED ON FRAME NEXT TO
STARTER
- 107-032 CUMMINS TURBOCHARGED 18.7 CFM AIR
COMPRESSOR WITH INTERNAL SAFETY VALVE
- 108-002 STANDARD MECHANICAL AIR COMPRESSOR
GOVERNOR
- 131-013 AIR COMPRESSOR DISCHARGE LINE
- 152-039 GVG, FIRE AND EMERGENCY SERVICE
VEHICLES ENGINE WARNING
- 128-1AR CUMMINS EXHAUST BRAKE INTEGRAL WITH
VARIABLE GEOMETRY TURBO WITH ON/OFF
DASH SWITCH, ACTIVATES STOP LAMPS

2500 Gallon Tanker

**Bidder
Complies**

Yes No

- 016-1C3 RH OUTBOARD UNDER STEP MOUNTED
HORIZONTAL AFTERTREATMENT SYSTEM
ASSEMBLY WITH RH HORIZONTAL TAILPIPE
- 28F-002 ENGINE AFTERTREATMENT DEVICE,
AUTOMATIC OVER THE ROAD REGENERATION
AND DASH MOUNTED REGENERATION
REQUEST SWITCH
- 239-001 STANDARD EXHAUST SYSTEM LENGTH
- 237-052 RH STANDARD HORIZONTAL TAILPIPE
- 23U-001 6 GALLON DIESEL EXHAUST FLUID TANK
- 30N-003 100 PERCENT DIESEL EXHAUST FLUID FILL
- 43X-002 LH MEDIUM DUTY STANDARD DIESEL EXHAUST
FLUID TANK LOCATION
- 23Y-001 STANDARD DIESEL EXHAUST FLUID PUMP
MOUNTING
- 43Y-001 STANDARD DIESEL EXHAUST FLUID TANK CAP
- 273-018 HORTON DRIVEMASTER ON/OFF FAN DRIVE
- 276-001 AUTOMATIC FAN CONTROL WITHOUT DASH
SWITCH, NON ENGINE MOUNTED
- 110-003 CUMMINS SPIN ON FUEL FILTER
- 118-008 COMBINATION FULL FLOW/BYPASS OIL FILTER
- 266-013 1100 SQUARE INCH ALUMINUM RADIATOR
- 103-004 ANTIFREEZE TO -34F, NOAT EXTENDED LIFE
COOLANT
- 171-007 GATES BLUE STRIPE COOLANT HOSES OR
EQUIVALENT
- 172-001 CONSTANT TENSION HOSE CLAMPS FOR
COOLANT HOSES
- 270-008 AUXILIARY ENGINE COOLING USING WATER
FROM FIRE PUMP
- 168-002 LOWER RADIATOR GUARD
- 138-011 PHILLIPS-TEMRO 1000 WATT/115 VOLT BLOCK
HEATER
- 140-053 BLACK PLASTIC ENGINE HEATER RECEPTACLE
MOUNTED UNDER LH DOOR
- 134-001 ALUMINUM FLYWHEEL HOUSING
- 132-004 ELECTRIC GRID AIR INTAKE WARMER
- 155-058 DELCO 12V 38MT HD STARTER WITH
INTEGRATED MAGNETIC SWITCH

Transmission

- 342-1KD ALLISON 3000 EVS AUTOMATIC TRANSMISSION
WITH PTO PROVISION

Transmission Equipment

- 343-331 ALLISON VOCATIONAL PACKAGE 198 -
AVAILABLE ON 3000/4000 PRODUCT FAMILIES
WITH VOCATIONAL MODEL EVS
- 84B-003 ALLISON VOCATIONAL RATING FOR FIRE
TRUCK/EMERGENCY VEHICLE APPLICATIONS
AVAILABLE WITH ALL PRODUCT FAMILIES
- 84C-023 PRIMARY MODE GEARS, LOWEST GEAR 1,
START GEAR 1, HIGHEST GEAR 6, AVAILABLE
FOR 3000/4000 PRODUCT FAMILIES ONLY
- 84D-023 SECONDARY MODE GEARS, LOWEST GEAR 1,
START GEAR 1, HIGHEST GEAR 6, AVAILABLE
FOR 3000/4000 PRODUCT FAMILIES ONLY

2500 Gallon Tanker

Bidder Complies

Yes No

- 84N-000 NEUTRAL AT STOP - DISABLED, FUELSENSE - DISABLED
- 353-023 VEHICLE INTERFACE WIRING WITH BODY BUILDER CONNECTOR MOUNTED END OF FRAME, NO BLUNT CUTS
- 34C-001 ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR FIREWALL MOUNTED
- 362-035 CUSTOMER INSTALLED CHELSEA 277 SERIES PTO
- 363-001 PTO MOUNTING, LH SIDE OF MAIN TRANSMISSION
- 341-018 MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN
- 345-003 PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED
- 97G-004 TRANSMISSION PROGNOSTICS - ENABLED 2013
- 370-015 WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK
- 346-003 TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK
- 35T-001 SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)

Front Axle and Equipment

- 400-1A8 DETROIT DA-F-14.7-3 14,700# FF1 71.5 KPI/3.74 DROP SINGLE FRONT AXLE
- 402-049 MERITOR 16.5X5 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
- 403-026 FIRE AND EMERGENCY SEVERE SERVICE, NON-ASBESTOS FRONT LINING
- 419-023 CONMET CAST IRON FRONT BRAKE DRUMS
- 409-021 SKF SCOTSEAL PLUS XL FRONT OIL SEALS
- 408-001 VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL
- 416-022 STANDARD SPINDLE NUTS FOR ALL AXLES
- 405-002 MERITOR AUTOMATIC FRONT SLACK ADJUSTERS
- 536-012 TRW TAS-85 POWER STEERING
- 539-003 POWER STEERING PUMP
- 534-015 2 QUART SEE THROUGH POWER STEERING RESERVOIR
- 40T-002 SYNTHETIC 75W-90 FRONT AXLE LUBE

Front Suspension

- 620-010 14,600# TAPERLEAF FRONT SUSPENSION
- 619-005 MAINTENANCE FREE RUBBER BUSHINGS - FRONT SUSPENSION
- 410-001 FRONT SHOCK ABSORBERS

Rear Axle and Equipment

- 420-1K3 MT-40-14X 40,000# R-SERIES TANDEM REAR AXLE
- 421-529 5.29 REAR AXLE RATIO
- 424-003 IRON REAR AXLE CARRIER WITH OPTIONAL HEAVY DUTY AXLE HOUSING

2500 Gallon Tanker

Bidder Complies

Yes No

- 386-074 MXL 176T MERITOR EXTENDED LUBE MAIN
DRIVELINE WITH HALF ROUND YOKES
- 388-076 MXL 17N MERITOR EXTENDED LUBE
INTERAXLE DRIVELINE WITH FULL ROUND
YOKES
- 452-006 DRIVER CONTROLLED TRACTION
DIFFERENTIAL - BOTH TANDEM REAR AXLES
- 878-023 (1) INTERAXLE LOCK VALVE, (1) DRIVER
CONTROLLED DIFFERENTIAL LOCK FORWARD-
REAR AND REAR-REAR AXLE VALVE
- 87A-002 BUZZER AND BLINKING LAMP WITH EACH
MODE SWITCH, INTERAXLE UNLOCK DEFAULT
WITH IGNITION OFF
- 87B-004 BLINKING LAMP WITH EACH MODE SWITCH,
DIFFERENTIAL UNLOCK WITH IGNITION OFF,
ACTIVE <5 MPH
- 423-020 MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR
BRAKES, DOUBLE ANCHOR, FABRICATED
SHOES
- 433-025 FIRE AND EMERGENCY SEVERE SERVICE NON-
ASBESTOS REAR BRAKE LINING
- 434-003 STANDARD BRAKE CHAMBER LOCATION
- 451-023 CONMET CAST IRON REAR BRAKE DRUMS
- 440-021 SKF SCOTSEAL PLUS XL REAR OIL SEALS
- 426-1B3 BENDIX EVERSURE LONGSTROKE 2-DRIVE
AXLES SPRING PARKING CHAMBERS
- 428-003 HALDEX AUTOMATIC REAR SLACK ADJUSTERS
- 41T-002 SYNTHETIC 75W-90 REAR AXLE LUBE

Rear Suspension

- 622-1E8 HENDRICKSON HAULMAAX REAR SUSPENSION
@ 40,000#
- 621-1AP HENDRICKSON HAULMAAX - 10.50" RIDE
HEIGHT
- 624-011 52 INCH AXLE SPACING
- 628-010 HENDRICKSON HN AND HAULMAAX SERIES
STEEL BEAMS WITH BAR PIN
- 623-006 FORE/AFT AND TRANSVERSE CONTROL RODS

Brake System

- 018-002 AIR BRAKE PACKAGE
- 490-101 WABCO 4S/4M ABS WITH TRACTION CONTROL
- 871-001 REINFORCED NYLON, FABRIC BRAID AND WIRE
BRAID CHASSIS AIR LINES
- 904-001 FIBER BRAID PARKING BRAKE HOSE
- 412-001 STANDARD BRAKE SYSTEM VALVES
- 46D-001 STANDARD AIR SYSTEM PRESSURE
PROTECTION AND 85 PSI PRESSURE
PROTECTION FOR AIR HORN(S)
- 413-002 STD U.S. FRONT BRAKE VALVE
- 432-003 RELAY VALVE WITH 5-8 PSI CRACK PRESSURE,
NO REAR PROPORTIONING VALVE
- 480-009 BW AD-9 BRAKE LINE AIR DRYER WITH
HEATER
- 479-003 AIR DRYER MOUNTED INBOARD ON LH RAIL
- 460-001 STEEL AIR BRAKE RESERVOIRS

2500 Gallon Tanker

Bidder Complies

Yes No

477-001 PULL CABLE ON WET TANK, PETCOCK DRAIN
VALVES ON ALL OTHER AIR TANKS

Trailer Connections

335-004 UPGRADED CHASSIS MULTIPLEXING UNIT
32A-002 UPGRADED BULKHEAD MULTIPLEXING UNIT

Wheelbase & Frame

545-477 **4775MM (172.25 INCH) WHEELBASE**
546-101 11/32X3-1/2X10-15/16 INCH STEEL FRAME
(8.73MMX277.8MM/0.344X10.94 INCH) 120KSI
547-001 1/4 INCH (6.35MM) C-CHANNEL INNER FRAME
REINFORCEMENT
552-057 2350MM (93 INCH) REAR FRAME OVERHANG
55W-009 FRAME OVERHANG RANGE: 91 INCH TO 100
INCH
AC8-99D CALC'D BACK OF CAB TO REAR SUSP C/L (CA) :
122.45 in
AE8-99D CALCULATED EFFECTIVE BACK OF CAB TO
REAR SUSPENSION C/L (CA) : 119.45 in
AE4-99D CALC'D FRAME LENGTH - OVERALL : 310.39
AM6-99D CALC'D SPACE AVAILABLE FOR DECKPLATE :
122.45 in
FSS-0LH CALCULATED FRAME SPACE LH SIDE : 65.56 in
FSS-0RH CALCULATED FRAME SPACE RH SIDE : 87.6 in
553-001 SQUARE END OF FRAME
550-001 FRONT CLOSING CROSSMEMBER
559-001 STANDARD WEIGHT ENGINE CROSSMEMBER
562-001 STANDARD MIDSHIP #1 CROSSMEMBER(S)
572-001 STANDARD REARMOST CROSSMEMBER
565-001 STANDARD SUSPENSION CROSSMEMBER

Chassis Equipment

556-1AR THREE-PIECE 14 INCH CHROMED STEEL
BUMPER WITH COLLAPSIBLE ENDS
574-001 BUMPER MOUNTING FOR SINGLE LICENSE
PLATE
586-024 FENDER AND FRONT OF HOOD MOUNTED
FRONT MUDFLAPS
551-007 GRADE 8 THREADED HEX HEADED FRAME
FASTENERS
970-039 TANK BODY 1501 TO 3000 GALLONS

Fuel Tanks

204-192 50 GALLON/189 LITER RECTANGULAR
ALUMINUM FUEL TANK - LH
218-005 RECTANGULAR FUEL TANK(S)
215-004 POLISHING OF FUEL/HYDRAULIC TANK(S) WITH
PAINTED BANDS
212-007 FUEL TANK(S) FORWARD
664-001 PLAIN STEP FINISH
205-001 FUEL TANK CAP(S)
122-076 ALLIANCE FUEL FILTER/WATER SEPARATOR
WITH HEATED BOWL
216-020 EQUIFLO INBOARD FUEL SYSTEM

2500 Gallon Tanker

Bidder Complies

Yes No

202-016 HIGH TEMPERATURE REINFORCED NYLON
FUEL LINE

Tires

093-2DV CONTINENTAL HSC1 12R22.5 16 PLY RADIAL
FRONT TIRES

094-2F6 CONTINENTAL HDR2 11R22.5 14 PLY RADIAL
REAR TIRES

Hubs

418-056 CONMET PRESET PLUS IRON FRONT HUBS

450-056 CONMET PRESET PLUS IRON REAR HUBS

Wheels

502-1M3 ALCOA 89465X 22.5X9.00 10-HUB PILOT 5.96
INSET ALUMINUM DISC FRONT WHEELS

505-1EF ALCOA LVL ONE 88367X 22.5X8.25 10-HUB
PILOT ALUMINUM DISC REAR WHEELS

524-001 POLISHED FRONT WHEELS; OUTSIDE ONLY

525-001 POLISHED REAR WHEELS; OUTSIDE OF OUTER
WHEELS ONLY

496-011 FRONT WHEEL MOUNTING NUTS

497-011 REAR WHEEL MOUNTING NUTS

Cab Exterior

829-071 106 INCH BBC FLAT ROOF ALUMINUM
CONVENTIONAL CAB

650-008 AIR CAB MOUNTS

705-012 CAB ROOF REINFORCEMENTS FOR ROOF
MOUNTED COMPONENTS

648-002 NONREMOVABLE BUGSCREEN MOUNTED
BEHIND GRILLE

678-018 LH AND RH EXTERIOR GRAB HANDLES WITH
SINGLE RUBBER INSERT

646-023 HOOD MOUNTED CHROMED PLASTIC GRILLE

65X-003 CHROME HOOD MOUNTED AIR INTAKE GRILLE

644-004 FIBERGLASS HOOD

690-017 HOOD LINER, ADDED FIREWALL AND FLOOR
HEAT INSULATION

727-036 VALVE AND PLUMBING FOR CUSTOMER
FURNISHED AIR HORN, PIPING CAPPED AT
FIREWALL

726-002 DUAL ELECTRIC HORNS

657-1CV DOOR LOCKS AND IGNITION SWITCH KEYED
THE SAME WITH (4) KEYS

575-001 REAR LICENSE PLATE MOUNT END OF FRAME

312-038 INTEGRAL HEADLIGHT/MARKER ASSEMBLY
WITH CHROME BEZEL

302-047 LED AERODYNAMIC MARKER LIGHTS

311-001 DAYTIME RUNNING LIGHTS

294-001 INTEGRAL STOP/TAIL/BACKUP LIGHTS

300-015 STANDARD FRONT TURN SIGNAL LAMPS

744-1BC DUAL WEST COAST BRIGHT FINISH HEATED
MIRRORS WITH LH AND RH REMOTE

797-001 DOOR MOUNTED MIRRORS

796-001 102 INCH EQUIPMENT WIDTH

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Complies**

Yes No

- 743-204 LH AND RH 8" BRIGHT FINISH CONVEX MIRRORS MOUNTED UNDER PRIMARY MIRRORS
- 74A-001 RH DOWN VIEW MIRROR
- 729-001 STANDARD SIDE/REAR REFLECTORS
- 764-010 COMPOSITE EXTERIOR SUN VISOR
- 768-998 NO REAR WINDOW
- 661-004 TINTED DOOR GLASS LH AND RH WITH TINTED OPERATING WING WINDOWS
- 654-011 RH AND LH ELECTRIC POWERED WINDOWS
- 663-013 TINTED WINDSHIELD
- 659-019 2 GALLON WINDSHIELD WASHER RESERVOIR WITHOUT FLUID LEVEL INDICATOR, FRAME MOUNTED

Cab Interior

- 707-1AK OPAL GRAY VINYL INTERIOR
- 706-016 MOLDED DOOR PANEL WITH UPPER VINYL INSERTS
- 708-016 MOLDED DOOR PANEL WITH UPPER VINYL INSERTS
- 772-006 BLACK MATS WITH SINGLE INSULATION
- 785-001 DASH MOUNTED ASH TRAYS AND LIGHTER
- 691-014 FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE COMPARTMENTS AND ADDITIONAL CENTER COMPARTMENT WITHOUT NETTING
- 694-010 IN DASH STORAGE BIN
- 742-007 (2) CUP HOLDERS LH AND RH DASH
- 680-006 GRAY/CHARCOAL FLAT DASH
- 860-004 SMART SWITCH EXPANSION MODULE
- 700-002 HEATER, DEFROSTER AND AIR CONDITIONER
- 701-001 STANDARD HVAC DUCTING
- 703-005 MAIN HVAC CONTROLS WITH RECIRCULATION SWITCH
- 170-002 STANDARD PLUMBING WITH BALL SHUTOFF VALVES AND INSULATED LINES
- 130-033 DENSO HEAVY DUTY AIR CONDITIONER COMPRESSOR
- 702-002 BINARY CONTROL, R-134A
- 739-034 PREMIUM INSULATION
- 285-013 SOLID-STATE CIRCUIT PROTECTION AND FUSES
- 280-007 12V NEGATIVE GROUND ELECTRICAL SYSTEM
- 324-011 DOME DOOR ACTIVATED LH AND RH, DUAL READING LIGHTS, FORWARD CAB ROOF
- 655-005 LH AND RH ELECTRIC DOOR LOCKS
- 756-1G7 H.O. BOSTROM SIERRA AIR-30 HIGH BACK AIR SUSPENSION DRIVER SEAT WITH ADJUSTABLE RECLINE, FIXED LUMBAR AND NFPA 1901-2009 COMPLIANT SEAT SENSOR
- 760-1G7 H.O. BOSTROM SIERRA AIR-30 HIGH BACK AIR SUSPENSION PASSENGER SEAT WITH ADJUSTABLE RECLINE, FIXED LUMBAR AND NFPA 1901-2009 COMPLIANT SEAT SENSOR

2500 Gallon Tanker

Bidder Complies

Yes No

- 759-005 DUAL DRIVER AND PASSENGER SEAT
ARMRESTS
- 711-004 LH AND RH INTEGRAL DOOR PANEL
ARMRESTS
- 758-081 GRAY AND BLACK DURAWEAR FABRIC DRIVER
SEAT COVER, SEAT BOLSTER AND INSERT
- 761-081 GRAY AND BLACK DURAWEAR FABRIC
PASSENGER SEAT COVER, SEAT BOLSTER
AND INSERT
- 763-074 3 POINT HIGH VISIBILITY ORANGE RETRACTOR
DRIVER AND RH FRONT PASSENGER SEAT
BELTS WITH NFPA 1901-2009 COMPLIANT
SENSOR AND DASH HARNESS
- 532-002 ADJUSTABLE TILT AND TELESCOPING
STEERING COLUMN
- 540-015 4-SPOKE 18 INCH (450MM) STEERING WHEEL
- 765-002 DRIVER AND PASSENGER INTERIOR SUN
VISORS

Instruments & Controls

- 732-003 WOODGRAIN DRIVER INSTRUMENT PANEL
- 734-003 WOODGRAIN CENTER INSTRUMENT PANEL
- 87L-001 ENGINE REMOTE INTERFACE WITH PARK
BRAKE INTERLOCK
- 870-001 BLACK GAUGE BEZELS
- 486-001 LOW AIR PRESSURE INDICATOR LIGHT AND
AUDIBLE ALARM
- 840-002 2 INCH PRIMARY AND SECONDARY AIR
PRESSURE GAUGES
- 198-003 DASH MOUNTED AIR RESTRICTION INDICATOR
WITH GRADUATIONS
- 149-013 ELECTRONIC CRUISE CONTROL WITH
SWITCHES IN LH SWITCH PANEL
- 156-007 KEY OPERATED IGNITION SWITCH AND
INTEGRAL START POSITION; 4 POSITION
OFF/RUN/START/ACCESSORY
- 811-042 ICU3S, 132X48 DISPLAY WITH DIAGNOSTICS, 28
LED WARNING LAMPS AND DATA LINKED
- 160-025 DIAGNOSTIC INTERFACE CONNECTOR, 9 PIN,
SAE J1939, LOCATED BELOW DASH
- 844-001 2 INCH ELECTRIC FUEL GAUGE
- 148-073 ENGINE REMOTE INTERFACE FOR REMOTE
THROTTLE
- 163-001 ENGINE REMOTE INTERFACE CONNECTOR AT
BACK OF CAB
- 33U-007 CHASSIS MODULE JUMPER AND BRACKET FOR
BODY BUILDER TO RELOCATE THE CHASSIS
MODULE INTO THE CAB
- 856-001 ELECTRICAL ENGINE COOLANT TEMPERATURE
GAUGE
- 864-001 2 INCH TRANSMISSION OIL TEMPERATURE
GAUGE
- 830-017 ENGINE AND TRIP HOUR METERS INTEGRAL
WITHIN DRIVER DISPLAY
- 372-051 CUSTOMER FURNISHED AND INSTALLED PTO
CONTROLS
- 49B-004 ENHANCED STABILITY CONTROL
- 852-002 ELECTRIC ENGINE OIL PRESSURE GAUGE

2500 Gallon Tanker

Bidder Complies

Yes	No

- | | | |
|---------|---|--|
| 746-1B0 | AM/FM/WB RADIO WITH CD PLAYER, BLUETOOTH AND MICROPHONE, USB, FRONT AND REAR AUXILIARY INPUTS AND J1939 | |
| 747-001 | DASH MOUNTED RADIO | |
| 750-002 | (2) RADIO SPEAKERS IN CAB | |
| 753-001 | AM/FM ANTENNA MOUNTED ON FORWARD LH ROOF | |
| 810-027 | ELECTRONIC MPH SPEEDOMETER WITH SECONDARY KPH SCALE, WITHOUT ODOMETER | |
| 817-001 | STANDARD VEHICLE SPEED SENSOR | |
| 812-001 | ELECTRONIC 3000 RPM TACHOMETER | |
| 813-1C0 | NFPA VEHICLE DATA RECORDER AND SEATBELT DISPLAY | |
| 162-011 | IDLE LIMITER, ELECTRONIC ENGINE | |
| 329-010 | TWO ON/OFF ROCKER SWITCHES IN THE DASH WITH INDICATOR LIGHTS AND WIRE ROUTED TO CHASSIS AT BACK OF CAB, LABEL OPT | |
| 264-028 | (2) LH AND RH FOOT SWITCHES WITH DASH SWITCH FOR HORN BUTTON TO CONTROL AIR HORN, DEFAULT TO ELECTRIC <85 PSI | |
| 836-015 | DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY | |
| 660-008 | SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY | |
| 304-001 | MARKER LIGHT SWITCH INTEGRAL WITH HEADLIGHT SWITCH | |
| 882-009 | ONE VALVE PARKING BRAKE SYSTEM WITH WARNING INDICATOR | |
| 299-013 | SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, WASHER/WIPER AND HAZARD IN HANDLE | |
| 298-039 | INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS | |

Design

065-000 PAINT: ONE SOLID COLOR

Color

- | | | |
|---------|---|--|
| 980-2L4 | CAB COLOR A: L2225EB CANDY APPLE RED ELITE BC | |
| 986-020 | BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT | |
| 976-995 | SUNVISOR PAINTED SAME AS CAB COLOR A | |

EMBER SEPARATOR

An air inlet shall be equipped with a stainless mesh screen for separating water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

SEAT BELT CLARIFICATION

Red seat belts shall be provided if available from the chassis manufacturer.

BUMPER EXTENSION

2500 Gallon Tanker

Bidder Complies

Yes

No

A 12" high, 96" wide, two (2) ribbed, bright finish stainless steel front bumper shall be provided. A twenty-four (24) inch front bumper extension, with aluminum tread plate gravel shield, shall be provided.

STORAGE WELL

One (1) storage well constructed of 1/8" aluminum shall be installed in the gravel shield. This storage well shall be center mounted between the chassis frame rails. The bottom of the storage well shall have a minimum of four (4) drain holes.

This storage well shall be able to store 50' of 3" hose.

One (1) hinged, latched, aluminum tread plate cover shall be installed on the storage well located in the center of the bumper extension.

The tread plate hose well cover shall have a notch cut out to allow pre-connection of suction/discharge hose.

2500 Gallon Tanker

Bidder
Complies

Yes No

WHEEL TRIM KITS

Wheel trim kits consisting of chrome baby moon hubcaps and chrome lug nut covers shall be installed on the front and rear axles of the tandem axle chassis.

CENTER CONSOLE

A center console fabricated from 1/8" aluminum shall be furnished and shall be located between the driver and officer's seats.

The forward area of the console shall have a mounting surface for emergency lighting switch panels and/or electronic siren control boxes within reach of the driver or officer. In addition, the console shall be equipped with two (2) map/notebook storage pockets at the rear of the console.

The console shall be finished with a brushed aluminum finish.

Console dimensions are based on current Freightliner in dimensions. Other specified commercial cabs (or changes to the Freightliner cab) may result varied dimensions.

This console should also have enough room to house the FD's mobile radio.

ANTENNA INSTALLATION

One (1) antenna mounting base(s) model #MATM with 17' of coaxial cable shall be provided and installed on the cab roof. The attached antenna wire(s) shall be run to the right side cab dash area.

The Fire Department is responsible to have the correct antenna whip installed once the apparatus is delivered.

TIRE PRESSURE MONITORING DEVICES

Each tire shall be equipped with an LED tire alert pressure management system (Vecsafe equal) that shall monitor tire pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire.

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops 8 psi.

Removing the cap from the stem shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start blinking.

AUXILIARY AIR MANIFOLD

All auxiliary air devices on the commercial chassis shall be fed from a common manifold. The common manifold shall be installed at an accessible location near the chassis air tanks. The manifold shall be fed by a 3/8" synflex air lined plumbed from the primary air tank using a pressure protection valve. Unused ports in the manifold shall be closed off using an appropriately sized plug.

SEAT BELT CUSHION SENSORS AND BELT SENSORS

The apparatus shall be equipped with an Akron/Weldon seat belt warning system. The system shall consist of a Seat Belt module, dash mounted display and an audible alarm.

Seat belt and seat cushion sensors shall be provided on the two (2) specified seating positions.

2500 Gallon Tanker

Bidder
Complies

Yes No

VEHICLE DATA RECORDER

An Akron/Weldon Vehicle Data Recorder (VDR) system shall be provided. The system shall include an NFPA compliant "Black Box" with reporting software that shall be capable of data storage to coincide with the NFPA requirements.

Data storage capabilities shall include interfaces with the following systems:

- Display module (Master Optical Warning Device)
- VDR, date & time stamp
- Max Vehicle speed (MPH)
- Vehicle acceleration / deceleration (MPH/Sec.)
- Engine Speed (RPM)
- ABS event
- Data password protected
- Data sampled once per second, in 48-hour loop
- Data sampled min by min for 100 engine hours
- Throttle position (% of Throttle)
- Data software
- PC / Mac Compatible
- Data summary reports.

A Weldon model #0L40-2597-00 VDR download harness shall be supplied with the system to allow the data to be downloaded to a computer.

***** CHASSIS/BODY ELECTRICAL & ACCESSORIES *****

COMMERCIAL CHASSIS ELECTRICAL SYSTEM

The commercial chassis electrical system shall be provided as furnished by the original manufacturer. A customized interface shall be provided and designed, so as not to disturb any of the required chassis functions. The necessary interfaces shall only be provided in areas where load management is allowed or with accessory components provided on the chassis.

12 VOLT ELECTRICAL SYSTEM TESTING

The apparatus low voltage electrical system shall be tested and certified by the manufacturer. The certification shall be provided with the apparatus. All tests shall be performed with air temperature between 0°F and 100°F.

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.

TEST #1-RESERVE CAPACITY TEST

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure.

TEST #2-ALTERNATOR PERFORMANCE TEST AT IDLE

2500 Gallon Tanker

Bidder
Complies

Yes No

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

TEST #3-ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of less than 11.7 volts DC for a 12 volt system, for more than 120 seconds, shall be considered a test failure.

LOW VOLTAGE ALARM TEST

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

At time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator
- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

LOAD MANAGEMENT SYSTEM

A load management system shall be provided. The load manager shall have 16 programmable outputs to supply warning and load switching requirements. The load management system shall be capable of offering load sequencing, load shedding, fast idle control, low voltage warning, scene mode operation and response mode operation.

Outputs 1 thru 12 shall be independently programmable to activate during the scene mode, the response mode or both. These outputs can also be programmed to activate with the ignition or master warning switch, or to sequence and shed along with the priority. Output 13 shall be designated to activate a fast idle system. Output 14 shall provide a low voltage warning for an isolated battery. Output 15 is a user configurable output and shall be programmable for activating between 10.5 and 15 volts. Output 16 shall provide a low voltage alarm that activates at the NFPA required 11.8 volts.

The load management shall have a digital display to indicate system voltage in normal operation mode and also indicate the output configuration during programming mode.

The load management shall also be protected against reverse polarity and shorted outputs, and be enclosed in a metal enclosure to enhance EMI/RFI protection.

CHASSIS DIAGNOSTICS SYSTEM

2500 Gallon Tanker

Bidder
Complies

Yes

No

Diagnostic ports shall be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow engine and ABS systems to provide blink codes should a problem exist.

The diagnostic system shall include the following:

- A single port to monitor the engine, transmission and ABS system and diagnostics of the roll sensor (if applicable)
- Engine diagnostic switch (blink codes)
- ABS diagnostic switch (blink codes)
- Allison Transmission Codes (through touch pad shifter)

BATTERY DISCONNECT SWITCH

The chassis batteries shall be wired in parallel to a single 12 volt electrical system, controlled through a heavy duty master disconnect switch. The master disconnect switch shall be located within easy access of the driver upon entering or exiting the cab.

120 VOLT SHORELINE CONNECTION - "SUPER" AUTO EJECT

One (1) Kussmaul "Super" Auto Eject model 091-55-20-120, automatic, 120 volt, 20 amp shoreline disconnect shall be provided for the on board, 110 volt battery charging systems.

The disconnect shall be equipped with a NEMA 5-20 P male receptacle, which shall automatically eject the shoreline when the vehicle starter is energized. The mating connector shall be included with the auto eject and shall be provided as loose equipment. A label shall be provided indicating voltage and amperage ratings.

SHORELINE POWER INLET PLATE

A shoreline power receptacle information plate shall be permanently affixed at or near the power inlet. The plate shall indicate the following:

- Type of Line Voltage
- Current Rating in Amps Power Inlet Type (DC or AC).

The Kussmaul auto-eject connection shall be equipped with a Red weatherproof cover.

The shoreline receptacle shall be located in the driver's cab step well.

BATTERY CHARGER / AIR COMPRESSOR SYSTEM

A Kussmaul model # 091-215-12, "Auto Charge 1000 PLC", fully automatic battery charger shall be provided for maintaining the vehicle battery system. Unique electronic sensing circuits sense the true battery voltage while eliminating the need for external sense wires. Output current shall be 15 amperes @ 12 volt DC.

A Kussmaul 091-9HP air compressor shall maintain the air pressure in the chassis air brake system while the vehicle is not in use. The air compressor shall have a rated input at 120 volts AC @ 3.5 amps and an output 125 psi max.

A LED bar graph display shall be located near the shoreline connection to monitor the battery status.

2500 Gallon Tanker

Bidder
Complies

Yes

No

A Kussmaul # 091-9-090 Auto Drain ACHP shall be installed to protect the Auto Pump from built up moisture.

"DO NOT MOVE APPARATUS" WARNING LIGHT WITH AUDIBLE ALARM

A 1" round, red flashing warning light with an integral audible alarm, shall be functionally located in the cab to signal when an unsafe condition is present such as an open cab door or body compartment door, an extended ladder rack, a deployed stabilizer, an extended light tower or any other device which is opened, extended or deployed which may cause damage to the apparatus if it is moved.

This light shall be activated at all times. The audible alarm will be activated when the parking brake is released. This light shall be labeled "DO NOT MOVE TRUCK".

12 VOLT POWER PORT

Two (2) 12 volt power port accessory outlet(s) shall be installed in the cab of the truck for the fire departments accessory devices. The port(s) shall be located as directed in the cab for devices such as cellular phones.

ASA VOYAGER TRIPLE CAMERA SYSTEM

ASA Voyager rear vision camera system model # OBS713PKG shall be provided to allow the driver to visually see the rear of the apparatus while in the cab. The system shall include an ASA model # AOM713WP flat panel LCD color monitor mounted adjacent to the driver and an ASA model # VCCS155 color camera that shall be mounted at the rear of the vehicle.

In addition to the rear vision camera, an ASA model# VCMS50RCM side mounted camera shall be mounted on the officer side of the truck over the right side dump and an ASA model# VCMS50LCM side mounted camera shall be mounted on the driver side of the truck over the left side dump.

The cameras shall be wired as follows:

- The driver side vision camera shall automatically activate when the driver side dump is activated.
- The officer side vision camera shall automatically activate when the officer side dump is activated.
- The rear vision camera shall be on at all times unless one of the side dumps is activated.

The two (2) side cameras will be positioned to have a view of the two side dumps.

The monitor for the rear vision system shall be mounted ceiling of the cab in easy view of the driver.

DOT MARKER LIGHTS AND REFLECTORS

Cab marker lights and signaling devices shall be as provided on the commercial chassis cab from the original chassis manufacturer. FMVSS reflectors shall be also be provided as required.

FMVSS approved red LED marker lights with integral reflectors shall be provided at the lower side rear, one (1) each side.

FMVSS approved yellow LED side marker and turn lights shall be provided on the apparatus lower side, forward of rear axle, one (1) each side.

2500 Gallon Tanker

Bidder
Complies

Yes No

FMVSS approved red LED clearance lights shall be provided on the apparatus rear upper, one (1) each side at the outermost practical location.

FMVSS approved LED 3-lamp identification bar will be provided on the apparatus rear center. The lights shall be red in color.

FMVSS approved yellow reflectors shall be provided on the apparatus body lower side, as far forward and low as practical, one (1) each side if the apparatus is 30' long or longer.

FMVSS approved red reflectors shall be provided on the apparatus rear, one (1) each side at the outermost practical location.

LED LICENSE PLATE LIGHTS - REAR

Two (2) Whelen model # 0AC0EDCR LED license plate lights shall be provided above the mounting position of the license plate. The lights shall be clear in color and shall have a chrome finish. They shall be mounted 1-2" high above the license plate and spaced apart 3" off center.

TAIL, STOP, TURN AND BACK-UP LIGHTS

Two (2) Whelen 600 series, 4-1/8" x 6-1/2", LED red combination tail and stop lights, shall be mounted one each side at the rear of the body.

Two (2) Whelen 600 series, 4-1/8" x 6-1/2", LED amber arrow turn signal lights, shall be mounted one each side, on a vertical plane with the tail/stop lights.

Two (2) Whelen 600 series, 4-1/8" x 6-1/2", white halogen back-up lights, shall be mounted one each side on a vertical plane with the turn/tail/stop signals. These lights shall activate when the transmission is placed in reverse gear.

Two (2) Whelen PLAST3V mounting flanges, installed one (1) on each side, shall be provided to mount the lights described above in one common mounting flange.

The lights shall be mounted in order, from top to bottom, as described above.

BODY STEP LIGHTS

Chrome plated Innovative Lighting, 3-LED surface mounted, body step lights shall be provided and controlled with marker light actuation. Step lights shall be located to properly illuminate all body access steps and walkway areas.

SCENE LIGHTS - REAR OF BODY

Two (2) Whelen # 9SC0ENZR super LED scene lights shall be provided, one on each side of the rear body panel in a chrome plated flange. The scene lights shall be wired through the load management system.

SCENE LIGHTS - DRIVER SIDE OF BODY

Two (2) Whelen # 9SC0ENZR super LED scene lights shall be provided. The scene lights shall be installed one rearward and one forward on the driver side of the body in a chrome plated flange. The scene lights shall be wired through the load management system.

SCENE LIGHTS - OFFICER SIDE OF BODY

2500 Gallon Tanker

**Bidder
Complies**

Yes No

Two (2) Whelen # 9SC0ENZR super LED scene lights shall be provided. The scene lights shall be installed one rearward and one forward on the officer side of the body in a chrome plated flange. The scene lights shall be wired through the load management system.

REAR OF BODY SCENE LIGHT SWITCHING - CAB

A switch shall be provided in the cab warning light switch console to turn the rear of body scene lights on and off.

REAR OF BODY SCENE LIGHT SWITCHING - PUMP PANEL

A switch shall be provided on the pump panel to turn the rear of body scene lights on and off.

DRIVER SIDE OF BODY SCENE LIGHT SWITCHING - CAB

A switch shall be provided in the cab warning light switch console to turn the driver side of body scene lights on and off.

Driver Side OF BODY SCENE LIGHT SWITCHING - PUMP PANEL

A switch shall be provided on the pump panel to turn the driver side of body scene lights on and off.

OFFICER SIDE OF BODY SCENE LIGHT SWITCHING - CAB

A switch shall be provided in the cab warning light switch console to turn the officer side of body lights on and off.

OFFICER SIDE OF BODY SCENE LIGHT SWITCHING – Pump Panel

A switch shall be provided on the pump panel to turn the officer side of body scene lights on and off.

REAR SCENE LIGHTS - ADDITIONAL ACTIVATION

In addition to the cab mounted switch for the rear scene lights, the rear scene lights shall illuminate when the transmission is placed in reverse gear and the apparatus is operating as an emergency vehicle (Primary Warning switch on).

GROUND LIGHTS - CAB

One (1) Hansen 12" LED ground light shall be provided under each side cab door entrance step, two (2) total. The lights shall be mounted in Hansen standalone aluminum mounting track with mounting slots at each end. The ground lights shall turn on automatically with each respective door jamb switch and also by a master ground light switch in the warning light switch console.

Each light shall illuminate an area at a minimum 30" outward from the edge of the vehicle.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

GROUND LIGHTS - MIDSHIP

One (1) Hansen 12" LED ground light shall be provided under each midship compartment, total of two (2). The lights shall be mounted in Hansen standalone aluminum mounting track with mounting slots at each end. The ground lights shall be activated by a master ground light switch in the cab and shall be wired through the load management system.

GROUND LIGHTS - REAR

One (1) Hansen 12" LED ground light shall be provided under each rear body corner, two (2) total. The lights shall be mounted in Hansen standalone aluminum mounting track with mounting slots at each end. The ground lights shall be activated by a master ground light switch in the cab and shall be wired through the load management system.

GROUND LIGHT SWITCHING

The cab and body ground lights shall activate by engaging the parking brake.

GROUND LIGHT SWITCHING

The cab and body ground lights shall be equipped with an activation switch in the cab.

****** BODY ELECTRICAL SYSTEM ******

12 VOLT BODY ELECTRICAL SYSTEM

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service. Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers.

All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram. A complete wiring diagram shall be supplied with the apparatus.

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length. Grommets shall be utilized where wiring passes through panels.

In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom.

All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.

BODY ELECTRICAL JUNCTION COMPARTMENT

A weather resistant electric junction compartment shall be provided within the body or pump enclosure, depending on vehicle configuration. This compartment shall provide an easily accessible enclosure to house all of the body wiring junction points, terminal strips, solenoids, etc. The design of this compartment shall not decrease the storage capacity area of the compartment or area in which it is located. A removable panel shall be provided for access to this compartment.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

PUMP ENCLOSURE WORK LIGHTS

Two (2) Peterson model #M391 lights shall be provided inside the pump enclosure providing a minimum of 20 candlepower illumination. Each light shall have their own independent switch incorporated into the light head.

ENGINE COMPARTMENT WORK LIGHTS

Two (2) Peterson model #M391 lights shall be provided inside the engine enclosure that will provide a minimum of 20 candlepower illumination. Each light shall have their own independent switch incorporated into the light head.

HANSEN COMPARTMENT LIGHTS - LED

Each individual equipment storage compartment shall be equipped with Hansen LED track lighting, 10MM style, mounted on the forward (or rearward) vertical door frame.

The lights shall come with a three (3) year warranty.

TELESCOPING 150W AKRON LED FLOODLIGHTS – ON BODY

Two (2) Akron SceneStar, 150 watt, 12 volt led flood lights shall be installed, one (1) on the OS front of body, on the DS rear of the body, each using an Extenda-Lite, side mount, telescoping pole.

Each lamp head shall draw 12 amps and generate 14,000 lumens. Each light shall be switched at the light head.

REAR OF BODY LIGHT SWITCHING - CAB

A switch shall be provided in the cab warning light switch console to turn the rear of body lights on and off.

NFPA AUDIBLE AND LIGHTING WARNING PACKAGE

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of the NFPA 1901 Fire Apparatus Standard. The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

LIGHT PACKAGE ACTUATION CONTROLS

The entire warning light package shall be actuated with a single warning light switch located on the cab switch panel. The wiring for the warning light package shall engage all of the lights required for "Clearing Right of Way" mode when the vehicle parking brake is not engaged. An automatic control system shall be provided to switch the warning lights to the "Blocking Right of Way" mode when the vehicle parking brake is engaged.

WARNING LIGHT FLASH PATTERN

All of the perimeter warning lights shall be set to an NFPA compliant flash pattern by the apparatus manufacturer.

2500 Gallon Tanker

Bidder
Complies

Yes No

UPPER LEVEL LIGHTING - WHELEN

NFPA ZONE A, UPPER

Whelen # JE2NFPA "Justice", 56" LED cab roof warning light bar shall be furnished and rigidly mounted on top of the cab roof.

The light bar shall be equipped with the following:

- Clear Lenses
- Four Corner Red Linear 6 LED's
- Four Red Forward Facing CON 3 LED's
- Two White Forward Facing CON 3 LED's.

If equipped, the forward facing white lights shall be automatically disabled for the "Blocking Right of Way" mode.

The Justice light bar shall be equipped with #JHCTLS1 LED take down lights.

NFPA ZONE C, UPPER

Two (2) Whelen 90**5F*R, 900 super LED light heads shall be furnished and mounted one (1) each side on the upper rear face of the body, facing rear.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

NFPA ZONES B & D REAR, UPPER

Two (2) Whelen 90**5F*R, 900 super LED light heads shall be furnished and mounted one (1) each side on the upper side face, towards the rear of the body, facing to each side of the unit.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

NFPA ZONES B & D FRONT, UPPER

The lighting requirement for this area is covered by the lights noted in Zone "A" - Upper.

LOWER LEVEL LIGHTING - WHELEN

NFPA ZONE A, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

The lower zone A warning lights shall be mounted in the commercial chassis grille.

NFPA ZONE C, LOWER

2500 Gallon Tanker

Bidder
Complies

Yes No

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side directly below the DOT stop, tail, turn and backup lights.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

NFPA ZONES B & D FRONT, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

The lower zone B & D warning lights shall be mounted on the sides of the commercial chassis hood.

NFPA ZONES B & D MIDSHIP, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

These lights are to be mounted forward of the front tandem wheels.

NFPA ZONES B & D REAR, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

These lights are to be mounted just behind the rear tandem wheels.

WARNING LIGHT SYSTEM CERTIFICATION

The warning light system(s) specified above shall not exceed a combined total amperage draw of 45 AMPS with all lights activated in either the "Clearing Right of Way" or the "Blocking Right of Way" mode.

The warning light system(s) shall be certified by the light system manufacturer(s), to meet all of the requirements in the current revision of the NFPA 1901 Fire Apparatus Standard as noted in the General Requirements section of these specifications. The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

***** AUDIBLE WARNING EQUIPMENT *****

BACK-UP ALARM

2500 Gallon Tanker

Bidder
Complies

Yes

No

A Federal Signal, Evacuator Plus # 210330, 87dBA back-up alarm, shall be provided and installed at the rear of the apparatus under the tailboard. The back-up alarm shall activate automatically when the transmission is placed in reverse gear and the ignition is "on".

AIR HORNS

Two (2) chrome plated air horns shall be at the front of the vehicle. The air horns shall be mounted in full compliance with NFPA-1901. The supply lines shall be dual 1/4" lines with equal distance from each horn.

Each air horn shall be recessed in the front bumper, one (1) on the driver's side and one (1) on the officer's side.

The air horn(s) shall be controlled by a foot switch on the officer's side and the steering horn button on driver's side. An air horn/electric DOT horn selector switch shall be furnished on the dash for the drivers steering horn button.

ELECTRONIC SIREN AND SPEAKER

One (1) Whelen # 295HFS2, 100 watt electronic siren shall be provided featuring: flush mount remote control head recessed in center console, "Si-Test" self diagnostic feature, six (6) function siren, radio repeat and public address.

The electronic siren and speaker shall meet the NFPA required SAE certification to ensure compatibility between the siren and speaker.

One (1) Whelen, model # SA122FMP polished aluminum siren speakers shall be provided, recessed in the front bumper and wired to the electronic siren.

FEDERAL Q2B MECHANICAL SIREN

One (1) Federal Model #Q2B mechanical siren shall be provided to provide audible warning.

The Q2B siren shall be pedestal mounted on top of the extended bumper on the driver's side. The siren shall be equipped with a Federal model #P, chrome housing and pedestal.

Two (2) floor mounted foot switches shall be provided, one (1) for the officer and one (1) for the driver. A siren brake button shall be provided near the driver's position.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

****** PUMP AND PLUMBING ******

MBP Side Kick 500

121064 Rev.B

MBP Power Take-Off (PTO) Pump

DETAILED SPECIFICATIONS

SPECIAL NOTE:

When preparing the specifications for your new apparatus, assure the use of Hale® products by incorporating these specifications as written.

Pump Assembly

1. The pump shall be of a size and design to mount on commercial and custom truck chassis, and have the capacity of 750 gallons per minute (U.S. GPM), NFPA 1901 rated performance.
2. The entire pump shall be manufactured and tested at the pump manufacturer's factory.
3. The pump shall be driven by a transmission mounted or split drive line power take-off (PTO). The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance within the torque rating of the PTO, truck transmission gears and drive line components.
4. The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 500 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined by the latest NFPA Standard 1901. Pump shall be free from objectionable pulsation and vibration.
5. The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.
6. Pump body shall be vertically split, on a single plane, for easy removal of impeller assembly, including clearance rings.
7. Pump shaft to be rigidly supported by two bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.
8. The pump shaft shall have only one mechanical seal. The mechanical seal shall be spring loaded, maintenance free and self-adjusting. (No exceptions.)
9. Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground and individually balanced. The vanes of the impeller intake eye shall be hand-ground and polished to a sharp edge, and be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.
10. Impeller clearance rings shall be bronze, easily renewable without replacing impellers or pump volute body.
11. The pump shaft shall be electric furnace heat-treated and corrosion resistant with a positive impeller lock. Pump shaft must be sealed with double lip oil seal to keep road dirt and water out of gearbox.

Gearbox

1. The gearbox shall be manufactured and tested at the pump manufacturer's factory.
2. Pump gearbox shall be of sufficient size to withstand the torque of the engine in pump operating conditions. The gearbox shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.
3. The gearbox drive shaft shall be of heat-treated chromium steel and shall withstand the torque of the engine in pump operating conditions.
4. All gears shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated, crown-shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut helical design shall be provided. (No exceptions.)

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**Bidder
Complies**

Yes No

5. The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine, transmission and power take-off selected.

CERTIFICATION

The pump will perform and meet the following tests:
 100% of rated capacity @150 PSI net pump pressure.
 100% of rated capacity @ 165 PSI net pumps pressure.
 70% of rated capacity @ 200 PSI net pump pressure.
 50% of rated capacity @ 250 PSI net pump pressure.
 Pump shall be tested at manufacturer under full NFPA suction conditions.

PRIMING PUMP

The priming pump will be a Trident air primer system. A push in primer handle will open the priming valve and prime the pump.

6" STEAMER INLETS

One 6" (12.70cm) steamer inlet will be provided on the left side. The inlet shall have long handle chrome vented cap and a screen.

RELIEF VALVE

There shall be one (1) suction side stainless steel relief valve provided on the pump system.

PUMP MODULE PANELS

The pump module panel shall be 14 gauge brushed stainless steel.

PUMP CERTIFICATION TEST PLATE

A permanently affixed plate shall be installed at the pump operators position that will provide the rated discharge and pressures together with the speed of the engine as determined by the certification test for each unit, the position of the parallel/series pump used and the no load governed speed of the engine as stated by the engine manufacturer on a certified brake horsepower curve.

DISCHARGE VALVES

The valves including the ball shall be constructed of 304 stainless steel. The valves shall be bi-directional with full flow capability. The valves shall be of fixed pivot ball design with a flow pressure rating to meet NFPA-1901 standards. The valve shall have a single piece seat and seal design and shall have an operating pressure of 400 psi. All 3.0" (7.62cm) discharge valves shall be supplied with a true slow close mechanism. The valve shall be warranted for a period of ten (10) years on all stainless steel components, against defects in design and manufacturing processes.

PIPING AND MANIFOLDS

All the plumbing and/or piping in the pump module shall be of 304 stainless steel or flexible piping for long life. All NPT pipe thread connections larger than ¾" connections shall be avoided in the construction of the plumbing system. The following valves shall have groove connection: tank fill, all 2" and 2-½" (5.08 and 6.35cm) pre-connect valves.

The flexible piping shall be black SBR synthetic rubber hose with 300 working pounds and 1200 pounds burst pressure for sizes 1.5 through 4". Sizes ¾", 1" and 5" are rated at 250 pound working and 1000 pound burst pressure. All sizes are rated at 30 HG vacuum. Reinforcement consists of two plies of high tensile strength tire cord for all sizes sand helix wire installed in sizes 1 through 5" for maximum performance in tight bend applications.

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**Bidder
Complies**

Yes No

The material has a temperature rating of -40 degrees F to 210 degrees F. Full flow couplings are precision machined from high tensile strength stainless steel. All female couplings are brass. 3/4" and 1" male and Victaulic couplings are brass.

PUMP COOLER and ENGINE COOLER VALVES

An engine cooler and pump cooler valve shall be installed in the instrument panel. The valves shall be a 1/4" multi-turn valve installed thru the instrument panel and labeled.

MASTER PUMP DRAIN

The pump shall be equipped with a Class 1 Master Pump drain to allow draining of the lower pump cavities, volute and selected water carrying lines and accessories. The drain shall have an all brass body with a stainless steel return spring.

U.L. TEST POINTS

Two (2) U.L. test plugs shall be mounted on the pump panel for testing of the vacuum and pressures.

VALVE CONTROLS

Class 1 locking push pull control rods shall be provided for appropriate valves. The chrome plated zinc handles shall have a recessed area for 1" x 3" (2.54 x 12.70cm) identification tags. The controls shall be locked in any position.

Class 1 valve lift handles shall be provided on appropriate valves. The lift handles shall have a recessed area for 1" x 3" (2.54 x 12.70cm) identification tags. The lift handles require a self locking valve.

DISCHARGE GAUGES

Individual Class 1 2-1/2"(6.35cm) line gauges for each 2" (5.08cm) or larger discharge shall be provided and mounted adjacent to the discharge valve control handle. The gauges shall indicate pressure from 0 to 400 PSI. The pressure gauge shall be fully filled with pulse and vibration dampening Interlube® to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation to minus 40 degrees F. To prevent internal freezing and to keep contaminants from entering the gauge, the stem and Bourdon tube shall be filled with low temperature material and be sealed from the water system using an isolating Sub Z diaphragm located in the stem.

INDIVIDUAL DRAINS

All 2" (5.08cm) or larger discharge outlets shall be equipped with a 3/4" ball valve drain valve or larger.

WIRING HARNESS

The Class 1 electrical wiring harness shall be manufactured using GXL wire as SAE- J1128 rated performance requirements. The electrical wiring harness shall be covered by a black split convoluted loom, rated at a minimum of 275° F. All terminals shall meet the minimum pull test as required by the manufacturers pull test and crimp measurement data. All splices shall be manufactured using the ultra sonic splice process. The harness shall be 100% connected to a Dynalab® circuit tester to insure continuity and correct assembly.

LEFT SIDE FRONT DISCHARGE

One (1) 2-1/2" (6.35cm) discharge with a stainless steel valve shall be located on the left side panel. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures. The 2-1/2" (6.35cm) outlet shall be straight terminating with 2-1/2" (6.35cm) MNST threads. A chrome vented cap and chain shall also be supplied. The valve shall be controlled at the side panel with a lift handle.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

There shall be a Class 1 2 ½" pressure gauge mounted on the panel near the control to indicate pressure. The discharge shall also come equipped with a pull-up ¾" drain valve. The discharge must be capable of flowing 500 GPM or greater.

LEFT SIDE AUXILLARY SUCTION

One (1) 2-½" (6.35cm) intake with a stainless steel valve shall be located on the left side panel. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures. The valve shall be controlled at the side pump panel with a lift handle. The valve shall come equipped with a chrome plug, chain, inlet strainer, 2-½ (6.35 cm) NST chrome inlet swivel and pull-up ¾" drain valve.

TANK FILL

One (1) 2"(5.08cm) discharge with a stainless steel valve shall be plumbed to the tank. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures. The 2"(5.08cm) valve outlet terminates with 2"(5.08cm) grooved connection. Valve shall be controlled at the side panel with a chrome-plated push/pull locking "T" handle mounted on the pump panel.

TANK TO PUMP

One (1) 4" (10.16cm) valve shall be installed between the water tank and the pump. The valve shall be a quarter turn ball type. The valve shall be electrically actuated with emergency manual operation capability. The valve shall be controlled with a switch at the pump panel.

HOSE REEL

One (1) 2"(5.08cm) discharge with a stainless steel valve shall be plumbed to the hose reel. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures. The 2"(5.08cm) valve outlet terminates with 1 1/2"(3.81cm) grooved connection. The valve shall be actuated with an air cylinder. The valve shall be controlled with a switch at the pump panel.

TOTAL PRESSURE GOVERNOR PLUS (TPG+)

Apparatus shall be equipped with a Class1 "Total Pressure Governor Plus" (TPG+) that is connected to the Engine Control Module (ECM) mounted on the engine. The "TPG+" will operate as a pressure sensor (regulating) governor (PSG) utilizing the engine's J1939 data for optimal resolution and response when supported by the engine manufacturer. If J-1939 engine control is not supported, then analog remote throttle control shall be provided by the "TPG+". The "TPG+" shall function as a Master Pump Discharge and Intake Gauge.

The TPG+ shall utilize control algorithms that minimize pressure spikes during low or erratic water supply situations. The "TPG+" shall be backwards compatible to any engine that supplies J1939 RPM, Temperature and Oil Pressure information providing the ability to maintain a consistent fleet fire-fighting capability and reduce operator cross training and confusion.

The "TPG+" shall have the ability to use either a 300 PSI or a 600 PSI discharge pressure transducer and a 300 PSI intake pressure transducer. PSG system diagnostics shall be built in and accessible by technicians. Programmable presets for RPM and Pressure settings shall be easily configurable. The straightforward menu structure shall allow the "TPG+" configuration to match existing apparatus operation as closely as possible.

The "TPG+" shall also include indication of engine RPM, system voltage, engine oil pressure and engine/transmission temperature with audible alarm output for all. The "TPG+" uses the J1939 data bus for engine information, requiring no additional sensors to be installed. The TPG+ shall monitor and display pump and engine hours. The "TPG+" shall use J1939 broadcast warnings for the alarm as a standard and allow the "user" to select warning values if "SOP's" dictate.

ITL-40 TANK LEVEL GAUGE

The apparatus shall be equipped with a Class1 "ITL-40" Tank Level Gauge for indicating water or foam level. The Tank Level Gauge shall indicate the liquid level or volume on an easy to read LED display and show increments of 1/8 of a tank.

Each tank level gauge system shall include:

2500 Gallon Tanker

**Bidder
Complies**

Yes No

- 1) A pressure transducer that is mounted on the outside of the tank in an easily accessible area. Sealed foam tanks will require zero pressure vacuum vents.
- 2) A super bright LED display viewable from 180 degrees with a visual indication at nine accurate levels.
- 3) A set of weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power. Additional (slave) displays (if requested) are to be easily integrated and will receive data from the same source as the Master Display. No additional transducers shall be required.
- 4) The system shall include the ability to display "text messages"
- 5) The system shall include built-in diagnostic capabilities.

MECHANICAL SHAFT SEAL

Shaft seal to be sealed with a double lip oil seal to keep road dirt and water out of pump gearbox.

PTO PUMP MOUNTS

Extra heavy duty pump mounting brackets shall be furnished. These shall be bolted to the frame rails in such a position to perfectly align the pump with the PTO, so that the angular velocity of the drive line joints shall be the same on each end of the drive shaft. This shall assure full capacity performance with a minimum of vibration. Mounting hardware shall utilize Grade 8 bolts.

PUMP CERTIFICATION

The pump shall be third party performance tested to meet the requirements of NFPA-1901. To ensure top quality and integrity, the test company shall be Underwriters Laboratories (UL).

The pump module shall be a welded frame work utilizing structural aluminum components properly braced to withstand the rigors of chassis frame flex.

******* DISCHARGES & ACCESSORIES - SIDE MOUNT *******

FRONT DISCHARGE

A 2 1/2" front #1 discharge shall be plumbed to the front bumper of the vehicle.

The front #1 discharge shall terminate on the top officer side of the front bumper extension gravel shield with a chrome 2 1/2" NST chicksan swivel adapter.

The front #1 discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to the front of the vehicle.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability. Automatic discharge drains shall be provided at all low points in the plumbing.

The front #1 discharge cap provided as standard equipment shall be deleted.

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Bidder
Complies

Yes

No

HORIZONTAL PRECONNECT #1

A Driver Side preconnected hose bed capable of holding a minimum of preconnected 1 3/4 attack hose with nozzle attached shall be provided and plumbed from the pump to a hose trough on top of the DS compartment cap for quick attack deployment. The hose trough flooring shall be constructed from brushed finished aluminum material with a composite type flooring capable of allowing air movement around the hose.

The preconnected discharge shall terminate above the hose bed floor with a 1 1/2" NSTM chicksan swivel adapter. The pre-connected hose shall be capable of being deployed off the driver side near the center of the hose trough through a hinged door and out the end of the hose trough towards the rear of the apparatus without kinking the hose at the coupling connection.

The preconnected #1 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to preconnect hose trough.

PUMP ENCLOSURE HOSEBED HOSE RETENTION

The preconnects shall be furnished with Velcro straps to secure the hose stored in the well. The straps shall be attached to each side of the hose well with stainless steel footman loops.

BOOSTER REEL #1 DISCHARGE

A 1 1/2" booster reel discharge shall be plumbed from the pump to the booster reel.

The booster reel discharge shall be plumbed from the valve to the hose reel utilizing 1" high pressure hose. The end of the hose connected to the hose reel shall be equipped with a swivel end for ease in hose replacement.

BOOSTER REEL #1

One (1) painted steel electric rewind booster reel shall be furnished. The reel shall be equipped with a one (1) inch 90° full flow swivel joint and an adjustable brake for freewheeling, drag or full lock operation. Color shall be graphite.

The booster reel #1 shall be mounted at the apparatus rear, in a framework mounted to the chassis frame rails.

Booster reel rewind shall be controlled by a push button on the rear body panel near the rear step compartment. The booster reel circuit shall be equipped with a shielded toggle switch to act as a booster reel disconnect to avoid accidental actuation of the booster reel rewind button.

Each booster reel shall be equipped with 200' of 1" booster hose in 100' sections. Each length shall be fitted with NST couplings.

Two (2) horizontal hose rollers of polished stainless steel and guide spools shall be placed one (1) on each body side panel.

A captive roller arrangement shall be provided around the perimeter of the rear opening of the hose reel storage area allowing hose to be pulled out in any direction.

2500 Gallon Tanker

Bidder
Complies

Yes No

REMOTE CAB WATER LEVEL GAUGE

The water tank shall be equipped with an additional Class 1, model # ITL, mini Intelli-Tank water tank level gauge for indicating water level. The level gauge shall be located in the cab. The tank level gauge shall indicate the liquid level on an easy to read display and show increments of 1/20 of a tank. A set of weather resistant connectors to connect to the digital display and a remote driver module shall be provided.

This water gauge shall be activated when battery switch is on.

A Class One remote relay module shall be provided to provide outputs for large indicator lights on the side of the vehicle.

LARGE LIGHT WATER LEVEL GAUGE, EACH SIDE OF CAB

A large light water level gauge system shall be provided on both sides of the cab. Each side shall have a Whelen model PSTANK, LED strip light, surface mounted, behind the door above the handrail.

The strip light shall indicate the following water levels:

- Green LED cluster Full tank
- Blue LED cluster 3/4 tank
- Amber LED cluster 1/2 tank
- Red LED cluster 1/4 tank

The red LED's shall burn steady to indicate 1/4 tank and shall start to flash when the water level drops below 1/4 tank. To prevent distraction to drivers, this tank level gauge shall be wired to display only when the park brake is engaged.

LARGE LIGHT WATER LEVEL GAUGE, REAR OF BODY

A large light water level gauge system shall be provided on the rear of the body. The Whelen model PSTANK, LED strip light shall be surface mounted.

The strip light shall be mounted as to indicate the following water levels:

- Green LED cluster Full tank
- Blue LED cluster 3/4 tank
- Amber LED cluster 1/2 tank
- Red LED cluster 1/4 tank

The red LED's shall burn steady to indicate 1/4 tank and shall start to flash when the water level drops below 1/4 tank. To prevent distraction to drivers, this tank level gauge shall be wired to display only when the park brake is engaged.

WATER TANK

The water tank shall have a capacity of 2500 gallons, constructed from polypropylene material.

The tank should be designed to withstand a fill rate at 1800 gpm.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

TANK CONSTRUCTION

The Poly water tank shall be constructed of PT3 polypropylene material. This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection. Tank shell thickness may vary depending on the application and may range from 1/2 to 1" as required. Internal baffles are generally 3/8" in thickness.

The tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include PolyProSeal technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" PT3 polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength as part of the tank's unique Full Floor Design. Tolerances in design allow for a maximum variation of 1/8" on all dimensions.

CAPACITY CERTIFICATION

All tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly-Tank's III is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight.

TANKNOLOGY TAG

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

ISO CERTIFICATION

The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2000 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

WATER TANK FILL TOWER

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 15.75" x 24" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall be located in the center of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

OVERFLOW AND VENT PIPE

2500 Gallon Tanker

**Bidder
Complies**

Yes No

The fill tower shall be fitted with an integral 8" I.D. schedule 40 P.V.C. combination overflow/vent pipe running from the fill tower through the tank to an 8" coupling flush mounted into the bottom of the tank to allow water to overflow behind the chassis rear axle.

WATER TANK SUMP

The tank sump shall be a minimum of 43" wide x 21" long x 17" deep. An anti-swirl plate shall be mounted inside the sump, approximately 1" above the bottom of the sump.

A 3" drain plug shall be provided.

OUTLETS

There shall be two (2) standard tank outlets; one for tank-to-pump suction line which shall be a minimum of 4" coupling and one for a tank fill line which shall be a minimum of a 2" N.P.T. coupling. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

WATER TANK MOUNTING

The tank shall rest on the body cross members spaced a maximum of 22" apart, and shall be insulated from these cross members with a minimum of 3/8" nylon webbing or 1/2" rubber, 2-1/2" wide. The tank shall sit cradle-mounted using four (4) corner angles of 6 x 6 x 4 x 0.250 welded directly to the body cross members. The angles shall keep the tank from shifting left to right or front to rear. The tank is designed on the free-floating suspension principle and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The hose bed cross braces shall act as water tank retainers.

10" NEWTON STAINLESS STEEL DUMP WITH ELECTRIC ACTUATOR - REAR

The rear of the water tank shall be equipped with a 10" Newton Stainless Steel Dump Valve, model #1080-34. The dump valve shall be electronically actuated. The dump valve setup shall be capable of discharging the water tank contents at a rate of at least 1800 G.P.M.

NEWTON STAINLESS STEEL 18" ELECTRIC TELESCOPING CHUTE - REAR

The rear Newton Dump shall be equipped with a Newton Model #5018-34, 18" electric telescoping, stainless steel dump chute.

REAR DUMP SWITCHING - DRIVER SIDE

The rear dump switching shall be installed on the driver side of the rear body panel. The switch shall be a toggle style switch installed in a protective cast enclosure with a hinged door. A light shall be installed inside the enclosure to illuminate the switching area. This light shall be activated whenever the vehicle marker lights are turned on.

REAR DUMP SWITCHING - IN CAB

The rear dump shall be switched by a momentary style switch from inside the cab. The switch shall be located in an area near the driver and shall be a guarded style switch.

2500 Gallon Tanker

Bidder
Complies

Yes No

REAR CHUTE SWITCHING - DRIVER SIDE

The rear chute switching shall be installed on the driver side of the rear body panel, next to the dump switch. The switch shall be a toggle style switch.

10" NEWTON STAINLESS STEEL DUMP WITH ELECTRIC ACTUATOR - DRIVER SIDE

The driver side of the water tank shall be equipped with a 10" Newton Stainless Steel Dump Valve, Model #1080A-34. The dump valve shall be ELECTRICALLY actuated. The dump valve setup shall be capable of discharging the water tank contents at a rate of at least 1800 G.P.M.

NEWTON STAINLESS STEEL 18" ELECTRIC TELESCOPING CHUTE - DRIVER SIDE

The driver's side Newton Dump shall be equipped with a Newton Model #5018-34, 18" electric telescoping, stainless steel dump chute. The primary switch for the chute shall be adjacent to the respective dump valve switch.

A polished stainless steel cover shall be provided on the driver's fender to cover the dump cutout when the chute is in the retracted position. The cover shall be hinged at the top and held in position by a gas-shock stay-arm. The cover shall include a switch tied into the compartment door ajar alarm circuit to notify the operator if the door does not retract properly. Magnet

DRIVER SIDE DUMP SWITCHING - REAR OF BODY

The driver dump switching shall be installed on the driver side of the rear body panel. The switch shall be a toggle style switch installed in a protective cast enclosure with a hinged door. A light shall be installed inside the enclosure to illuminate the switching area. This light shall be activated whenever the vehicle marker lights are turned on.

DRIVER SIDE DUMP SWITCHING - IN CAB

The driver side dump shall be switched by a momentary style switch from inside the cab. The switch shall be located in an area near the driver and shall be a guarded style switch.

DRIVER SIDE CHUTE SWITCHING - REAR BODY PANEL

The driver's side chute switching shall be installed on the driver side of the rear body panel, next to the dump switch. The switch shall be a toggle style switch.

10" NEWTON STAINLESS STEEL DUMP WITH ELECTRIC ACTUATOR - OFFICER SIDE

The officer side of the water tank shall be equipped with a 10" Newton Stainless Steel Dump Valve, Model #1085A-34. The dump valve shall be electrically actuated. The dump valve setup shall be capable of discharging the water tank contents at a rate of at least 1800 G.P.M.

NEWTON STAINLESS STEEL 18" ELECTRIC TELESCOPING CHUTE - OFFICER SIDE

The officer's side Newton Dump shall be equipped with a Newton Model #5018-34, 18" electric telescoping, stainless steel dump chute. The primary switch for the chute shall be adjacent to the respective dump valve switch.

A polished stainless steel cover shall be provided on the officer's fender to cover the dump cutout when the chute is in the retracted position. The cover shall be hinged at the top and held in position by a gas-shock stay-arm. The cover shall include a switch tied into the compartment door ajar alarm circuit to notify the operator if the door does not retract properly. Magnet

OFFICER SIDE DUMP SWITCHING - REAR OF BODY

2500 Gallon Tanker

Bidder
Complies

Yes No

The officer dump switching shall be installed on the officer side of the rear body panel. The switch shall be a toggle style switch installed in a protective cast enclosure with a hinged door. A light shall be installed inside the enclosure to illuminate the switching area. This light shall be activated whenever the vehicle marker lights are turned on.

OFFICER SIDE CHUTE SWITCHING - REAR BODY PANEL

The officer's side chute switching shall be installed on the officer side of the rear body panel, next to the dump switch. The switch shall be a toggle style switch.

DIRECT TANK FILL - DRIVER SIDE

One (1) 4" direct tank fill shall be provided at the rear of the body, on the driver side, as low as possible. The direct tank fill shall be gated with a 4" Fireman's Friend (TTMA 8-bolt attachment pattern). The fill valve shall be capable of flowing at a rate in excess of 1,800 gallons per minute and will be of a self-deflecting design, requiring no additional diffusion device. The fill valve shall be constructed of stainless steel, the fill shall be equipped with a 4" 30 degree chrome elbow terminating with a 4" female swivel connection.

DIRECT TANK FILL - OFFICER SIDE

One (1) 4" direct tank fill shall be provided at the rear of the body, on the driver side, as low as possible. The direct tank fill shall be gated with a 4" Fireman's Friend (TTMA 8-bolt attachment pattern). The fill valve shall be capable of flowing at a rate in excess of 1,800 gallons per minute and will be of a self-deflecting design, requiring no additional diffusion device. The fill valve shall be constructed of stainless steel, the fill shall be equipped with a 4" 30 degree chrome elbow terminating with a 4" female swivel connection.

APPARATUS BODY DESIGN CONSTRUCTION

The body side and compartment assemblies shall be designed and assembled to provide maximum strength and durability under all operating conditions.

Special attention shall be taken to minimize corrosion on all fabricated parts and structural members of the body. All bolt-on components shall be provided with a dissimilar metals isolation barrier to prevent electric corrosion. The body design shall also incorporate removable panels to access spring hangers, rear body mounts and fuel tank sending units.

The body assembly shall be an all-welded configuration. The body shall be completely isolated from the cab and pump module structure.

BODY AND COMPARTMENT FABRICATION - 3/16" ALUMINUM

All compartment panels and body side sheets shall be entirely 3/16" aluminum (5052-H32). Each side compartment assembly shall be both plug welded and stitch welded to ensure proper weld penetration on all panels while avoiding the possible warping caused by a full seam weld. The side compartments shall be welded on a fixture to ensure true body dimensions of all door openings. The side compartments and body side panels are then set into a body squaring fixture where the super structure is installed and the entire body are aligned to be completely symmetrical. The super structure is then welded to the compartment side panels and reinforcement plates are inserted which allows the compartment panels to become an integral component of the body support structure. A full seam weld shall not be used due to the applied heat which shall distort sheet metal and remove the protective coating from the perimeter of the welded area. All seams shall be caulked prior to finish paint to ensure proper compartment seal.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

100" WIDE FIRE BODY

The fire body shall be 100" wide to provide the maximum amount of usable hose bed space, approximately 76" wide, and to extend the body fenderettes outward for better tire tread coverage. All lower compartments shall be 26" deep overall, all upper compartments shall be 12" deep overall.

SUPER STRUCTURE - ALUMINUM

The body super structure shall be an all welded configuration utilizing a combination of 3" x 1-1/2" 6061-T6 thick walled structural tubing and 6061 structural channel.

This structure shall be designed to totally support the full length and width of the body and shall be welded to the body side compartments by use of reinforcement plates to incorporate the compartments into an integral part of the body weldment.

The super structure shall be bolted to the sides of the chassis frame at four (4) points.

STEPPING, STANDING, & WALKING SURFACES

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. Aluminum tread plate utilized for stepping, standing, and walking surfaces shall be ALCOA No Slip type. Upon request by the Purchaser, the manufacturer shall supply proof of compliance with this requirement.

NO DRIVER SIDE COMPARTMENT

OFFICERS SIDE COMPARTMENTATION

One (1) low side compartment, with a rollup door, forward of the rear wheels. Compartment dimensions 33" High x 48" Wide, with a door opening of 29" High x 45" Wide.

ROLL-UP DOOR

A Roll-up door shall be provided on the compartment. The roll-up door shall be constructed from aluminum extruded slats which shall have a flexible seal between each slat for proper sealing of the door.

A synthetic rubber seal shall be provided at each side, top and bottom edge of the door to prevent entry of dirt into the compartment.

The door shall be equipped with a lift bar style latch mechanism which shall latch at the bottom of the door mounting extrusion.

The roll-up door assembly shall be furnished with a spring-loaded, counter balance assembly to assist in door actuation.

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**Bidder
Complies**

Yes No

HANSEN INTERNATIONAL BRAND ROLL-UP DOOR, SATIN FINISH

The roll-up door shall be constructed of double walled and concave hard anodized aluminum extrusion laths with a smooth exterior surface. Each door slat shall have dimensions of 1.365" in height, 0.310" deep, and 0.038" wall thickness. The "interlocking joint knuckle" extrusion design shall have an integral dual durometer extruded synthetic spacer seal to reduce noise and prevent weather or debris intrusion in a closed position. Each door lath shall have inter-locking and nested polymer slide guides. Slide guides shall be punch dimpled to prevent 'metal to metal' contact and shall be replaceable. Sides of the door openings shall be equipped with single piece 0.069" hard anodized aluminum extruded vertical guide channels.

SWEEP-OUT COMPARTMENT FLOOR

Compartment floor shall be welded to the compartment walls and have a sweep out design for easy cleaning.

The Compartment with the roll-up style door shall have the external floor flange stepped down, 1/2" high x 2" deep, to produce a sealing surface for the roll-up doors below the compartment floor. The sweep out design shall also permit easy cleaning.

BEAVERTAILS

The rear body beavertail area shall be furnished with a squared off appearance to maximize the available compartment area, while providing added support to the rear step support structure. The beavertail panels shall be assembled in conjunction with the rear body corner panels. This assembly shall provide a vertical mounting surface for tail lights at the rear most portion of the body and additional storage space.

The inside of the beavertails shall be furnished with polished aluminum tread plate overlays.

COMPARTMENT TOPS

Compartment tops shall be covered with polished aluminum tread plate on both sides.

COMPARTMENT DRIP MOLDING

Compartment tops over all side compartments shall have a 45 degree flange formed out to provide protection against water runoff. A secondary extruded drip molding shall be provided between low compartments and auxiliary high side compartments, when auxiliary compartments are provided.

COATED FASTENERS

All exterior fasteners shall be coated stainless steel screws. Screw threads shall be coated with reusable, self-locking, sealing material to provide vibration resistance. The screws are to have nuts everywhere as possible.

COMPARTMENT LOUVERS

Ventilation between compartments to atmosphere shall be provided and located to avoid water entry into compartments.

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**Bidder
Complies**

Yes No

ACCESS PANELS

Removable access panels shall be provided in all lower compartments (if applicable) to access spring pins, fuel tank sender, electrical junction compartment and rear body mounts.

Protective panels shall be located in the rear compartments providing access to the lights and associated wiring. The covers shall also serve as protective covers to prevent inadvertent damage to lights or wiring from tools or equipment located in the compartment.

REAR BODY PANEL

The rear body panel shall extend the full width between the beavertails. This panel shall be full height from the rear step to the hose bed floor. The panel shall be bolted on and removable, with no part of the rear panel attached to the booster tank. The rear body panel material shall be aluminum tread plate as standard. If Chevron striping is specified for the rear of the body then smooth aluminum shall be utilized.

Warning lights referenced in the warning light package Zone C - Upper shall be surface mounted on the upper rear and upper rear sides of the body.

BODY RUB RAILS

Sacrificial aluminum tread plate rub rails shall be mounted at the base of the body, extend outward a minimum 3/4", downward 2" and flange inward 1". The rub rails shall extend the full length of the main body and wrap around the rear body corners. Rub rails shall be designed to bolt to the body from the bottom side of the compartment area, so as not to damage the body side panels on initial impact and to provide for ease of replacement.

RUNNING BOARD STEPS

The driver and officer running board steps shall be fabricated of 3/16" polished aluminum tread plate. The outside edge on each step shall be fabricated with a double break, return flange. The steps shall be rigidly reinforced with a heavy duty support structure. The running boards shall not form any part of the compartment design, and shall be bolted into place with a minimum 1/2" clearance gap between any panel to facilitate water runoff.

REAR TAILBOARD

A sixteen inch (16") rear bumper shall be supplied at the rear of the apparatus body for additional protection. The apparatus bumper (tailboard) shall be constructed with Perf-O-Grip for the walking surface and aluminum tread plate for the bumper corners shall feature mitered corners that will prevent snagging at the apparatus tailboard.

REAR BUMPER STORAGE WELL

The rear bumper assembly shall be equipped with two (2) storage wells to provide room to store a rolled up 3" 50' hose per well. The wells shall be constructed of aluminum with a perforated floor and mounted to the top of the tailboard one on each side.

INTERMEDIATE REAR STEP

An eight (8) inch bolt on intermediate rear step, fabricated from 3/16" aluminum tread plate, shall be installed. The step shall be a minimum of 8" deep x full width of the rear tailboard.

DELETE REAR STEP COMPARTMENT

A rear step compartment shall not be provided.

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**Bidder
Complies**

Yes No

GRAB RAILS

All hand rails shall be 1-1/4" outer diameter, polished aluminum, rubber insert type tubing, designed to meet NFPA 1901 requirements.

Molded gaskets shall be installed between the handrail stanchion castings and body surfaces to prevent electrolytic reaction between dissimilar metals and to protect paint.

GRAB RAIL LOCATIONS:

Grab rails shall be provided at the following specified locations. Additional grab rails shall be provided adjacent to any additional steps specified to comply with NFPA 1901.

Two (2) vertical rails shall be mounted on the rear edge of the beavertails, one (1) each side.

One (1) horizontal, full width handrail shall be installed on the rear, below the level of the hose bed.

FOLDING STEP(S) - BODY REAR DRIVER SIDE

No folding steps shall be provided in this location.

FOLDING STEP(S) - BODY REAR OFFICER SIDE

Cast Products model SP4401-1-CH-A-BL LED lighted large folding step(s) with RG0005 gasket, with a textured chrome plate finish shall be provided on officer side body rear to provide NFPA compliant access (maximum 18" height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

Each step shall have an LED light at the top and bottom of each step to illuminate the stepping areas.

SAFETY SIGN(S) AT REAR STEP AND CROSS WALKWAY(S)

Safety sign(s) shall be located on the vehicle at the rear step, and at any cross walkway(s), to warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.

REAR WHEEL WELL LINERS

Fully removable, bolt-in, 1/8" aluminum fender liners shall be provided. The wheel well liners shall extend from the outer wheel well body panel, into the truck frame. Removable vertical splash shields, inward of the wheels, shall be provided to give access to the hydraulic components. The completely washable fender liners shall be designed to protect the front and rear compartments and main body supports from road salts, dirt accumulation and corrosion.

REAR FENDERETTES

The tandem rear fenders shall be equipped with easily replaceable, polished stainless steel fenderettes. The fenderettes shall be equipped with a rubber gasket molding between the body panel and the fender.

REAR MUD FLAPS

Heavy duty mud flaps shall be provided behind the rear wheels.

REAR TOW EYES

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Bidder Complies

Yes No

Two (2) WHITE painted tow eyes shall be furnished on the rear of the vehicle. The tow eyes shall be made from plate steel and shall be bolted directly to the chassis frame rails with grade 8 bolts and shall extend below the body. The tow eyes shall be smooth and free from sharp edges, and have a minimum eyelet hole of 2-1/2". The tow eyes shall be painted.

HOSE BED

The hose bed shall be located directly above the booster tank and shall be free from all sharp objects such as bolts, nuts, etc., to avoid damage to fire hose.

The hose bed storage area, shall have a minimum capacity of fifty (50) cubic feet, and shall accommodate 2-1/2" or larger fire hose as required by the Purchaser. The hose bed depth shall be 7".

For added strength, rigidity and appearance, the hose bed side walls shall have the top edge flanged outward two (2) inches and downward one (1) inch. In a similar fashion, the top edge of the front wall shall be flanged inward two (2) inches and downward one (1) inch.

HOSE BED FLOORING

Flooring to be constructed from extruded aluminum and be properly spaced for ventilation. The flooring shall be smooth and free from sharp edges to avoid hose damage. The hose bed floor shall be removable to provide access to inner body framework.

HOSE BED PARTITION

One (1) fully adjustable 3/16", brushed finish, aluminum hose bed partition shall be provided. Partition shall be easily adjustable by means of Unistrut channels located at the front and rear of the hose bed. Partition shall be removable for access to the booster tank.

HOSE BED COVER, VINYL WITH VELCRO

A hose bed cover shall be provided and installed. The cover shall be made from 22 ounce; heavy-duty vinyl coated polyester fabric (TXN 226). The cover shall be sewn with ultraviolet resistant thread and shall have 2" wide nylon webbing sewn around the perimeter to provide additional strength.

The cover shall be secured to the top front body flange with Velcro and quarter turn fasteners and shall be secured to the top side body flanges with Velcro. A weighted flap shall be furnished on the rear of the cover with two (2) bungee cords.

The Hypalon material shall be red in color.

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**Bidder
Complies**

Yes No

****** COMPARTMENT ACCESSORIES ******

ADJUSTABLE SHELVING

Compartment shelving shall be constructed of 3/16" brush finish aluminum with a 2" upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel.

Adjustable shelves shall be located as follows:

One (1) in the officer side front compartment

PORTABLE TANK STORAGE SYSTEM

A port-a-tank storage compartment shall be installed on the officer side compartment cap integrated into the body. The compartment shall be fabricated from 1/8" aluminum plate and shall be designed One (1) 4" direct tank fill shall be provided at the rear of the body, on the driver side, as low as possible. The direct tank fill shall be gated with a 4" Fireman's Friend (TTMA 8-bolt attachment pattern). The fill valve shall be capable of flowing at a rate in excess of 1,800 gallons per minute and will be of a self deflecting design, requiring no additional diffusion device. The fill valve shall be constructed of stainless steel. The fill shall be equipped with a 4" 30 degree chrome elbow terminating with a 4" female swivel connection.

with a 4" Fireman's Friend (TTMA 8-bolt attachment pattern). The fill valve shall be capable of flowing at a rate in excess of 1,800 gallons per minute and will be of a self deflecting design, requiring no additional diffusion device. The fill valve shall be constructed of stainless steel. The fill shall be equipped with a 4" 30 degree chrome elbow terminating with a 4" female swivel connection.

ADDITIONAL ITEMS SUPPLIED WITH THE VEHICLE

- 1 - Pint of touch up paint for each color
- 1 -Bag of assorted stainless steel nuts and bolts

LOOSE EQUIPMENT

The following items shall be provided and shipped loose with the completed apparatus at the time of delivery:

WHEEL CHOCKS

Two (2) ZICO #SAC-44 folding wheel chocks shall be mounted forward of the rear wheels on the driver side below the side running board compartments.

FOLDING WATER TANK

One (1) Husky brand 3000 gallon aluminum frame folding water tank(s) shall be provided. The tank(s) when opened shall measure 29" high by 159" square, and shall fold to a storage size of 29" high by 7" wide by 159" long. The folding tank(s) shall be equipped with 22 ounce Exlon with floor handles provided..

The Husky Exlon liner(s) shall be red in color.

DEALER SUPPLIED EQUIPMENT TO BE INCLUDED IN CONTRACT

The following loose equipment shall be supplied by the apparatus dealer:

DELIVERY

2500 Gallon Tanker

**Bidder
Complies**

Yes No

The apparatus and all loose equipment will be delivered to the end users location.

FINAL WASH AND DETAIL

Final detail and wash before delivery for 2 door commercial

CONVENIENCE PACKAGE

Customer Convenience Package for a commercial chassis will be provided. This package includes the following:

- In station repairs for all warranty items during the bumper to bumper warranty period.
- Travel time and mileage will be paid for by the apparatus dealer
- Any transportation cost will be paid for by the apparatus dealer.

****** PAINT SECTION ******

PAINT, PREPARATION AND FINISH

The PPG Delta, Low V.O.C., polyurethane finishing system, or equal, shall be utilized. A "Clear Coat" paint finish shall be supplied to provide greater protection to the quality of the exterior paint finish.

All removable items, such as brackets, compartment doors, etc. shall be painted separately to insure finish paint behind mounted items. All compartment unwelded seams exposed to high moisture environments shall be sealed using permanent pliable caulking prior to finish paint.

BODY PRIMER & PREPARATION

All exposed welds shall be ground smooth for final finishing of areas to be painted. The compartments and doors are totally degreased and phosphatized. After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

BODY FINISH PAINT

The body shall be finish sanded and prepared for final paint. Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint. Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

The entire body shall be buffed and detailed.

BODY PAINT

The inside and underside areas of the complete body assembly shall be painted black using a PPG Delta System, prior to the installation of the body on the chassis or torque box.

COMPARTMENT PAINT

The interior of the compartments shall be finish painted with Multispec #7247 White Marble Stone scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

BODY PAINT

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Bidder
Complies

Yes No

The body paint finish shall be PPG Delta System in a single color, to match customer furnished paint codes and requirements.

PUMP PAINT

The pump within the pump enclosure shall be painted black. The plumbing is not required to be painted.

CHASSIS CAB PAINT

The commercial cab exterior shall be finish painted in a single color by the chassis manufacturer with Purchaser's choice of color as available.

WHEEL PAINT

The chassis wheels shall be painted as provided by the commercial chassis manufacturer.

TOUCH-UP PAINT

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user.

FINALIZATION & DETAILING

Prior to delivery the vehicle, the interior and exterior be cleaned and detailed. The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.

RUST PROOFING

The entire unit shall be thoroughly rust proofed utilizing rustproof and sound deadening materials applied in manufacturer recommended application procedures. Rust proofing shall be applied during the assembly process and upon completion to insure proper coverage in all critical areas.

**** LETTERING AND STRIPING ****

COMPUTER GENERATED LETTERING

The lettering and striping shall be custom designed utilizing state of the art computer software and computerized cutting machines. The manufacturer shall employ a full time artist / designer to generate all lettering, decals, and striping to meet the requirements of the Fire Department. The artwork for the lettering and striping shall be kept on record by the apparatus manufacturer to allow for ease in duplication for the Fire Department.

FRONT CAB DOOR LETTERING

Scotch-Lite with drop shadow lettering shall be provided on the cab driver's and officer's doors per the fire department requirements. The design of the lettering on the cab doors shall be designed to fit in the 496 sq. inches available.

Lettering provided on the driver's and officer's cab doors shall be 3" high.

LETTERING SIDE OF HOOD

Scotch-Lite with drop shadow lettering shall be provided on the area of the hood close to the cab per the fire department requirements.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

WINDSHIELD LETTERING

Scotch-Lite with drop shadow lettering provided on the upper portion of the windshield shall be 3" high.

FRONT BUMPER NUMBERS

Scotch-Lite with drop shadow Numbers provided on both side of front bumper.

BODY SIDE SHEET LETTERING

Scotch-Lite with drop shadow lettering shall be provided on the body side sheet per the fire department requirements. The design of the lettering on the body side sheet shall be designed to fit in the 2500 sq. inches available.

Lettering provided on the body side sheet shall be 6" high.

LETTERING FONT

The lettering shall be designed and cut with a basic block type font:

"BLOCK TYPE FONT"

****** NFPA REQUIRED SCOTCH-LITE STRIPING ******

SCOTCH-LITE STRIPE

A six (6) inch high "Scotch-Lite" stripe shall be provided. The stripe shall be applied on a minimum of 60 percent of each side of the unit, 60 percent on the rear of the unit and 40 percent on the front of the unit. The Scotch-Lite stripe layout shall be determined by the Fire Department.

The Scotch-Lite shall be white in color.

A six (6) inch custom fold shall be incorporated into the Scotch-Lite scheme on the body. Final layout of this configuration shall be determined by the Fire Department.

SCOTCH-LITE ACCENT STRIPES

A 1" high Scotch-Lite material accent stripe shall be incorporated into the Scotch-Lite scheme to border the primary Scotch-Lite stripe on the top and bottom edges. Final layout of this configuration shall be determined by the Fire Department.

REAR CHEVRON STRIPING

At least 50% of the rear facing vertical surface shall be covered with alternating strips of reflective striping.

The striping shall be 6" Diamond Grade Scotch-Lite.

The Diamond Grade Scotch-Lite shall be Red and Fluorescent Yellow Green in color.

DOOR CHEVRON STRIPING

If possible any metal surface located on the inside bottom half of the driver and officer side doors shall have alternating strips of reflective striping.

2500 Gallon Tanker

**Bidder
Complies**

Yes No

******* WARRANTIES & REQUIRED INFORMATION *******

WARRANTY - NEW PRODUCT - COMMERCIAL CHASSIS (7 YEARS FROM DATE OF DELIVERY BUMPER TO BUMPER WARRANTY)

WARRANTY - BODY STRUCTURE

The proposed body will be warranted against structural defects for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

WARRANTY - CORROSION

The proposed body will be warranted against rust-through or perforation, due to corrosion from within, for a period of ten (10) years. Perforation is defined as a condition in which an actual hole occurs in a sheet metal panel due to rust or corrosion from within. Surface rust or corrosion caused by chips or scratches in the paint is not covered by this warranty.

WARRANTY - PAINT

The proposed paint finish will be warranted for a period of seven (7) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

WARRANTY - LETTERING

7 years from date of delivery

WARRANTY - BRIGHTWORK

7 years from date of delivery

WARRANTY - STAINLESS STEEL PLUMBING WARRANTY

The proposed stainless steel plumbing will be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

WARRANTY - WATER TANK

The proposed water tank will be warranted by the water tank manufacturer for the "Lifetime" of the unit. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

WARRANTY - FIRE PUMP

7 years from date of delivery

WARRANTY - HEAVY DUTY VALVES

7 years from date of delivery