Request for Bid Proposal
Stephens County Fire Services
Triple Combination Commercial Pumper
Stephens County Board of Commissioners

The Stephens County Board of Commissioners will receive sealed bid proposals for the purchase of a triple combination commercial pumper fire apparatus for Stephens County Fire Services. Bids shall be as listed in the attached Schedule "A", Stephens County Fire Service Specs For Commercial Fire Apparatus. Bids will be received by the Stephens County Board of Commissioners office, 802 East Doyle Street, Toccoa, Georgia 30577. All bids submitted shall be clearly marked: Triple Combination Commercial Pumper Fire Apparatus, and delivered to Mrs. Beth Rider, Stephens County Board of Commissioners Clerk, at the County Commissioner's Office, 802 East Doyle Street, Toccoa, Georgia 30577 on or before 3:00 p.m., Eastern Standard Time, Friday, April 9, 2021. All sealed bids will be publicly opened on Monday, April 12, 2021 at 10:00 a.m. at 802 East Doyle Street, Toccoa, Georgia 30577 and announced. **No faxed bids will be received or accepted.**

All should be as per the attached schedule "A". Complete bid packages are available at the County Commissioner's office at the Stephens County Annex Building, 802 East Doyle Street, Toccoa, Georgia 30577 from 8:00 a.m. to 5:00 p.m., Monday through Friday.

The firms bidding shall provide an E-Verify, SAVE affidavit and a W-9 which is enclosed with the bid proposal. Failure to provide E-Verify documentation could make the bid subject to rejection. O.C.G.A. & 13-10-990 GA Sect. & Immigration Compliance Act of 2006 shall also apply.

Stephens County reserves the right to reject or negotiate any and all bids, or any part thereof, and to waive any technicalities. Stephens County further reserves the right to award the contract to the lowest reliable, responsible, bidder as determined to be in the best interest of Stephens County.

Should you have any questions please contact Mrs. Beth Rider, County Clerk (706) 886-9491.
Attachments for complete bid packages:

Schedule “A”

E-Verification Form

SAVE Form

W-9

Stephens County Board of Commissioners
Schedule A

Stephens County Fire Service
Specs for Commercial Fire Apparatus
Specs for SCFS Station 2

One (1)

NFPA 1901

The National Fire Protection Association "Standard for Automotive Fire Apparatus, Current Edition, is hereby adopted and made a part of these specifications, the same as if it were written out in full detail, with the exception of the section dealing with "Equipment Recommended for Various Types of Apparatus". Bidders shall provide the equipment specifically requested herein and the buyer shall supply the rest before the apparatus is put into service.

One (1)
Vocation and Basic Attributes - Apparatus

APPARATUS VOCATION AND BASIC ATTRIBUTES

When completed apparatus shall have the following attributes:

Order Information:
Apparatus Builder:
Sales Representative:

User Information:
End User:
Mailing Address:
City:_
State:_
Zip Code:_
F.D. Contact:
   Phone Number:
   Fax Number:
   Contacts email: _

Hose well options:
Indicate the hose that shall be installed in the well.
Hosewell Location:
   _NA - Officer's
   _NA - Center
   _NA - Driver's
Hose Brand:
Hose Model:_
Hose Size:_________ inch
Number of feet required: _

If more than one hosewell is ordered indicate on a separate piece of paper the information for the other well.
Are there minimum angle of approach or departure angle requirements? If so fill in the blank.

Minimum angle of approach - NFPA
Minimum angle of departure - NFPA

One (1) Paint Codes and Basic Attributes - Apparatus

**PAINT CODES AND BASIC ATTRIBUTES**

**Paint Information**
Paint Manufacturer: **Standard Paint**

**CAB EXTERIOR**
Single Color:
Primary color: **Vivid Red Elite BC**
Primary paint code: **L1557EB**

**BODY PAINT**
Color Body Panels Color:* **Vivid Red Elite BC**
Color Body Panels Code:* **L1557EB**
If the hosebed sides are painted are they the same color as the body panels?: **Yes**

**RIMS**
Color Painted Rims Color: * **Aluminum outer Steel inner**
Color Painted Rims Code: * **NA**
*Unless noted elsewise the cab lower color will be used when painted rims are selected.

**FRAME RAILS**
Color Painted Frame Color: * **Black**
Color Painted Frame Code: * **NA**
*Unless noted elsewise the cab lower color will be used when painted rails are selected.

One (1) Details of Construction - Order Confirmation

**ORDER CONFIRMATION**

Details of construction such as, but not limited to mounting positions for siren heads, grab handles, switches, labeling and materials where not otherwise specifically detailed in the written specifications at time of order, shall be left to the discretion of the manufacturer who shall be solely responsible for the design, construction and placement of the components.

A drawing is provided as part of the order confirmation. The drawing is an overall representation of the apparatus proposed and not an exact representation of the apparatus to be built. The exact locations of accessories and/or components may be revised pending complete engineering of the custom requirements of the individual apparatus order. If there is a discrepancy between the drawing and the written order confirmation; the specifications within this order confirmation prevail.

One (1) Freightliner Commercial Chassis
COMMERCIAL CHASSIS SUPPLIED BY APPARATUS MANUFACTURER

One (1) Commercial Chassis, Freightliner, M2-106

The following Freightliner chassis shall be provided:

Vehicle Configuration

M2 106 CONVENTIONAL CHASSIS
2020 MODEL YEAR SPECIFIED
SET BACK AXLE - TRUCK
STRAIGHT TRUCK PROVISION
LH PRIMARY STEERING LOCATION

General Service

TRUCK CONFIGURATION
DOMICILED, USA 50 STATES
FIRE SERVICE
EMERGENCY VEHICLES BUSINESS SEGMENT
LIQUID BULK COMMODITY
TERRAIN/DUTY: 10% (SOME) OF THE TIME, IN TRANSIT, IS SPENT ON NON-PAVED ROADS
MAXIMUM 8% EXPECTED GRADE
MAINTAINED GRAVEL OR CRUSHED ROCK - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE
MEDIUM TRUCK 2 YEAR WARRANTY A66-99
EXPECTED FRONT AXLE LOAD: 14000 lbs A68
EXPECTED REAR DRIVE AXLE LOAD: 27000 lbs
EXPECTED GROSS VEHICLE CAPACITY: 41000 lbs

Truck Service

FIRE TANK/PUMPER - MAIN DRIVELINE DRIVEN SPLIT-SHAFT PTO/PUMP

Engine

DDR 8.7L 6 CYL DUAL STAGE 375 HP @ 2200 RPM, 2600 GOV RPM, 1050 LB/FT @ 1200 RPM

Electronic Parameters

68 MPH ROAD SPEED LIMIT
CRUISE CONTROL SPEED LIMIT SAME AS ROAD SPEED LIMIT
PTO MODE ENGINE RPM LIMIT - 1100 RPM
PTO RPM WITH CRUISE SET SWITCH - 700 RPM
PTO RPM WITH CRUISE RESUME SWITCH - 800 RPM
PTO MODE CANCEL VEHICLE SPEED - 5 MPH
PTO GOVERNOR RAMP RATE - 250 RPM PER SECOND
ONE REMOTE PTO SPEED
Engine Equipment

PTO SPEED 1 SETTING - 900 RPM

2016-2019 ONBOARD DIAGNOSTICS/2010 EPA/CARB/GHG17
2008 CARB EMISSION CERTIFICATION - EXEMPTED VEHICLE
STANDARD OIL PAN
ENGINE MOUNTED OIL CHECK AND FILL
ONE PIECE VALVE COVER
NFPA COMPLIANT EMBER SCREEN AND FIRE RETARDANT DONALDSON AIR CLEANER
DR 12V 275 AMP 40-SI BRUSHLESS PAD ALTERNATOR WITH REMOTE BATTERY VOLTAGE SENSE
(3) DTNA GENUINE, FLOODED STARTING, MIN 2250CCA, 510RC, THREADED STUD BATTERIES
BATTERY BOX FRAME MOUNTED
STANDARD BATTERY JUMPERS
SINGLE BATTERY BOX FRAME MOUNTED LH SIDE UNDER CAB
WIRE GROUND RETURN FOR BATTERY CABLES WITH ADDITIONAL FRAME GROUND RETURN
NON-POLISHED BATTERY BOX COVER
CAB AUXILIARY POWER CABLE
POSITIVE LOAD DISCONNECT WITH CAB MOUNTED CONTROL SWITCH MOUNTED OUTBOARD DRIVER SEAT
WABCO 20.0 CFM SINGLE CYLINDER AIR COMPRESSOR
STANDARD MECHANICAL AIR COMPRESSOR GOVERNOR
AIR COMPRESSOR DISCHARGE LINE
GVG, FIRE AND EMERGENCY SERVICE VEHICLES ENGINE WARNING
DETOUR MD COMPRESSION BRAKE WITH ON/OFF SWITCH
RH MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH HORIZONTAL TAILPIPE EXITING FORWARD OF REAR TIRES
ENGINE AFTERTREATMENT DEVICE, AUTOMATIC OVER THE ROAD REGENERATION AND DASH MOUNTED REGENERATION REQUEST SWITCH

STANDARD EXHAUST SYSTEM LENGTH
RH HORIZONTAL TAILPIPE, EXIT FORWARD OF REAR TIRES AT 90 DEGREES

6 GALLON DIESEL EXHAUST FLUID TANK
100 PERCENT DIESEL EXHAUST FLUID FILL
LH UNDER CAB DIESEL EXHAUST FLUID TANK LOCATION
STANDARD DIESEL EXHAUST FLUID PUMP MOUNTING
STANDARD DIESEL EXHAUST FLUID TANK CAP
AIR POWERED ON/OFF ENGINE FAN CLUTCH
AUTOMATIC FAN CONTROL WITH DASH SWITCH AND INDICATOR LIGHT

DETOIT ENGINE MOUNTED FUEL/WATER SEPARATOR WITH WATER-IN-FUEL SENSOR AND HAND PRIMER
FULL FLOW OIL FILTER
900 SQUARE INCH ALUMINUM RADIATOR
ANTIFREEZE TO -34F, OAT (NITRITE AND SILICATE FREE) EXTENDED LIFE COOLANT
GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT
CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES
AUXILIARY ENGINE COOLING USING WATER FROM FIRE PUMP
LOWER RADIATOR GUARD
ALUMINUM FLYWHEEL HOUSING
DECO 12V 35MT STARTER WITH INTEGRATED MAGNETIC SWITCH AND SOLENOID

Transmission

ALLISON 3000 EVS AUTOMATIC TRANSMISSION WITH PTO PROVISION

Transmission Equipment

ALLISON VOCATIONAL PACKAGE 198 - AVAILABLE ON 3000/4000 PRODUCT FAMILIES WITH VOCATIONAL MODEL EVS
ALLISON VOCATIONAL RATING FOR FIRE TRUCK/EMERGENCY VEHICLE APPLICATIONS AVAILABLE WITH ALL PRODUCT FAMILIES
PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 5, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY
SECONDARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 5, AVAILABLE FOR 3000/4000 PRODUCT FAMILIES ONLY

PRIMARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
SECONDARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
PRIMARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
SECONDARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
ENGINE BRAKE RANGE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
ENGINE BRAKE RANGE ALTERNATE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE
FUEL SENSE 2.0 DISABLED - MAXIMUM PERFORMANCE - TABLE BASED

DRIVER SWITCH INPUT - DEFAULT - NO SWITCHES
PUMP MODE INPUT ENABLED 3RD/4TH LOCKUP WIRED ON TCM INPUT
AJ/BQ - ALLISON 5TH GEN TRANSMISSIONS
VEHICLE INTERFACE WIRING CONNECTOR WITH PDM AND NO BLUNT CUTS,
AT END OF FRAME
ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR MOUNTED
BACK OF CAB
CUSTOMER INSTALLED CHELSEA 280 SERIES PTO
PTO MOUNTING, LH SIDE OF MAIN TRANSMISSION
MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND
DRAIN
PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED
TRANSMISSION PROGNOSTICS - ENABLED 2013
WATER TO OIL TRANSMISSION COOLER, IN RAD TANK
TRANSMISSION OIL CHECK AND FILL WITH ELECTRONIC OIL LEVEL CHECK

SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)

**Front Axle and Equipment**

DETROIT DA-F-14.7-3 14,700# FF1 71.5 KPI/3.74 DROP SINGLE FRONT AXLE

MERITOR 16.5X5 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR,
FABRICATED SHOES
FIRE AND EMERGENCY SEVERE SERVICE, NON-ASBESTOS FRONT LINING

CAST IRON OUTFRONT BRAKE DRUMS
FRONT OIL SEALS
VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL

STANDARD SPINDLE NUTS FOR ALL AXLES
MERITOR AUTOMATIC FRONT SLACK ADJUSTERS
TRW TAS-85 POWER STEERING
POWER STEERING PUMP
2 QUART SEE THROUGH POWER STEERING RESERVOIR
SYNTHETIC 75W-90 FRONT AXLE LUBE

**Front Suspension**

14,600# TAPERLEAF FRONT SUSPENSION
MAINTENANCE FREE RUBBER BUSHINGS - FRONT SUSPENSION
FRONT SHOCK ABSORBERS

**Rear Axle and Equipment**
420-1DR      RS-25-160 27,000# R-SERIES FIRE/EMERGENCY SERVICE SINGLE REAR AXLE
421-538      5.38 REAR AXLE RATIO
424-001      IRON REAR AXLE CARRIER WITH STANDARD AXLE HOUSING
385-004      JACkSHAFT, TEMPORARY DRIVELINE, FOR CUSTOMER FURNISHED FIRE PUMP
386-074      MXL 176T MERITOR EXTENDED LUBE MAIN DRIVELINE WITH HALF ROUND YOKES
423-010      MERITOR 16.5X7 P CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, CAST SHOES
433-025      FIRE AND EMERGENCY SEVERE SERVICE NON-ASBESTOS REAR BRAKE LINING
434-011      BRAKE CAMS AND CHAMBERS ON FORWARD SIDE OF DRIVE AXLE(S)
451-030      WEBB HEAVY WEIGHT CAST IRON REAR BRAKE DRUMS
440-006      REAR OIL SEALS
426-1B2      BENDIX EVERSURE LONGSTROKE 1-DRIVE AXLE SPRING PARKING CHAMBERS
428-003      HALDEX AUTOMATIC REAR SLACK ADJUSTERS
41T-002      SYNTHETIC 75W-90 REAR AXLE LUBE

Rear Suspension
622-1DE      27,000# FLAT LEAF SPRING REAR SUSPENSION WITH HELPER AND RADIUS ROD FOR FIRE/EMERGENCY SERVICE
621-001      SPRING SUSPENSION - NO AXLE SPACERS
431-001      STANDARD AXLE SEATS IN AXLE CLAMP GROUP
623-005      FORE/AFT CONTROL RODS

Brake System
018-002      AIR BRAKE PACKAGE
490-101      WABCO 4S/4M ABS WITH TRACTION CONTROL, WITH ATC OFF-ROAD SWITCH
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-002      STANDARD AIR SYSTEM PRESSURE PROTECTION
413-002      STD U.S. FRONT BRAKE VALVE
432-003      RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO REAR PROPORTIONING VALVE
480-088      WABCO SYSTEM SAVER HP WITH INTEGRAL AIR GOVERNOR AND HEATER
479-015      AIR DRYER FRAME MOUNTED
Steps County Fire Service
Specs for Commercial Fire Apparatus
Specs for SCFS Station 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>460-001</td>
<td>STEEL AIR BRAKE RESERVOIRS</td>
</tr>
<tr>
<td>477-001</td>
<td>PULL CABLE ON WET TANK, PETCOCK DRAIN VALVES ON ALL OTHER AIR TANKS</td>
</tr>
</tbody>
</table>

**Trailer Connections**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>335-004</td>
<td>UPGRADED CHASSIS MULTIPLEXING UNIT</td>
</tr>
<tr>
<td>32A-002</td>
<td>UPGRADED BULKHEAD MULTIPLEXING UNIT</td>
</tr>
</tbody>
</table>

**Wheelbase & Frame**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>545-732</td>
<td>7325MM (289 INCH) WHEELBASE</td>
</tr>
<tr>
<td>546-101</td>
<td>11/32X3-1/2X10-15/16 INCH STEEL FRAME (8.73MMX277.8MM/0.344X10.94 INCH) 120KSI</td>
</tr>
<tr>
<td>547-001</td>
<td>1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT</td>
</tr>
<tr>
<td>552-027</td>
<td>1500MM (59 INCH) REAR FRAME OVERHANG</td>
</tr>
<tr>
<td>55W-005</td>
<td>FRAME OVERHANG RANGE: 51 INCH TO 60 INCH</td>
</tr>
<tr>
<td>A92-004</td>
<td>CALC'D BACK OF CAB TO REAR SUSP C/L (CA) : 175.6 in</td>
</tr>
<tr>
<td>AE8-099</td>
<td>CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 172.6 in</td>
</tr>
<tr>
<td>AE9-099</td>
<td>CALC'D FRAME LENGTH - OVERALL : 386.48</td>
</tr>
<tr>
<td>FSS-0LH</td>
<td>CALCULATED FRAME SPACE LH SIDE : 188.13 in</td>
</tr>
<tr>
<td>FSS-0RH</td>
<td>CALCULATED FRAME SPACE RH SIDE : 293.18 in</td>
</tr>
<tr>
<td>AM6-990</td>
<td>CALC'D SPACE AVAILABLE FOR DECKPLATE : 176.21 in</td>
</tr>
<tr>
<td>553-001</td>
<td>SQUARE END OF FRAME</td>
</tr>
<tr>
<td>550-001</td>
<td>FRONT CLOSING CROSSMEMBER</td>
</tr>
<tr>
<td>559-001</td>
<td>STANDARD WEIGHT ENGINE CROSSMEMBER</td>
</tr>
<tr>
<td>561-001</td>
<td>STANDARD CROSSMEMBER BACK OF TRANSMISSION</td>
</tr>
<tr>
<td>562-001</td>
<td>STANDARD MIDSHIP #1 CROSSMEMBER(S)</td>
</tr>
<tr>
<td>572-001</td>
<td>STANDARD REARMOST CROSSMEMBER</td>
</tr>
<tr>
<td>565-001</td>
<td>STANDARD SUSPENSION CROSSMEMBER</td>
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</tbody>
</table>

**Chassis Equipment**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>555-990</td>
<td>THREE-PIECE 14 INCH CHROME STEEL BUMPER WITH COLLAPSIBLE ENDS AND LH WING CUTOUT FOR FEDERAL MS100/ES100/ES100CSPEAKER</td>
</tr>
<tr>
<td>574-001</td>
<td>BUMPER MOUNTING FOR SINGLE LICENSE PLATE</td>
</tr>
<tr>
<td>586-024</td>
<td>FENDER AND FRONT OF HOOD MOUNTED FRONT MUDFLAPS</td>
</tr>
<tr>
<td>551-007</td>
<td>GRADE 8 THREADED HEX HEADED FRAME FASTENERS</td>
</tr>
<tr>
<td>605-017</td>
<td>LEVEL FRAME RAILS (+1%, -0%) WHEN CHASSIS IS LOADED TO FRONT AND REAR SUSPENSION RATINGS</td>
</tr>
<tr>
<td>970-038</td>
<td>TANK BODY 0 TO 1500 GALLONS</td>
</tr>
</tbody>
</table>

**Fuel Tanks**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>204-215</td>
<td>50 GALLON/189 LITER SHORT RECTANGULAR ALUMINUM FUEL TANK - LH</td>
</tr>
<tr>
<td>218-005</td>
<td>RECTANGULAR FUEL TANK(S)</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>215-004</td>
<td>POLISHING OF FUEL TANK WITH PAINTED BANDS</td>
</tr>
<tr>
<td>212-007</td>
<td>FUEL TANK(S) FORWARD</td>
</tr>
<tr>
<td>664-004</td>
<td>POLISHED STAINLESS STEEL STEP FINISH</td>
</tr>
<tr>
<td>205-002</td>
<td>CHROME FUEL TANK CAP(S)</td>
</tr>
<tr>
<td>122-1H2</td>
<td>DETROIT FUEL/WATER SEPARATOR WITH BYPASS AND 12 VOLT PREHEATER</td>
</tr>
<tr>
<td>216-020</td>
<td>EQUIFLO INBOARD FUEL SYSTEM</td>
</tr>
<tr>
<td>202-016</td>
<td>HIGH TEMPERATURE REINFORCED NYLON FUEL LINE</td>
</tr>
<tr>
<td></td>
<td><strong>Tires</strong></td>
</tr>
<tr>
<td>093-994</td>
<td>MICHELIN XZE 12R22.5 16 PLY RADIAL FRONT TIRES</td>
</tr>
<tr>
<td>094-1RM</td>
<td>MICHELIN X WORKS Z 12R22.5 16 PLY RADIAL REAR TIRES</td>
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<tr>
<td></td>
<td><strong>Hubs</strong></td>
</tr>
<tr>
<td>418-060</td>
<td>CONMET PRESET PLUS PREMIUM IRON FRONT HUBS</td>
</tr>
<tr>
<td>450-060</td>
<td>CONMET PRESET PLUS PREMIUM IRON REAR HUBS</td>
</tr>
<tr>
<td></td>
<td><strong>Wheels</strong></td>
</tr>
<tr>
<td>502-1EF</td>
<td>ALCOA LVL ONE 88367X 22.5X8.25 10-HUB PILOT 5.79 INSET ALUMINUM DISC FRONT WHEELS</td>
</tr>
<tr>
<td>505-1DR</td>
<td>ALCOA LVL ONE 88367X ALUMINUM OUTSIDE, ACCURIDE 51637 STEEL INSIDE; 22.5X8.25 10-HUB PILOT DISC REAR WHEELS</td>
</tr>
<tr>
<td>524-001</td>
<td>POLISHED FRONT WHEELS; OUTSIDE ONLY</td>
</tr>
<tr>
<td>525-001</td>
<td>POLISHED REAR WHEELS; OUTSIDE OF OUTER WHEELS ONLY</td>
</tr>
<tr>
<td>496-011</td>
<td>FRONT WHEEL MOUNTING NUTS</td>
</tr>
<tr>
<td>497-011</td>
<td>REAR WHEEL MOUNTING NUTS</td>
</tr>
<tr>
<td>498-011</td>
<td>NYLON WHEEL GUARDS FRONT AND REAR ALL INTERFACES</td>
</tr>
<tr>
<td></td>
<td><strong>Cab Exterior</strong></td>
</tr>
<tr>
<td>829-079</td>
<td>154 INCH BBC HIGH-ROOF ALUMINUM CONVENTIONAL CREW CAB</td>
</tr>
<tr>
<td>650-008</td>
<td>AIR CAB MOUNTING</td>
</tr>
<tr>
<td>705-012</td>
<td>CAB ROOF REINFORCEMENTS FOR ROOF MOUNTED COMPONENTS</td>
</tr>
<tr>
<td>678-018</td>
<td>LH AND RH EXTERIOR GRAB HANDLES WITH SINGLE RUBBER INSERT</td>
</tr>
<tr>
<td>646-023</td>
<td>HOOD MOUNTED CHROMED PLASTIC GRILLE</td>
</tr>
<tr>
<td>65X-003</td>
<td>CHROME HOOD MOUNTED AIR INTAKE GRILLE</td>
</tr>
<tr>
<td>644-004</td>
<td>FIBERGLASS HOOD</td>
</tr>
<tr>
<td>727-1B1</td>
<td>DUAL 25 INCH ROUND STUTTER TONE HOOD MOUNTED AIR HORNS WITH DUAL LANYARDS</td>
</tr>
<tr>
<td>726-001</td>
<td>SINGLE ELECTRIC HORNS</td>
</tr>
<tr>
<td>728-002</td>
<td>DUAL HORN SHIELDS</td>
</tr>
<tr>
<td>657-001</td>
<td>DOOR AND IGNITION KEYS</td>
</tr>
<tr>
<td>575-001</td>
<td>REAR LICENSE PLATE MOUNT END OF FRAME</td>
</tr>
<tr>
<td>312-088</td>
<td>LED HEADLIGHT ASSEMBLY AND INCANDESCENT MARKER/TURN LAMP WITH CHROME BEZEL</td>
</tr>
<tr>
<td>302-047</td>
<td>LED AERODYNAMIC MARKER LIGHTS</td>
</tr>
</tbody>
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294-094  OMIT STOP/TAI/LBACKUP LIGHTS AND PROVIDE WIRING WITH SEPARATE
STOP/TAI/WIRES TO 7 FEET BEYOND END OF FRAME
300-015  STANDARD FRONT TURN SIGNALLAMPS
469-014  UNDER HOOD MOUNTED LED LIGHTING
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
743-204  LH AND RH 8 INCH BRIGHT FINISH CONVEX MIRRORS MOUNTED UNDER
PRIMARY MIRRORS
729-001  STANDARD SIDE/REAR REFLECTORS
677-055  RH AFTERTREATMENT SYSTEM CAB ACCESS WITH POLISHED DIAMOND
PLATE COVER
764-010  COMPOSITE EXTERIOR SUN VISOR
768-043  53X14 INCH TINTED REAR WINDOW
661-003  TINTED DOOR GLASS LH AND RH WITH TINTED NON-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
706-026  MOLDED PLASTIC DOOR PANEL WITH ALUMINUM KICKPLATE LOWER DOOR
708-026  MOLDED PLASTIC DOOR PANEL WITH ALUMINUM KICKPLATE LOWER DOOR
772-006  BLACK MATS WITH SINGLE INSULATION
691-008  FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE
COMPARTMENTS 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
170-015  STANDARD HEATER PLUMBING
130-041  VALEO HEAVY DUTY A/C REFRIGERANT COMPRESSOR
702-002  BINARY CONTROL, R-134A
739-033  STANDARD INSULATION
285-013  SOLID-STATE CIRCUIT PROTECTION AND FUSES
280-007  12V NEGATIVE GROUND ELECTRICAL SYSTEM
324-047  DOOR ACTIVATED DOME/RED MAP LIGHTS, FORWARD LH AND RH AND
         REAR LH, RH AND CENTER
655-001  CAB DOOR LATCHES WITH MANUAL DOOR LOCKS
284-101  (1) 12V POWER SUPPLY (1) DUAL 2.1 AMP USB CHARGER IN DASH
756-1G6  H.O. BOSTROM SIERRA AIR-50 HIGH BACK AIR SUSPENSION DRIVER SEAT
         WITH ADJUSTABLE RECLINE, FIXED LUMBAR AND NFPA 1901-2009/2016
         COMPLIANT SEAT SENSOR
760-1H4  H.O. BOSTROM TANKER 450 SCBA NON SUSPENSION PASSENGER SEAT WITH
         UNDERSEAT STORAGE, SECUREALL READY CUSHION AND NFPA
         1901-2009/2016 COMPLIANT SEAT SENSOR
762-1EC  H.O. BOSTROM TANKER 450 NON SUSPENSION LH, RH AND CENTER REAR
         PASS SEATS W/UNDER SEAT STORAGE, SECUREALL READY CUSHION AND
         NFPA 1901-2009/2016 COMPLIANT SEAT SENSOR
711-004  LH AND RH INTEGRAL DOOR PANEL ARMRESTS
758-081  GRAY AND BLACK DURAWEARFABRIC DRIVER SEAT COVER, SEAT BOLSTER
         AND INSERT
761-081  GRAY AND BLACK DURAWEARFABRIC PASSENGER SEAT COVER, SEAT
         BOLSTER AND INSERT
755-081  GRAY AND BLACK DURAWEARFABRIC REAR PASSENGER SEAT COVER, SEAT
         BOLSTER AND INSERT
763-105  NFPA 1901-2009 HIGH VISIBILITY ORANGE SEAT BELTS
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 INSTRUMENT PANELS
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
158-025  INTAKE MOUNTED AIR RESTRICTION INDICATOR WITHOUT GRADUATIONS
149-013  ELECTRONIC CRUISE CONTROL WITH SWITCHES IN LH SWITCH PANEL
156-020  IGNITION SWITCH WITH NON REMOVABLE KEY
811-042  ICU3S, 132X48 DISPLAY WITH DIAGNOSTICS, 28 LED WARNING LAMPS AND
         DATA LINKED
160-038  HEAVY DUTY ONBOARD DIAGNOSTICS INTERFACE CONNECTOR LOCATED
         BELOW LH 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
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
498-004  ELECTRONIC STABILITY CONTROL
852-002  ELECTRIC ENGINE OIL PRESSURE GAUGE
679-001  OVERHEAD INSTRUMENT PANEL
786-119  NPRR VEHICLE DATA RECORDER AND SEATBELT DISPLAY
746-114  AM/FM/WB WORLD TUNER RADIO WITH AUXILIARY INPUT, 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
813-1B4  VT-HU CONNECTIVITY PLATFORM HARDWARE
8D1-003  3 YEARS DETROIT CONNECT BASE PACKAGE (VIRTUAL TECHNICIAN, DETROIT CONNECT PORTAL ACCESS) FOR VT-HU CONNECTIVITY PLATFORM

162-002  IGNITION SWITCH CONTROLLED ENGINE STOP
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 DASH VALVE CONTROL
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

980-7HC  CAB COLOR A: L1557EB VIVID RED ELITE BC
986-020  BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT
966-972  POWDER WHITE (N0006EA) INNER REAR WHEELS
963-003  STANDARD E COAT/UNDERCOATING
One (1) Fuel Tank Cover, ADP, Frt Dr Step w/NFPA Stpg Srfc

**DIAMONDPLATE FUEL TANK COVER**

The fuel tank shall have an NFPA 1901 slip resistant diamond plate cover.

One (1) Enclosure, ADP, R/S door steps, DPF box, with NFPA Stpg Srfc

**DIAMONDPLATE STEPS/DPF ENCLOSURE**

The steps and DPF filter under the right side door shall be enclosed with an NFPA 1901 removable slip resistant diamond plate cover. The cover shall allow heat to easily escape while the after-treatment is in regeneration.

Note: ADP R/S Ref: #23102

One (1) Stainless 'Baby Moon' Caps & Nutcovers

**FRONT WHEEL TRIM**

The front axle shall be trimmed with mirror finish, 304L grade, non-corrosive stainless steel 'baby moon' hub caps with an opening for viewing the oil seal cover, and bright finished nut covers.

One (1) Stainless "Lincoln Hat" Hub & Nut Covers

**REAR WHEEL TRIM**

The rear axle(s) shall be trimmed with mirror finish, 304L grade non-corrosive stainless steel "Lincoln Hat" hub cover and bright finished nut covers.

One (1) LED Ground Lights, (2) Cab Mid, Below Each Door, Two-Door

**CAB GROUND LIGHTING**

One (1) 4" round LED light shall be mounted beneath each door. These lights shall be designed to provide illumination on areas under the driver and officer area entry/gress. All cab ground lights shall automatically activate when any cab exit door is opened and the parking brake is set.

A single switch shall be provided in the cab to activate all of the apparatus ground lights manually.

One (1) Wiring Interface, Multiplex, Class 1 ES-Key Mgmt System

**MULTIPLEX WIRING INTERFACE**

The apparatus shall be equipped with a Class 1 ES-Key Management System for complete control of the electrical system devices. This management system shall be capable of performing load management functions, system monitoring and reporting, and be fully programmable for control of the electrical system.
The ES-Key system shall utilize a Controller Area Network (CAN) to provide multiplexed control signals for "real time" operation. The system shall consist of the following components:

**Universal System Manager (USM)** - The USM device shall be the CAN network controller and provide various functions to the apparatus such as load management. The USM shall be programmed from a network interface to a PC computer.

**Information Display Module** - For displaying text, warnings and diagnostics. The Information Display Module shall allow the Fire Department to access and change load management shedding priority.

**Power Distribution Module(s) (PDM)** - The PDM shall be a solid state power distribution module with eight (8) outputs.

**Input/Output Module** - The module shall have sixteen (16) inputs to communicate with the USM and three (3) outputs for various body functions.

The ES-Key system shall provide diagnostic capabilities for troubleshooting the electrical system of the apparatus. A six-position switch panel shall also be provided.

One (1)  
Auxiliary Engine Cooler Supplied in Commercial Chassis

**AUXILIARY ENGINE COOLER**

The cooling system shall have one (1) auxiliary engine cooler mounted in the radiator water piping. The apparatus shall have the fire pump water circulated to the cooler from a valve located on the apparatus pump panel.

One (1)  
Door Reflective Material, NFPA Req'd, Comm Chassis, 4 Door

**REFLECTIVE MATERIAL - INTERIOR CAB DOOR**

The cab front and crew doors shall have a minimum of 96 square inches of reflective material affixed to the inside of each door.

One (1)  
Cab Console, Freightliner

**CAB CONSOLE**

A heavy duty angled console shall be installed in the cab between the driver and officer seats. The console shall be finished in black powder coat for durability and low reflection. The console shall be designed with a versatile double mounting rail system that accommodates commercially available panels for installation of items such as radio equipment.

The console shall contain the following items as standard:

**Left Side of the console front to back**
- Body Red Light Switch
- Pump Shift in a 4" custom laminate panel
- One (1) Blank 3" filler plate

**Right Side of the console front to back**
Cupholder with placement for two (2) cups in a 3” mounting plate
Electronic siren control head in a 3” equipment mounting plate
Bank of (8) switches (programmable)
EsKey display in a 5” mounting plate
One (1) Blank 3” filler plate
One (1) Blank 3” filler plate

**Back of the console**
A storage box with a keyed locking lid
(dimensions 15-1/2” wide x 12” deep x 5-1/4”)

**One (1)** Console Options
The following items shall be installed on the console:

**One (1)** Clipboard Holder, Console Officer Side
One (1) clipboard holder install at the officer’s side of the console. This pocket shall have dimensions of 13-1/2” wide x 1-7/8” thick with an open top.

**One (1)** Tire Pressure Monitoring Device - 2 Axles - LED Alert

**TIRE PRESSURE MONITORING DEVICE**
Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap with an LED tire alert to indicate tire pressure conditions. The LED will flash when the tire drops 8 psi below the factory setting.

**One (1)** Electronic Siren - Whelen - Model 295SLSA1 - Comm

**ELECTRONIC SIREN**
A Whelen electronic siren control, model 295SLSA1 full feature with 17 Scan-Lock siren tones including Radio Rebroadcast, Public Address, Manual, Wail, Yelp, Air Horn, Electronic Mechanical Siren tones and Piercer tones and hard wired microphone, shall be provided.

**One (1)** Siren Speaker - Cast Products - Recess Mtd - Left Side

**SIREN SPEAKER**
There shall be one (1) Cast Products polished aluminum 100 watt speaker provided. The speaker shall be recessed into the left (driver's) side of the front bumper immediately outboard of the chassis frame rails.

**One (1)** Open Compartment Light - Red Flashing - Whelen OS LED

**COMPARTMENT OPEN LIGHT**
A Red Open Compartment Flashing Light, Whelen OS Series LED shall be mounted on the driver’s side face of the overhead panel. A chrome flange is to be supplied with the light.
This light is wired with a flasher to the power panel for completion to circuit on the body.

The light circuit shall be wired so that the light circuit is deactivated when the parking brakes of the apparatus are applied.

A label shall be applied adjacent to the light 'DOOR OPEN'.

**ENGINE MAINTENANCE LIGHTS**

Two (2) engine maintenance lights shall be supplied beneath the hood. These lights shall illuminate automatically when the hood is tilted.

**BACKUP CAMERA**

There shall be an ASA Audiovox video system provided on the apparatus.

**Observation Monitor - 7" LCD - Waterproof**

The color monitor shall be manufactured by ASA. The 7 inch color LCD monitor contains a water proof housing, circuit protection, backlit controls, integrated audio speaker, NTSC and PAL video signal compatible, 3-camera inputs, manual (pushbutton) or automatic (trigger) source selection, auto power on (standby) day / night brightness modes, on screen display (OSD) for AV source, picture adjustment and volume level, non-volatile memory for picture and volume adjustment settings, anti-glare / anti-scratch protective lens, detachable sunshield.

**Monitor Mounting - Ceiling Mounted - Driver - Flip Down**

The monitor for the back-up camera shall be mounted on cab ceiling, on a flip down bracket, within view of the driver to aide in backing up the apparatus.

**Camera - Color - Rear - High Performance - Black Housing**

**REAR CAMERA - COLOR - HIGH PERFORMANCE**

There shall be supplied a color, heavy duty high resolution observation camera.

**Operation - Battery Powered**

The back up camera system shall be powered with the battery power switch in the cab. Operation of the camera will be by the driver with the monitor controls.

**Camera Mounting - Body Rear - Below Hosebed**

The back up camera shall be mounted at the rear of the apparatus beneath the hosebed.
One (1) 12 VDC Power Point Socket - Commercial Chassis

**12VDC POWER POINT**

A 12 volt, socket (cigarette lighter) type, receptacle shall be provided with a protective hinged cover.

One (1) Battery Switched Power

The power point shall be wired to switched battery power with the appropriate wire size and fuse.

One (1) Location - Officer's Side

The power point socket shall be provided within reach of the officer.

One (1) 12 VDC Power Point Socket - Commercial Chassis

**12VDC POWER POINT**

A 12 volt, socket (cigarette lighter) type, receptacle shall be provided with a protective hinged cover.

One (1) Battery Switched Power

The power point shall be wired to switched battery power with the appropriate wire size and fuse.

One (1) Location - Driver's Side

The power point socket shall be provided within reach of the driver.

One (1) Fire Extinguisher and Hazard Triangle Kit

**ROAD SAFETY KIT**

One (1) 2-1/2# ABC DOT Approved fire extinguisher shall be provided. The fire extinguisher shall be shipped loose with the chassis.

One (1) set of DOT approved hazard triangles shall be supplied with the chassis. They shall be stored in a plastic case and shipped loose with the chassis.

One (1) 40 Amp - Battery Charger Plus Air Compressor - ProMariner - Commercial

**BATTERY Charger**

A PRO MARINER / ON BOARD SOLUTIONS advanced electronic 4-step battery charger/power supply with a 40 amp output shall be installed, on the rear wall behind the Left rear seat.

Since shoreline power is not always stable the charger shall be equipped with Auto-Ranging AC Input to automatically accept global voltages of 90 VAC to 270 VAC at 45-440 Hz.
Field Selectable - Use with lead/acid or gel batteries (AGM factory option). Select length of absorption charge cycle based on size of batteries.

In the 4-step charging system the charger will provide the following sequence.

Step 1: Fast Charge - Charger will deliver its maximum amperage rating to the connected batteries for the fastest charge (current regulation mode) until battery voltage is raised to 14.6V (lead acid factory setting). At this time, the ProTech will shift to step 2.

Step 2: Absorption Charge - Maximizes charge and holds voltage (voltage regulation mode) at 14.6V (lead acid factory setting) for 1 to 4 hours (selectable based on battery size), while letting the batteries determine the amount of amps they can accept. This mode creates activity in the batteries, reducing sulfate buildup, and conditions the batteries for an extended life. After the programmed 1 to 4 hours have elapsed, the ProTech will shift to step 3.

Step 3: Float Mode - A precision 13.3V (lead acid factory setting) finishing voltage that maintains each battery (step-down voltage regulation mode), which is perfect for short or long storage periods and will never overcharge your batteries. ProTech will deliver its full rated output for house loads including: lighting, electronics and pumps.

Step 4: Recycle - If there are very large loads on the battery while the charger is on, the unit will recycle to the first step, ensuring that batteries stay fully charged.

One-Year Warranty - Includes lifetime repair guarantee.

Certified to - UL Marine 1236/SA

Note: Modified Mounting Location

One (1)

Kussmaul - Auto Air 091-9B-1 - 120VAC Compressor

ON-BOARD ELECTRIC COMPRESSOR

A KUSSMAUL AUTO AIR model 091-9B-1 on-board air compressor shall be supplied. The 120 VAC compressor shall be designed to maintain the air pressure in the air brake system while the vehicle is not in use. A pressure switch senses when the system pressure drops and starts the compressor which then runs until pressure is restored. All ball bearing construction, lubricated for life, assures reliable operation and requires no servicing. Compressor Output: 0.75 CFM@100 PSI Pressure Switch: Adjustable Set Point-Factory set to 75 PSI Cut-in, 95 PSI Cut-out.

The compressor shall be located on the rear wall behind the Right rear seat, the air compressor shall be permanently wired to the 120 VAC shore line connection.

Note: Modified mounting location

One (1)

Kussmaul 20 AMP - 120v - Super Auto Eject - Commercial

SHORELINE AUTO-EJECT
A KUSSMAUL Super Auto Eject, model 091-55-20-120, with weatherproof cover shall be provided.

The Super Auto Eject is to be completely sealed to prevent internal contamination of the working components.

The internal switch arrangement of the Super Auto Eject shall be designed to close and open the 120-volt AC circuit after the mating connector is inserted and before the connector is removed. This design shall prevent arcing at the connector contacts to provide long life.

The electrical connection shall be provided as a 120-volt AC - 20 amp type using a NEMA 5-20P connector.

One (1) Yellow Auto-Eject Cover

The Auto-Eject cover shall be yellow in color.

One (1) Plain Cover

The Auto-Eject cover shall be a Kussmaul 091-55.

One (1) 45-20-1322

Cab Exterior Mounted - Below the Driver's Door

The Auto Eject assembly shall be mounted on the exterior of the cab below the driver's door.

One (1) HydraTechnology, Pump House Design Requirement

**HYDRA TECHNOLOGY**

The pump module must employ Hydra Technology. Due to the design a pump module manufactured with Hydra Technology is compact in size; massive in performance.

Each component in the module must undergo a selection and placement analysis staff engineers. Utilizing advanced 3D software the engineers goals must provide component placements for ergonomics with a completed module that produces maximum water flow with optimum versatility. Only after the complete analysis and build of the module in the computer can the build of the hardware in the shop begin.

Pump module design beginning with a foundation; cage framework assemblies that are precision manufactured from strong corrosion free heavy wall stainless steel tubing. This framework mounts to the truck frame through a mounting design complimented with iso-mount elastomer cushions. The result shall be a mounting system that allows for the twisting movement of the truck frame without undue stress loading of the pump module.

Next assembled shall be the stainless side panels. Brushed, mirror polished or power coated the stainless steel side panels provide strength and durability. Precise engineering allows each panel to be laser machined before assembly, instead of drilling holes technicians shall spend their time on assembly techniques that provide installations that breeze through strict quality assurance.
A thorough review of the valve control placements on a control module shall result in a neat and orderly layout. Open the access door on a side control module and peer inside. The horizontal control rods appear neat and orderly. The appearance is only a portion of the requirement. The same neat and orderly appearance after countless hours of engineering design and ergonomic study provide a smooth trouble free linkage for valve operation. Another by product of the low profile control rod placement is the ability to offer ladder through the tank storage designs.

On a top control module mount valve controls are attached to the valves through high performance stainless steel aircraft type cable assemblies. Cables eliminate the inefficiencies of control rods connected to a valve. Operate a cable controlled top panel and you will feel the difference; smooth and precise across the full valve operation.

The gauge panel door shall be an expansive double wall stainless door supported by a 3/8 inch diameter hinge pin. The double wall door provides unsurpassed strength and gauge protection while thwarting the casual attempt of tinkering. Authorized servicing of the components within the door is simplified with a bolt on access panel.

Inside the access door; there shall be a clean well build appearance. Stainless steel piping, stainless steel panels, and a stainless steel framework all to provide years of trouble free service. Pipe threads are not allowed on plumbing larger than 1-1/2 inch in diameter. The pump module design shall employ Victaulic coupling connections in the pump module to save time when servicing a component. Installation of components without the use of pipe threads allows for "drop-out" maintenance of critical components without disassembly of entire piping systems. Drop in valves and manifolds with Victaulic couplings are only the start of the serviceability designed into this pump module.

Apparatus taking exception to any portion of this requirement will not be acceptable.

One (1)

Pump Enclosure, Top Mount, 47" Wide, Volute Pump, Gen IV

**PUMP COMPARTMENT**

The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. It shall be a fabricated assembly of stainless steel tubing, angles and channels, which does not support the fire pump and or running boards. The pump compartment shall be mounted onto the chassis through rubber biscuits in a four point pattern to allow for a chassis frame twist.

Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly and shall have an approximate width of 47". The pump compartment shall be a modular design.

A stainless steel framework shall provide the support for the mounting of the pump lower panels, speedlay hose beds, and pump access doors.

An upper stainless steel assembly shall encompass the top mount pump operator's panel. Stainless steel structure shall be provided as a support behind all control handles enabling a firm foundation for operation of the valve control.
An upper stainless steel assembly shall encompass the dunnage compartment and area for the deck gun if provided. The floor of this section shall be a bolt-on design to provide access for major repairs and or service.

One (1)
Walkway, Top Mnt, 96" W x 21" Frt/Bck w/ADP Stp Srfc

**PUMP PANEL WALKWAY - ALUMINUM DIAMOND PLATE**

A walkway/running board area, 96" left to right x 21" front to back, shall be provided with the top mount pump module. The walkway shall be separate from the pump panel so that each may flex independently of the other and allow water to flow away from the operator.

Separation of the walkway and support structure from the pump compartment is desired to provide field service of the walkway without major repairs to the pump compartment in the event of an accident. The walkway supports shall be a fabricated assembly of gussets and channels. The walkway support structure shall be bolted directly to the chassis frame rails to provide proper support.

One (1)
Running Boards, L/S, R/S w/ATP Stp Surface

**RUNNING BOARDS**

The running boards shall be separate from the hose body, compartments, and pump compartment so that each may flex independently of the other and to allow water to flow freely away from the running board area. Separation of the running boards and support structure from the hose body, compartments and pump compartment is desired to provide field service of the running board without major repairs to the pump compartment in the event of an accident.

The steel running board supports shall be bolted directly to the chassis frame rails to provide proper support. The running board step surface shall be covered in aluminum treadplate meeting the current revision of NFPA 1901 for step requirements.

One (1)
Left Running Board Hosewell

**LEFT RUNNING BOARD HOSEWELL**

The left running board shall be provided with an integral smooth plate hose well with a 1.5 cubic feet capacity.

One (1)
Straps, Running Board Hosewell

**STRAPS, RUNNING BOARD HOSEWELL**

Two (2) straps shall be provided for the running board hosewell to secure hose in the hosewell.

One (1)
Stg Compls, (2) Walkway, L/S, R/S, SS w/ATP Dr

**WALKWAY STORAGE COMPARTMENTS**

Two (2) enclosed storage compartments shall be provided and installed below the top mount walkway,
mounted one (1) each on the driver's and officer's side of the apparatus. Each compartment shall have the walls and floor be stainless steel and shall include an aluminum treadplate vertically hinged door, full length stainless steel piano hinge and a "D" type handle/latch.

One (1) Compartment Light, (1) LED Walkway Strg Compartments, L/R Side

**COMPARTMENT LIGHT**

One (1) LED compartment light shall be furnished in each walkway storage compartment. The light shall be activated by a switch that closes when the compartment door is opened.

One (1) Lights, (2) LED Walkway, Mtd Front of Module/Spdlys, Clear Lens

**WALKWAY LIGHTS**

Two (2) clear LED lights shall be mounted on the front of the top operated pump module to provide walkway illumination. There shall be one (1) light mounted outboard on each side of the module or speedlay module if so equipped.

One (1) Dunnage Compt, w/Floor

**DUNNAGE COMPARTMENT OVER PUMP**

There shall be a dunnage compartment furnished on top of the pump module. The floor shall be bolted in place and removable for access to the fire pump components for major service.

One (1) Grabrails, (2) Access Dunnage Compt, Mtd L/ R Side of Compt

**DUNNAGE COMPARTMENT GRABRAILS**

Two (2) bright anodized extruded aluminum grab rails shall be provided, one (1) each side of the pump house on the side of the dunnage compartment just below the top edge mounted horizontal to provide easy access to the dunnage compartment. Molded rubber gaskets shall be installed under the grab handles to protect the surface of the compartment.

One (1) Work Light, (1) LED, Strip Light, Mtd Pump Compt w/Switch

**PUMP COMPARTMENT WORK LIGHT**

The pump compartment shall have one (1) white LED strip light across the pump panel to provide illumination of the pump compartment. The light strip shall be mounted transverse at the rear of the pump module with the light directed to the front. The light shall have a weather resistant, toggle style on/off switch located inside the pump compartment adjacent to the door hinge area. The power for the pump module light shall be switched thru the battery master switch.

One (1) Heater, Pump House, 53,500 BTU Hot Water w/12V Fan

**PUMP HOUSE HEATER**
A 53,500 BTU, automotive type hot water heater shall be provided and mounted in the fire pump compartment. The heater shall be connected to the truck engine coolant system and have shutoff valves in both the feeder and return lines. Heater shall include a 12 volt fan with a switch located at the pump operator's panel.

One (1) Heat Pan Enclosure, Removable

**HEAT PAN ENCLOSURE**

A removable casing constructed of aluminum, completely enclosing the underside of the pump compartment and heated by the engine exhaust shall be provided. The heat pan assembly shall include access panels that can be easily removed from their mounting locations.

One (1) Pump Service Access Requirements

**PUMP SERVICE ACCESS REQUIREMENTS**

It is the opinion that service access to the pump, valves, gauges and controls are of the utmost importance. Special consideration shall be taken when evaluating the pump module design of the offerer. Pump panels that offer little to no access without the use of tools shall not be considered compliant with this requirement.

One (1) Control Panel, Top Mount Module - Gen IV

**TOP MOUNT PUMP CONTROL PANEL**

All pump controls and gauges shall be located above the fire pump in a top mounted operator's control panel and properly identified. The layout of the pump control panel shall be ergonomically efficient and systematically organized. The pump operator's panel shall be removable in one (1) section for ease of maintenance. The gauge panel shall contain a panel for mounting of all instruments, engine monitoring system, and pressure control system. The gauge panel shall be a removable roll-on single panel to allow access to all gauge tubing, switch, and control wiring. The gauge panel exterior shall be made of 10-gauge stainless steel.

The lower portion of the panel shall contain the controls for all of the inlets and outlets. The controls for all of the drains shall be located on the side panels. All inlet and outlet controls shall be Class 1 lever type locking top mount controls.

Handles for the top mount controls shall be chrome plated zinc twist-lock handles with a recessed area for 2" diameter round identifications tags.

Top control connections to each 2-1/2" and larger discharge valve shall be made by the use of a stainless aircraft cable with stainless steel mounting bracketry and hardware. Top controlled connections to valves larger than 2-1/2" by means of relay arms with sold rods are not acceptable.

There shall be two (2) pump house service doors located in the upper portion of the right and left side pump panels. These panels shall be as large as possible and shall be constructed of brushed stainless steel. The access doors shall each have two (2) thumb latches. Each service panel door shall provide an opening minimum size of 41 inches wide by 14 inches in height.
Identification Labels - Engraved Plastic

**PUMP PANEL IDENTIFICATION TAGS**

The identification tag for each valve shall be recessed in the face of the control handle. All discharges shall have color-coded plastic identification tags, with each discharge having its own unique color. Color-coding shall include the labeling of the outlet and the drain for each corresponding discharge.

Pump Panel Finish, Brushed Stainless Steel

**PUMP PANEL FINISH**

All stainless panels used in the construction of the pump house shall have a brushed finish.

Controls & Gauges, Top Mount - FRC

**CONTROLS AND GAUGES**

The following shall be provided on the pump and gauge panels in a neat and orderly fashion. The gauge panel shall include the following:

FRC In Control 400 Pressure Governor, Engine Monitor and Pressure Display

**PRESSURE GOVERNOR, MONITORING, AND MASTER PRESSURE DISPLAY**

Fire Research InControl series TGA400-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1-3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

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

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.
The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:
High Battery Voltage
Low Battery Voltage (Engine Off)
Low Battery Voltage (Engine Running)
High Transmission Temperature
Low Engine Oil Pressure
High Engine Coolant Temperature
Out of Water (visual alarm only)
No Engine Response (visual alarm only)
The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

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

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

One (1) 2-1/2" Pressure Gauges, 0-400 psig - English

PRESSURE GAUGES

Each line pressure gauge shall be mounted immediately above the control for the corresponding valve. The individual line pressure gauges for the discharges shall be 2-1/2" in diameter with white dial face gauges with black lettering and markings. The gauges shall be a compound style gauge with a vacuum/pressure range of 0 - 400 psig.

The gauges shall be fluid filled with pulse and vibration dampering Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation to -40 degrees F. The cases shall be temperature compensated with an internal breathing diaphragm to permit fully filled cases and to allow a rigid lens with a distortion free viewing area. The gauge accuracy for the gauge shall be plus or minus 2% mid-scale, plus or minus 3% balance, per ANSI B40.1, Grade 1A.

To prevent internal freezing and to keep contaminants from entering the gauge, the stem and bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage.
All line pressure gauges shall be mounted adjacent to the corresponding discharge control tee handles.

One (1) 2-1/2" Pressure Gauge LED Lighting

**LED GUAGE LIGHTING**

The 2-1/2" pressure gauges shall be equipped with LED back lighting.

One (1) Pump Panel LED Lighting - WHITE/RED

**PUMP PANEL LIGHTING**

The pump operator's panel shall be supplied with a LED light system. LED strip lights with a stainless steel hood shall be mounted across the top of the pump panel gauges and controls.

LED strip lights with a stainless steel hood shall be provided on each side of the pump module above the side panels.

All pump module lighting shall illuminate when the parking brake is engaged. There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1) Drain Discharges - 90° Ports

**DRAIN DISCHARGES**

The 3/4 inch drain valves shall be equipped with 90-degree fittings to direct the discharge water beneath the pump module away from the pump operator's panel.

One (1) Switch, Air Horn Activation, Mtd PPanel, Push Button with Label

**AIR HORN ACTIVATION SWITCH**

A switch shall be located on the pump panel to activate the chassis air horn. The switch shall be a momentary pushbutton type switch with a red cover. The switch shall be supplied with the proper identification label.

One (1) Gauge, (1) Water Tank Level - FRC Tank Vision

**WATER TANK INDICATOR**

Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10" sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low
water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

One (1) Pump, Midship, Top, Waterous, "CX", 1500 GPM

**PUMP MANUFACTURER AND MODEL**

The pump shall be a Waterous CX model midship pump.

**PUMP CONSTRUCTION AND ASSEMBLY**

Fire pump shall incorporate high strength involute toothform Morse HV chain drive transmission. Benefits of the chain drive include quiet, noiseless operation at high shaft speeds, and improved power transmitting capabilities due to the fact that the chain wraps itself halfway around the gear distributing a very uniform pattern of tooth engagement. Pump transmissions utilizing spur or helical drive gears which create high noise levels at elevated speeds and only permit minimal tooth to tooth engagement are not acceptable.

The shift engagement shall be accomplished by a free-sliding collar and shall incorporate an internal locking mechanism to insure that collar will be maintained in ROAD or PUMP operation. Suction intake arms shall be provided with removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

The main pump body shall be horizontally split and shall be in two (2) sections for easy removal of the entire impeller assembly including wear rings, without disturbing setting of the pump on the chassis. Pump case halves shall be bolted together on a single horizontal plane using a single gasket.

The pump body is to be of close grain gray iron with all moving parts which come into contact with water to be of bronze or stainless steel. The pump must be tested by the pump manufacturer for 10 minutes hydrostatically at a pressure of 500 psig. Certification by the pump manufacturer must be provided.

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

One (1) Pump Rating, Waterous CX, 1500 GPM

**PUMP RATING AND TEST REQUIREMENTS**

The centrifugal type fire pump shall be a Waterous model CX midship mounted with a rated capacity of 1500 GPM. The pump shall meet NFPA 1901 requirements. The Waterous Model CX fire pump shall be midship mounted, single stage centrifugal type. In addition to meeting NFPA 1901 requirements, it shall be constructed and mounted in accordance with the following specifications. At time of delivery the pump shall be tested and rated as follows:
100% of rated capacity at 150 pounds net pressure
70% of rated capacity at 200 pounds net pressure
50% of rated capacity at 250 pounds net pressure
100% of rated capacity at 165 pounds net pressure

The impeller shaft shall be of a "separable" design to allow true separation of the transmission from the pump without disassembly or disturbing either component. Fire pumps requiring disassembly of pump body and transmission to service either component are not acceptable.

One (1) Altitude Requirements, 0' to 2000 Feet Above Sea Level

**ALTITUDE REQUIREMENTS**

The apparatus shall be designed to meet the specified rating at 0 to 2000' altitude.

One (1) Primer, Air Primer, Tricent, On Waterous Pump

**AIR PRIMER**

The pump shall be furnished with an air driven venturi priming system. The system shall be plumbed to the chassis air. A switch to control the air primer shall be provided on the pump operator's panel.

One (1) Pump Shift, Pneumatic w/Label, Indicator Lgts, Mtd Cab/PPnl

**PNEUMATIC PUMP SHIFT**

The pump shift shall be air operated and shall incorporate an air double action piston to shift from road to pump and back. A manual or electric operated pump shift mechanism is not acceptable. The pump shift switch shall be mounted in the cab and identified as "AIR PUMP SHIFT" and include instructions permanently inscribed on the pump shift switch plate. The in-cab operating valve uses a spring loaded locking collar to prevent it from accidentally being moved.

The pump shift control assembly shall incorporate an indicating light system, which will notify the operator when the shift has been completed to PUMP and when the chassis transmission is in correct pumping gear.

The switch that activates the lights must be mounted on the pump transmission and positioned so that the pump shift arm activates the switch only when the shift arm has completed its full travel into PUMP position. An additional indicator light shall be provided adjacent to the throttle control at the pump operator's panel to indicate a completion of the pump shift.

One (1) Mechanical Seal, Inboard Side, Spring Loaded, Self Adjusting

**MECHANICAL SEAL**

The fire pump shall be provided with a mechanical pump seal. One (1) only required on the suction, inboard, side of the pump. The mechanical seal shall be two inches in diameter and shall be spring
loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with Teflon backup seal.

One (1) Intake Pressure Relief Valve, TFT

**SUCTION PRESSURE RELIEF VALVE**

Task Force Tips model #A1820 pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 90 to 300 PSI in 90, 125, 150, 200, 250, 300 PSI increments. For corrosion resistance the cast aluminum valve shall be hardcoat anodized with a powder coat interior and exterior finish. The valve shall be configured for either a Waterous or Hale pump, and have a 2" male NPT threaded discharge outlet. The unit shall be covered by a five-year warranty.

The discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from but, visible to the pump operator, and shall terminate with an unthreaded pipe. The adjustment control shall be located behind the street side pump panel.

One (1) Master Drain, Class 1, Manual Mtd Pump Panel

**MASTER DRAIN**

The apparatus shall be equipped with a Class 1 Manual Master Pump Drain for draining of the lower pump cavities, volute and selected water-carrying lines and accessories. The all brass and stainless steel construction allows for operation up to 600 psi.

One (1) Certified NFPA Pump Test, Completed Apparatus Certificate

**PUMP CERTIFICATION TEST**

The pump shall undergo pump test with line and/or low voltage requirements of NFPA 1901 prior to delivery of the completed apparatus. The certificate shall be furnished with the apparatus on delivery.

One (1) Pump Warranty, Waterous, Five Year

**FIRE PUMP WARRANTY**

The Waterous fire pump shall carry the manufacturer's five year warranty covering defective parts and workmanship. A copy of the pump manufacturer's warranty policy shall be provided with the completed apparatus.

One (1) Electronic Manuals, Pump Service and Operation

**ELECTRONIC PUMP MANUALS**

Two (2) sets of electronic fire pump service and operation manuals shall be provided with the completed apparatus.

One (1) Steamer Inlet, 6" NST Thread, L/S w/Strainer - No Intake Valves
LEFT SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the left side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

One (1) Cap, 6" Long Handle

LARGE DIAMETER CAP

A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.

One (1) Steamer Inlet, 6" NST Thread, R/S w/Strainer - No Intake Valves

RIGHT SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the right side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

One (1) Cap, 6" Long Handle

LARGE DIAMETER CAP

A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.

One (1) Stainless Intake Piping

INTAKE PIPING

The intake piping to the pump shall be constructed of schedule 40 stainless steel.

One (1) Pump Side Intake, Left Side - Rear - Top Operated

LEFT SIDE INTAKE

There shall be an intake located on the left (street) side rear of the pump and shall contain:

One (1) Suction Inlet, Side 2.5" - Top Operated Module

A 2-1/2" intake shall be provided. The inlet shall have a 2-1/2" quarter-turn swing-out valve. The inlet shall be provided with a 2-1/2" NST female swivel that extends through the pump panel.

One (1) Suction Valve Control, Push-Pull Type, Side, Adj To Valve

The inlet valve shall have a push-pull type control handle located adjacent to the valve.

One (1) Intake Plug, (Qty) 2.5" w/Cap & Chain

One (1) 2-1/2" chrome plated rocker lug plug with chain shall be supplied.
One (1)  
#1 Discharge, Left Side - Top Operated

**LEFT SIDE DISCHARGE #1**

The forward discharge on the left (street) side of the pump panel shall contain:

One (1)  
Discharge, Side, 2.5" - 30 degree Elbow - Manual Control

A 2-1/2" discharge shall be provided. The discharge outlet shall have a 2-1/2" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel.

One (1)  
Discharge Cap, (Qty) 2.5" Chrome Vented Rocker Lug w/Chain

**DISCHARGE CAP**

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

One (1)  
#2 Discharge, Left Side - Top Operated

**LEFT SIDE DISCHARGE #2**

The second from the forward discharge on the left (street) side of the pump panel shall contain:

One (1)  
Discharge, Side, 2.5" - 30 degree Elbow - Manual Control

A 2-1/2" discharge shall be provided. The discharge outlet shall have a 2-1/2" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel.

One (1)  
Discharge Cap, (Qty) 2.5" Chrome Vented Rocker Lug w/Chain

**DISCHARGE CAP**

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

One (1)  
#3 Discharge, Right Side - Side or Top Operated

**RIGHT SIDE DISCHARGE #3**

The forward discharge on the right (curb) side of the pump panel shall contain:

One (1)  
Discharge, Side, 2.5" - 30 degree Elbow - Manual Control

A 2-1/2" discharge shall be provided. The discharge outlet shall have a 2-1/2" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel.

One (1)  
Discharge Cap, (Qty) 2.5" Chrome Vented Rocker Lug w/Chain
DISCHARGE CAP

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

One (1) #4 Discharge, Right Side - Side or Top Operated

RIGHT SIDE DISCHARGE #4

The second from the forward discharge on the right (curb) side of the pump panel shall contain:

One (1) Discharge, Side, 3" - 30 degree Elbow - Manual Control

A 3" discharge shall be provided. The discharge outlet shall have a 3" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 3" NST male threads that extends through the pump panel.

One (1) 3" NST F to 5" Storz - Rocker Lug - Rigid - Strt (Qty)

STORZ ADAPTER

One (1) 3" NST Female Rigid Rocker to 5" Storz hard coated aluminum adapter shall be provided. (ref. TFT AA1ST-NL)

One (1) (Qty) 5" Storz w/Cap & Lanyard

One (1) 5" Storz cap and lanyard with a suction gasket shall be provided. (ref. TFT A01ST)

One (1) Stainless Discharge Manifold

DISCHARGE MANIFOLD

The pump shall have a stainless steel discharge manifold assembly.

One (1) Elbw

Discharge, 2.5" R/S Rear w/1/4Tm, SwngOut Vlv & 30Deg

REAR PRECONNECT - RIGHT SIDE

There shall be one (1) 2-1/2" discharge outlet located on the passenger side rear of the body below the hose bed. The discharge outlet shall be plumbed with 2-1/2" ID, Schedule 40 stainless steel pipe and high pressure hose and have a 2-1/2" quarter-turn, swing out valve with control on the pump operator's panel. There shall be a chrome plated 2-1/2" NST adapter that extends through the rear of the body. The discharge shall be provided with a chrome plated 30-degree discharge elbow.

One (1) Water Tank Sleeve, (1) 4" Rear Intake/Discharge

TANK REAR INTAKE/DISCHARGE SLEEVE
The water tank shall be provided with one (1) 4" sleeve from the front of the tank to the rear of the tank. The sleeve shall provide access for either rear intake or rear discharge piping.

**One (1) Discharge Cap. (Qty) 2.5' Chrome Vented Rocker Lug w/Chain**

**DISCHARGE CAP**

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

**One (1) Piping, 3" Deluge Riser, AbvPmp w/ 3" 1/4Trm & S/S Pipe**

**DELUGE RISER**

A 3" diameter deluge riser shall be installed above the pump. The deluge outlet shall be plumbed with a 3" quarter-turn, swing out valve and 3" ID, Schedule 40 stainless steel piping. Deluge outlet shall have control on pump operator's panel.

**One (1) Drain Valve - Manual - Manual 1/4 Turn**

**DRAIN VALVE**

A 1/4 turn drain valve shall be installed. The valve shall be brass with 3/4" NPT female inlet and outlet thread.

**One (1) Fixed Riser Piping, NPT Termination**

The deluge piping shall terminate with an NPT male thread. A cap plug is to be provided on the end of the piping to protect the threads if no deck gun is installed at the factory.

**One (1) Deck Gun Ctrl, 3" Manual Slow Close**

**DECK GUN CONTROL - MANUAL VALVE**

The 3" discharge outlet shall have a 3" slow close quarter-turn swing out valve. The discharge shall be plumbed with 3" Schedule 40 stainless steel piping with 3" NPT male thread. Control of outlet shall be accomplished using a manual, locking control on pump operator's panel.

**One (1) No Crosslay Assemblies Required - Top**

**PUMP DUNNAGE AREA DIMENSIONS**

The area behind of the crosslays shall be the dunnage area of the pump house. This area is where the deckgun riser if so equipped protrudes above the pump module. This area shall be enclosed with approximate dimensions of 68" wide x 19" deep x 30" front to back.

**One (1) No Speedlay Assemblies Required - Top Mount**

**PUMP ACCESS PANEL**
There shall be a stainless steel removable service panel on the walkway side of the pump module. The panel shall be held in place with two (2) D-ring handles.

One (1) Grabrails, (2) Top Mount Without Speedlay

**WALKWAY GRABRAILS**

Two (2) bright anodized extruded aluminum grab rails shall be provided, one (1) each side of the pump house at the walkway side, to provide easy entry and egress from the top operator’s position. Molded rubber gaskets shall be installed under the grab handles to protect the surface of the compartment.

One (1) Ball Valves, Elkhart, Brass

**ELKHART BALL VALVES**

All discharge ball valves shall be Elkhart heavy duty swing out valve with stainless steel ball unless specified otherwise.

One (1) Heat Exchanger w/Gated Line, Comm

**HEAT EXCHANGER**

A heat exchanger shall be provided on the chassis cooling system. The heat exchanger shall not allow mixing of the chassis coolant and water from the fire pump. A gated discharge line shall be installed to provide water from the fire pump to the chassis heat exchanger to assist in engine cooling during pumping operations. The heat exchanger line shall be controlled at the pump operator's panel with a Class 1 valve.

One (1) Walkway Hose Storage Module Behind the Cab

**WALKWAY HOSE STORAGE**

The area ahead of the walkway and behind the cab shall be a crosslay module. This area shall 72” wide x 19-3/4” front to back and 42” from the top of the walkway to the top of the crosslay walls.

Note: crosslays only - Install at the height of the frame rails

One (1) Crosslay, (2) Beds, 1.5” NST / 1.5” NST - Walkway

**DOUBLE CROSSLAY HOSEBED**

On top of the module there shall be a double crosslay hosebed. There shall be one crosslay toward the front of the module assembly and one crosslay immediately behind the first.

One (1) Forward Walkway Crosslay, Dbl Stk 1-1/2” NST w/2” Piping and Valve

**FORWARD WALKWAY CROSSLAY - DOUBLE STACK**
The #1 crosslay shall be equipped with a 1-1/2" male NST outlet. The crosslay shall be plumbed with 2" Schedule 40 stainless steel high pressure pipe. A 2" quarter turn ball valve shall be used to control water flow. The outlet shall be equipped with a 2" polished stainless steel 90 degree swivel with 1-1/2" male NST thread located in the hosebed.

This crosslay bed shall be capable of carrying a minimum of two hundred feet (200') of 1-3/4" double jacketed hose. The double stack crosslay hosebed shall have inside dimensions of 8" wide x 19" tall x 72" wide.

The crosslay valve control shall be mounted on the operator's panel.

One (1) Drain Valve - Manual - Manual 1/4 Turn

DRAIN VALVE

A 1/4 turn drain valve shall be installed. The valve shall be brass with 3/4" NPT female inlet and outlet thread.

One (1) Rearward Walkway Crosslay, Dbl Stk, 1-1/2" NST w/2" Piping and Valve

CROSSLAY DIVIDER

A crosslay divider shall be provided between the #1 and #2 crosslay. The divider shall be constructed from 1/4" thick abraded aluminum plate mounted on a base T-extrusion that provides lower support the length of the divider. There shall be a hand hole on each side of the divider to assist the firefighter.

REARWARD WALKWAY CROSSLAY - DOUBLE STACK

The rearward crosslay shall be equipped with a 1-1/2" male NST outlet. The crosslay shall be plumbed with 2" Schedule 40 stainless steel high pressure pipe. A 2" quarter turn ball valve shall be used to control water flow. The outlet shall be equipped with a 2" polished stainless steel 90 degree swivel with 1-1/2" male NST thread located in the hosebed.

This crosslay bed shall be capable of carrying a minimum of two hundred feet (200') of 1-3/4" double jacketed hose. The double stack crosslay hosebed shall have inside dimensions of 8" wide x 19" tall x 72" wide.

The crosslay valve control shall be mounted on the operator's panel.

One (1) Drain Valve - Manual - Manual 1/4 Turn

DRAIN VALVE
A 1/4 turn drain valve shall be installed. The valve shall be brass with 3/4" NPT female inlet and outlet thread.

One (1) Crosslay Hose Guides

**CROSSLAY HOSE GUIDES**

Brushed stainless steel hose guides shall be provided on the left and right side of the crosslays.

One (1) Cover, Crosslay, Aluminum w/Vinyl Flaps

**CROSSLAY HOSEBED COVER**

A .125" polished aluminum treadplate hinged cover shall be provided over the crosslay hosebeds, complete with full-length stainless steel piano hinge. Stops shall be provided to protect cab or other adjacent body components. The hinge shall be located on the forward section of the cover, closest to the chassis cab.

**VINYL FLAPS**

The aluminum treadplate crosslay cover shall be supplied with weighted vinyl end flaps. Each flap shall have a means of securing the flap to prevent hose from falling off the truck.

One (1) Vinyl End Flap Color, Crosslay, Vinyl, Midnight Black

The vinyl crosslay end flaps shall be Midnight Black in color. Each flap shall have a means of securing the flap to prevent hose from falling off the truck.

One (1) Piping, Tank To Pump, 3" w/3" Air Operated Ball Valve

**TANK TO PUMP**

The tank to pump piping shall be capable of delivering water to the pump at a rate of five hundred (500) gallons per minute. This flow shall be sustained while pumping to a minimum of 80% of the certified tank capacity with the apparatus on level ground.

The tank to pump line shall run from the pump to the front face of the water tank and down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing. The tank to pump line shall be 3" I.D. piping with a 3" ball valve.

One (1) Tank Refill, 2" Line w/ 1/4 Tm Bll Vlv

**TANK REFILL**

A 2" tank refill line shall be provided using a 2" quarter-turn full flow ball valve controlled from the pump operator's panel with a manual locking handle. The tank refill shall be plumbed with high pressure flexible piping and high pressure flexible piping stainless steel couplings.

One (1) Water Tank Cnstrctn, Poly w/Tnk Lid, FIITwr, Cvrfw
WATER TANK CONSTRUCTION

The tank shall have a rated capacity in U.S. gallons, complete with lifetime warranty. The tank manufacturer shall mark the tank and furnish notice that indicates proof of warranty. The purpose of the notice is to inform department personnel who store or use the tank that the unit is under warranty.

The tank shall be constructed of 1/2" thick Polypropylene & Mac226 sheet stock. This material shall be non-corrosive stress relieved thermoplastic, white in color and UV stabilized for maximum protection. The tank shall be of a special configuration and is so designed to be completely independent of the body and compartments. All exterior tank joints and seems shall be extrusion welded and/or contain the Bent Edge™ and tested for maximum strength and integrity. The top of the tank is fitted with removable lifting eyes designed with a 3-to-1 safety factor to facilitate easy removal.

The transverse and longitudinal swash partitions shall be manufactured of Polypropylene & Mac226 material. 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 and meet NFPA rules. All swash partitions interlock with one another and are welded to each other as well as to the walls and floor of the tank.

TANK SUMP AND CONNECTIONS

There shall be one (1) sump standard per tank. The sump shall be constructed of white Polypropylene & Mac226 and be located in the left front corner of the tank, unless specified otherwise. On all tanks that require a front suction, a schedule 40 polypropylene pipe shall be installed that will incorporate a dip tube from the front of the tank to the sump location. The sump shall have a minimum 3" FNPT threaded outlet on the bottom for a drain plug. This shall be used as a combination clean out and drain. All tanks shall have an anti-swirl plate located above the dip tube.

There will be two (2) standard tank outlets: one for tank to sump suction line, and one for a tank fill line. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates of up to 1,000 GPM. The addition of rear suction fittings, nurse valve fittings, dump valve fittings, and through tank sleeves to accommodate rear discharge piping must be specified. All auxiliary outlets and inlets must meet N.F.P.A. 1900 guidelines in effect at the time of manufacture.

One (1)

Tank Mounting, Cradle Mtd, 8" x 8" x 4" x .250"

TANK MOUNTING

A tank mounting cradle shall be supplied. The tank mounting cradle shall consist of a minimum of seven (7) crossmembers and two (2) full tank length longitudinal members. The tank shall rest on the tank mounting subframe, and shall be insulated from the sub-frame with a 2-1/2" wide rubber insulator. The tank shall sit cradle-mounted using four (4) corner angles of 8" x 8" x 4" x .250" welded directly to the tank sub-frame. The angles shall keep the tank from shifting left to right or front to rear. The tank is designed on the free-floating suspension principal and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The hosebed cross-braces shall act as water tank retainers. The water tank cradle shall be designed to be completely independent of the apparatus body to eliminate torsional stress loading in the body. No exception will be permitted to the tank mounting requirements.
One (1) Tank Cradle - Painted to Match Axles Color

The tank cradle shall be finish painted to match the chassis axles.

One (1) Booster Tank Drain, 2" w/1/4 Turn Valve

**TANK DRAIN**

A 2" tank drain shall be provided for the booster tank below the tank sump. The drain shall be provided with a 2" 1/4 turn PVC valve with a manual control on the valve.

One (1) Body Design and Construction, Pumper, Stainless Steel

**PURCHASE INTENT**

The apparatus being purchased is expected to have an 18 to 20 year service life. Based on this requirement, the department is extremely concerned that the apparatus remains structurally sound and the outward appearance remains in a "like new" condition, with minimal maintenance and upkeep, throughout the intended service life.

Aluminum apparatus bodies and differing construction designs will be reviewed and considered ONLY if the builder/manufacturer provides in the respondent specifications adequate proof that procedures and materials employed in the design prevent corrosion over the intended service life. Burden of proof is on the bidder and final determination of acceptability will be solely determined by the department.

The entire body design shall be of a laser machined, bolted design to allow for ease of removal for repair or replacement, without cutting welds.

**APPARATUS BODY DESIGN AND CONSTRUCTION**

The apparatus body shall be built of stainless steel and shall be designed exclusively for Fire Service use. The overall body width shall be 100 inches wide and shall be constructed in accordance with current NFPA requirements. All metal work shall be free of sharp edges, objects or corners. No exceptions are allowed to this requirement.

The body design shall be fully tested with proven engineering and test techniques such as finite element analysis, stress coating, and strain gauging. Engineering and test techniques shall have been performed with special attention given to fatigue life and structural integrity of compartments and body support system.

The apparatus body shall be designed with the use of parametric modeling engineering software to ensure proper design of panel cuts and alignment of holes in mating parts. The entire apparatus body shall be a precision laser machined, bolted construction, properly reinforced with integral flanges eliminating the need for additional structural shapes. Hose body fabrications shall be free of all internal projections which might injure personnel or fire hose.

The pump module is to be completely separate from the main body to prevent damage due to flexing.

**MODULAR BODY REQUIREMENTS**

The body shall be completely modular in design allowing transfer of body components to a new chassis in the event of an accident or wear. Body components shall be removable from chassis without cutting or
bending. The modular design shall also facilitate ease of repair or replacement of major or minor body parts. The mounting of the apparatus body shall be separate and distinct from the water tank mounting and the pump module mounting.

All body panels are to be laser machined on a CAM controlled laser to ensure accuracy (+/- .010"). This shall greatly enhance assembly and matching of repair parts. The body compartment floors, rear walls and roof areas shall be constructed of 12-gauge austenitic stainless steel. The vertical front and rear walls are designed with 14-gauge stainless steel. These front and rear walls are designed as a structural beam with the inclusion of the design encompassing a front an rear design that allows for installation of telescoping lights.

Interior and unexposed stainless steel panels shall be #4B finish to eliminate the need for high maintenance painted surfaces in the compartments. All exterior stainless steel panels shall have #4B finish.

The entire body shall be fabricated using precision holding fixtures to ensure accurate dimensions. Body front and rear vertical flanges shall be triple broken, providing a mounting area for rear hand rails. Major body components shall consist of right and left body sides, and rear facing compartments.

The front and rear vertical corners of the apparatus body shall be recessed to provide a mounting area for vertical hand rails and telescoping light poles. Two (2) handrails shall be provided at the left and right sides of the apparatus body mounted vertically. A full width handrail shall be mounted at the rear of the body below the hosebed.

COMPARTMENT ROOF CONSTRUCTION

Each compartment top shall have a bolt in 12-gauge stainless roof section for supporting roof loads of up to 500 pounds per square foot without permanent roof dentation. The stainless roof sections shall attach the compartment rear wall and compartment vertical sides through a fastened joint creating a full perimeter compartment attacmt of the stainless roof section.

REAR FRAME EXTENSION

The rear chassis frame extension system shall consist of an interwoven dual .625" thick steel drop frame extensions with a transverse 4" x 3" x .375" thick structural channel, and dual laminated .188" thick rear compartment and tailboard support tapered angles on each side of apparatus.

The rear frame extension shall be bolted to the chassis frame utilizing Grade 8 bolts and Grade C locknuts with hardened washers. For ease in replacement of damaged components in an accident there shall be no welding of components to the chassis frame.

Two (2) low eyes with an eye diameter of not less than 3.5" shall be attached directly to the chassis frame extensions. The low eyes shall be fabricated of .625" thick steel.

BODY MOUNTING SYSTEM

The front body support system shall be an integral design with .250" thick steel deep section cross member across the top of the chassis frame. The deep section cross member shall be attached to the right side and the left side lower front compartment weldments with eight (8) grade 8; 3/8 inch diameter bolts on each side of the apparatus. The front cross member shall be attached to the chassis by means of an elastomer spring mounting system with limited travel.
The lower portion of this spring mounting system shall be an integral part of the pump module frame mounting system. This design allows for maximum chassis flexing without undue stress transfer to the apparatus body.

The right and left side rear compartments shall be attached to a stainless steel rear body support. The stainless steel support shall be attached to the chassis frame extensions by means of an elastomer spring mounting system to form a modular integral body support system.

The apparatus body shall not rest upon the chassis truck rails and must be separated entirely from the steel frame of the chassis to prevent galvanic action.

Loose fitting u-bolt body mounting systems are not acceptable due to the likeliness of the apparatus body shifting or becoming detached from the chassis upon rear end impact.

One (1) Compartment Interior Finish

COMPARTMENT INTERIOR FINISH

For better interior visibility, to reflect light better, ease of maintenance and prevent the masking of poor welds and questionable workmanship the interior of the body compartments shall remain uncoated.

One (1) Brushed Stainless Compartment Roof - Safety Tape Walkway

EXTERIOR ROOF FINISH

The top of the compartments shall be brushed stainless steel. 3M non skid stepping surface material shall be applied in strips along the length of the compartment roof.

One (1) Rear Tailboard, 12", Aluminum Tread Plate

REAR TAILBOARD

A rear tailboard 12" deep shall be provided at the rear from aluminum treadplate meeting NFPA 1901 step requirements. The tailboard shall provide protection for the side body compartments and shall provide mounting for the rear ICC marker lights. It shall be bolted to the rear support structure.

One (1) Frame Extension, Rear

CHASSIS FRAME EXTENSIONS

There shall be a rear chassis drop frame extension to provide frame support for the rear of the apparatus body. This extension is to be bolted to the truck chassis as an integral part of the truck frame assembly and is to include rear tow eyes, crossmember and tailboard reinforcement.

One (1) Rear Frame Extension - Painted to Match Frame Color

The rear frame extension shall be finish painted to match the chassis frame.

One (1) Ext Compartment Design and Construction, Modular, Bolted
COMPARTMENT DESIGN AND CONSTRUCTION

All compartments shall be manufactured from 12-gauge stainless steel with the vertical front and rear corner walls from 14-gauge, shall be of sweep out design and shall be bolted together. Stainless recessed round head bolts and stainless aircraft style "ESNA" nuts shall be applied with proper torque rating for each fastener. This type of construction shall greatly enhance the strength and ease of parts replacement in the event of damage and future modifications. Wherever possible, body bolts shall be hidden from plain view for appearance and ease of apparatus cleaning.

One (1) Compartment Ventilation w/Filtration

COMPARTMENT VENTILATION

Each compartment shall be provided with a laser cut louver to provide adequate ventilation.

VENT FILTRATION

There shall be filters provided for compartments L1, L3, R1 and R3. The protective louver covering the filter shall be removable to allow for filter changing.

The filter shall be 100% virgin nylon fiber in an open web design that is USDA approved. The filter shall be chemically treated with Dimethyl Benzyl Ammonium Saccharinate to aid in the reduction of bacteria and fungi.

One (1) 22"x82", FH/RD Ext CmptS w/BmLdr, RectTnk, 1020 Qls, 63" HB

One (1) Water Tank Capacity, Rect, 1020 US Gallons - TT Beam - 22 63" HB

WATER TANK CAPACITY

The water tank shall be rectangular in shape and shall have a maximum capacity of 1020 US gallons.

One (1) Tank Fill Tower, 10" x 14", w/4" Vent

TANK LID & FILL TOWER

The tank shall have a combination vent and fill tower. The fill tower shall be constructed of 1/2" thick Polyprene & Mac226 and shall be a minimum dimension of 10"x14" outer perimeter. The tower shall be located in the center front of the tank unless otherwise specified by the purchaser. The tower shall have a 1/4" thick removable Polyprene & Mac226; screen and a Polyprene & Mac226 hinged-type cover. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 pipe with a minimum ID of 4" that is designed to run through the tank and shall be piped behind the rear axle beneath the tank.

The tank cover shall be constructed of recessed 1/2" thick Polyprene & Mac226, stress relieved, UV stabilized material. A minimum of two lifting dowels shall be drilled and tapped to accommodate the lifting eyes.
OVERFLOW AND VENT PIPE

The fill tower shall be fitted with an integral 4" ID, Schedule 40 PVC combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow beneath the chassis.

One (1) Cubic Ft, Body 235, 164" OAL

BODY MODULE CAPACITIES

The total capacity of the body module exterior compartments shall be 235 cubic feet.

The body shall have an overall length of 164".

One (1) Hosebed, Double High Side Pumper Body - Ladders Thru & Beam

One (1) Hosebed, 21.75" Walls, Double High Side

APPARATUS BODY HOSEBED WITH 21-3/4" SIDES

The hosebed shall be constructed in such a manner that will prevent damage to fire hose. The hosebed shall comply with the current NFPA requirements. The interior of the hosebed shall be free of projections such as nuts, sharp edges or brackets that may damage hose. The hosebed and walls shall be manufactured from stainless steel. No exceptions to this requirement are allowed.

An aluminum extrusion shall be installed over the rear opening of the hosebed to protect the body from wear. The hosebed bottom shall be fitted with removable slatted, ribbed 6" heavy-duty extruded aluminum floorboards.

One (1) Tray, (1) 10' Suction, L/S, Abv Cmpts - High Side

HARD SUCTION TRAY - LEFT SIDE

One (1) gray powder coated aluminum hard suction tray shall be installed on the left side of the apparatus.

The tray shall be designed to accommodate from three to six inch hard suction hose in a ten foot length and employ a design without fasteners or clamps to hold the suction hose in place in the tray.

The tray shall be mounted on top of the high side compartment.

One (1) Tray, (1) 10' Suction, R/S, Abv Cmpts - High Side

HARD SUCTION TRAY - RIGHT SIDE

One (1) gray powder coated aluminum hard suction tray shall be installed on the right side of the apparatus.
The tray shall be designed to accommodate from three to six inch hard suction hose in a ten foot length and employ a design without fasteners or clamps to hold the suction hose in place in the tray.

The tray shall be mounted on top of the high side compartment.

One (1) Dividers, (Qty) Hosebed, Adjustable, Smth Alum w/Radius Crnr

**ADJUSTABLE HOSE BED DIVIDERS**

Two (2) adjustable hosebed dividers shall be provided. Each divider shall be fabricated from .250" thick smooth aluminum plate, 5052-T632 alloy. The rear end of each divider shall have a 3" radius corner and shall be sanded and deburred to prevent damage to hose.

There shall be two hand hold openings provided. One (1) at the rear in a vertical position and one (1) approximately 24 inches in from the rear in a horizontal position.

One (1) Hosebed Cover, Black

**HOSEBED COVER**

A black vinyl hosebed cover shall be provided and designed to cover the entire main hosebed area. The cover shall be installed with "stretch cord type" fasteners along each side of the hosebed. A sand filled flap shall be incorporated into the rear edge of the cover.

The hosebed cover rear flap shall have a positive locking device to meet the requirements of NFPA.

One (1) 82"/82", Ext Compts, L/S, 56"/52"/51" W x 24" D, FH/FD

**LEFT SIDE COMPARTMENT DIMENSIONS**

**FORWARD OF WHEEL WELL**

There shall be one (1) rescue style, full height, and full depth compartment ahead of the rear wheels. It shall have approximate dimensions of 56" wide x 63" high x 24" deep.

**ABOVE WHEEL WELL**

There shall be one (1) high side compartment centered over the rear wheels. It shall have approximate dimensions of 52" wide x 33" high x 24" deep.

**REAR OF WHEEL WELL**

There shall be one (1) rescue style, full height, and full depth compartment behind the rear wheels. It shall have approximate dimensions of 51" wide x 63" high x 24" deep.

One (1) Roll Up Doors, L/S, Painted - Lg Bdy - LSL

**ROLLUP DOOR CONSTRUCTION - LEFT SIDE**
All left side compartments shall be provided with Gortite roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8” wide x 3/8” thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

The doors shall be painted to match the main job color.

One (1)
Door Latches, L/S, Non-Locking Lift Bar w/Door Ajar Switch

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

One (1)
Wheel Area, Single Axle, - Rr SCBA Tubes - FFS

**FENDER SIDE SKIRTS**

There shall be stainless steel fender side skirts located in the area of the rear wheels. The design of the fender sides shall be a minimal length to provide maximum compartment space in the apparatus.

One (1)
Fenderettes and Wheel Well Liners - Stainless

**BODY FENDERS - POLISHED**

The apparatus body fenders shall be made from 16 gauge polished stainless steel and shall be rolled, die stamped and fully removable. The stainless steel fenders and stainless fender liners shall be fastened with stainless bolts and ESNA nuts to the outer fender panel.

One (1)
Mud Flaps, Rear

**REAR AXLE MUD FLAPS**

Two (2) black, anti-sail, mud flaps shall be mounted behind the rear wheels.

One (1)
SCBA Tubes, (8) Rear Wheelwell, (4) L/S - (4) R/S, Sngl Axle

**SCBA BOTTLE COMPARTMENTS**

Eight (8) SCBA bottle tube compartments shall be provided, four (4) in the left side rear wheel well area and four (4) in the right side rear wheel area. Each compartment shall be constructed of gray roto molded storage compartment to provide SCBA scuff protection. A door seal shall be provided at the perimeter of the SCBA compartment. The doors shall be brushed stainless steel with a push button trigger latch.
One (1) SCBA Bottle Retention Strap(s)

**SCBA BOTTLE RETENTION STRAP**

One (1) one-inch (1") wide loop of red webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in the event the door is not latched for travel. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1) 82"/82", Ext Compts, R/S, 56"/52"/51" W x 12"/24" D, FH/RD

**RIGHT SIDE COMPARTMENT DIMENSIONS**

**FORWARD OF WHEEL WELL**

There shall be one (1) rescue style, full height, and split depth compartment ahead of the rear wheels. It shall have approximate dimensions of 56" wide x 63" high x 12" deep in the upper section and 24" deep in the lower section.

**ABOVE WHEEL WELL**

There shall be one (1) high side reduced depth compartment centered over the rear wheels. It shall have approximate dimensions of 52" wide x 33" high x 12" deep. The rear wall shall have two (2) additional extruded struts used for shelving installed for the departments use.

**REAR OF WHEEL WELL**

There shall be one (1) rescue style, full height, and split depth compartment behind the rear wheels. It shall have approximate dimensions of 61" wide x 63" high x 12" deep in the upper section and 24" deep in the lower section.

**SHOP NOTE**

Note: added uprights on rear wall.

One (1) Roll Up Doors, R/S, Painted - Lg Bdy - LSL

**ROLLUP DOOR CONSTRUCTION - RIGHT SIDE**

All right-side compartments shall be provided with Gortite roll up doors. The roll up doors shall be constructed of double-sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed.
The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

The doors shall be painted to match the main job color.

One (1)
Door Latches, R/S, Non-Locking Lift Bar w/Door Ajar Switch

The right-side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

One (1)
Rubrail, Body, LED Strip, Armor Guard, Warning/Ground - Long Body - 14' Rescue

**BODY RUBRAIL / LIGHTING SYSTEM**

The apparatus body shall have a bolt on extruded, bright anodized aluminum rub rail affixed to the side beneath each door area. Each rub rail shall be attached to the apparatus body with stand off spacers made from 1" diameter UHMW Polyethylene bar stock.

The rubrail shall be designed with an integral white LED strip light. The white LED shall be downward facing and activated with the ground light circuit.

The rubrail design shall also include a red LED strip light. The red LED strip light shall face outward and activate as a red flashing warning light when the warning lights are active.

One (1)
Lights, Compartment, LED Strip, Armor Protected - White/Red

**APPARATUS COMPARTMENT LIGHTING**

Two (2) LED, armor protected, strip lights shall be provided one (1) each side of the compartment at the door frame for each body compartment. Each body door shall have an automatic compartment light switch.

There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1)
Lights, Rear Body, LED Strip Intermediate Step, Activate w/Parking Brk

**REAR WORK LIGHTS - LED**

A recess mounted LED strip light with integral guard shall be supplied under the rear intermediate step.

The lights shall be switched on when the parking brake is set and the apparatus is running with the master battery switch in the "ON" position.

One (1)
RR2, Ladder Storage Compt, R/S, On Beam - 22, 23H, 34

**LADDER STORAGE - ON BEAM**

The ladders shall be mounted on the right side of the body to the right of the water tank. The ladders shall be placed into the body from the rear of the apparatus sliding into the compartment on beam. A vertically hinged door shall be provided with a non-locking "D" ring latch.
The water tank shall have a storage opening for ladder storage inside the apparatus body. This compartment shall extend from the rear of the apparatus completely through to allow the ladders to extend into the pump house for storage. The floor of the ladder compartment shall be constructed of 1" thick polypropylene material with the top of the compartment constructed of 3/4" polypropylene material. The compartment shall have approximate dimensions of 30" high x 16" wide. All ladders shall be protected from weathering and road debris by a protective covering.

The compartment shall store one (1) 24' two-section ladder, one (1) 14' roof ladder, one (1) 10' folding ladder, one (1) 6' pike pole and one (1) 10' pike pole.

One (1)
Thru The Tank Ladder Group - 10-Fold, 14-Roof, 24-2 Sec

One (1)
Ladder, 14' Roof, Duo-Safety, Channel Rail, Aluminum

ROOF LADDER
One (1) 14' Duo-Safety model 775-A, aluminum channel rail roof ladder with folding roof hooks shall be provided with the apparatus.

One (1)
Ladder, 10' Fldng Attic, Duo-Safety, Aluminum

ATTIC LADDER
One (1) 10' Duo-Safety model 585-A aluminum folding attic ladder shall be provided with the apparatus.

One (1)
Ladder, 24' Two-Sect Ext, Duo-Safety, Solid Beam Aluminum

EXTENSION LADDER
One (1) 24' two-section Duo-Safety model 900A solid beam, aluminum extension ladder shall be provided with the apparatus.

One (1)
Rear - Center - RR1 Full Height

One (1)
RR1, Ext Compt, Rear, 62" H x 48" W x 22" D, Full Height

REAR COMPARTMENT DIMENSIONS
There shall be one (1) full height compartment at the rear of the body. It shall have approximate dimensions of 48" wide x 62" high x 22" deep.

One (1)
Roll Up Door, Rear, Satin Anodized Finish, Full Height

ROLLUP DOOR CONSTRUCTION - REAR
The rear compartment shall be provided with a Gortlce roll up door that shall be constructed of double-sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 
3/8" thick with satin anodized finishing. A flexible EDPM extrusion shall be provided between each slat to 
sure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling.
the entire door by removing push out clips on each end.

Side channels for the rear door to ride in shall be provided with santoprene seals to prevent dirt and 
moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a 
santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed.
The bottom of the door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass 
filled nylon.

One (1)

Door Latch, Rear, Non-Locking Lift Bar w/Door Ajar Switch

The rear door latch shall be a non-locking stainless steel lift bar and shall be provided with a magnetic 
door ajar switch system.

One (1)

Chevron, Diamond Grade, Rear Body NFPA, 6" - Pumper Tail Rear Door

REAR BODY DIAMOND GRADE CHEVRON STRIPING

The rear-facing vertical surfaces of the rear taillight panels and the area below the horizontal step, visible 
from the rear of the apparatus, shall be equipped with six (6) inch wide diamond grade retroreflective 
striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 
45 degrees.

One (1)

Chevron Color - Red and Florescent Green Reflective

Each stripe in the chevron shall be a single-color alternating between red (3M #983-72) and florescent 
green (3M # 983-23).

One (1)

Handrail, Rear, 69" Horizontal Hosebed

REAR HORIZONTAL HANDRAIL

There shall be a ribbed, 1-1/4" diameter, aluminum handrail with chrome plated stanchions supplied and 
installed at rear of the apparatus body horizontally along the rear edge of the hosebed area.

One (1)

Lighting, Rear Horizontal Handrails

LIGHTING, REAR HANDRAIL

The horizontal handrail adjacent to the hosebed shall contain integrated LED lighting. The lighting shall 
be integrated into the grab bar, directed toward the hosebed. The assembly shall illuminate the same 
time as the ground lights.

One (1)

LED - Traffic Advisor 57-44-1010

LED TRAFFIC ADVISOR
An LED traffic advisor shall be mounted integral to the rear horizontal grab handle, replacing the white LED in the grab handle, mounted centered high on the upper rear of the apparatus, beneath the hosebed if so equipped.

The Amber signal patterns of the device shall be progressive left, progressive right, center out, and emergency "All Flash."

In addition to the Amber segments the outer left and outer right of the traffic advisor shall contain a red signal segment operating in concert with the left and right turn signals and the hazard flasher of the apparatus. In the center of the traffic advisor there shall be a red segment that illuminates when the vehicle service brakes are applied.

The switch control box is to be mounted in the cab allowing for easy operation by the driver and officer.

**One (1)**

Rear - Left Side - Egress Steps - (1) folding step, (2) fixed steps

**One (1)**

Step, Folding, (1) Mounted Left Rear Upper Position

**FOLDING STEPS**

There shall be one (1) folding step installed on the left rear of the body in the upper position.

**One (1)**

Standard Folding Step

**One (1)**

Steps, Intermediate, (1) Lower, Left Corner, Laser Grip, 8" Deep

**INTERMEDIATE REAR STEPS - LOWER LEFT SIDE**

There shall be a rear corner step, on the left side, located adjacent to the rear compartment and shall be no less than 8" in depth and fabricated of "Laser Grip" stainless steel to meet NFPA #1901 step requirements.

**One (1)**

Steps, Intermediate, (1) Mid, Right Corner, Laser Grip, 8" Deep

**INTERMEDIATE REAR STEPS - LOWER LEFT SIDE**

There shall be a rear corner step, on the left side, mid position, located adjacent to the rear compartment and shall be no less than 8" in depth and fabricated of "Laser Grip" stainless steel to meet NFPA #1901 step requirements.

**One (1)**

Handrail, Rear Left Side, 24" Vertical

**REAR LEFT SIDE VERTICAL HANDRAIL**
There shall be a 1-1/4" diameter, aluminum handrail with chrome plated stanchions supplied and installed on the upper left-hand side of the body inset at rear of the apparatus body.

One (1) Rear - Right Side - Egress Steps - Ladder on Beam

One (1) Steps, Intermediate, (1) Lower, Right Corner, Laser Grip, 8" Deep

**INTERMEDIATE REAR STEPS - LOWER RIGHT SIDE**

There shall be a rear corner step, on the right side, located adjacent to the rear compartment and shall be no less than 8" in depth and fabricated of "Laser Grip" stainless steel to meet NFPA #1901 step requirements.

One (1) Steps, Intermediate, (1) Mid, Right Corner, Laser Grip, 8" Deep

**INTERMEDIATE REAR STEPS - LOWER LEFT SIDE**

There shall be a rear corner step, on the left side, mid position, located adjacent to the rear compartment and shall be no less than 8" in depth and fabricated of "Laser Grip" stainless steel to meet NFPA #1901 step requirements.

One (1) Steps, (4) Four, Folding, Mounted Front of Body, Per NFPA

**FOLDING STEPS**

Four (4) folding steps shall be provided on the front of the apparatus body. Steps shall be provided and installed per NFPA requirements.

Four (4) Standard Folding Step

One (1) No Additional Steps, Folding Front of Body

No Hard Suction Storage inside of the hose bed.
The trays shall be installed as a vertical tandem pair that can be located within the hosebed mounted to the hosebed inside left wall. The hosebed tarp shall provide the closure to the rear of the storage boxes.

One (1) Floodlight, Maxxima, (1) MWL-36, 2100 Lumens, Mnt Frt R/S Hsbd

**HOSEBED FLOODLIGHT**

One (1) Maxxima MWL-36, 2100 Lumen LED hosebed floodlight with swivel and folding handle shall be mounted at the front right corner of the hosebed. There shall be a weather resistant switch on the lighthead. The light shall be activated with the parking brake.

One (1) Body Rear Scene Lights Required

**BODY REAR SCENE LIGHTS**

There shall be rear scene lights installed as high as possible on both sides of the rear of the apparatus body.

Two (2) Scene Lights, TecNiq K90 Series LED 7" x 9" w/Chrome Bezel

The lighting positions shall be equipped with TecNiq K90 Series scene lights. The scene light shall incorporate 18 5000K white LEDs, a clear lens for maximum output. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The coated PC board and sealed lens/reflector assembly shall provide additional protection against environmental elements. The solid state warning light shall be vibration resistant and designed with fully sealed submersible electronics. The K90 is rated IP68 for dust and water resistance. The K5000 shall have 5000 lumens. This light shall be supplied with a chrome bezel.

TecNiq Inc. extends a Lifetime Limited Warranty to the original purchaser that the TecNiq Inc. Lamp is free from defects in workmanship and/or materials only. See the TecNiq warranty document for details.

One (1) Rear Scene Light Switch w/Pkg Brk Over-Ride

The rear scene lights shall be operated by a switch located beneath the left rear step. If the scene light is left in the 'ON' position the lights shall automatically turn off when the truck is parking brake is released.

One (1) FRC - LF Corner - High Side

**LEFT FRONT QUARTZ LIGHT**

The following light shall be provided mounted on the left front corner of the body:

One (1) FRC, Evolution II, LED DC20K LM

Fire Research Focus model FCA100-V20 lamphead shall be provided. The lamphead shall have eight (8) ultra-bright white LEDs. It shall operate at 12/24 volts DC, draw 13/6.5 amps, and generate 20,000 lumens. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate
heat-dissipating fins and be no more than 5 3/16" deep by 3 5/16" high by 11 1/2" wide. The lamphead and mounting arm shall be powder coated white. The floodlight shall be for fire service use.

One (1)  
Switch, Remote, 12 V, Mtd Cab

One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt white lighting fixture(s) as selected.

One (1)  
FRC, Bottom Raise Pole - 530

The light head shall be mounted on a side mount push up telescopic pole. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

One (1)  
FRC - RF Corner - High Side

RIGHT FRONT QUARTZ LIGHT

The following light shall be provided mounted on the right front corner of the body:

One (1)  
FRC, Evolution II, LED DC20K LM

Fire Research Focus model FCA100-V20 lamphead shall be provided. The lamphead shall have eight (8) ultra-bright white LEDs. It shall operate at 12/24 volts DC, draw 13/6.5 amps, and generate 20,000 lumens. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate heat-dissipating fins and be no more than 5 3/16" deep by 3 5/16" high by 11 1/2" wide. The lamphead and mounting arm shall be powder coated white. The floodlight shall be for fire service use.

One (1)  
Switch, Remote, 12 V, Mid Cab

One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt white lighting fixture(s) as selected.

One (1)  
FRC, Bottom Raise Pole - 530

The light head shall be mounted on a side mount push up telescopic pole. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

Two (2)  
Shelves, Deep (Qty) Adjustable w/1.5" Flange, .190" Alum

DEEP ALUMINUM SHELVES - ADJUSTABLE
Two (2) adjustable aluminum shelves shall be installed and shall have a flange 1-1/2" deep and a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

**Two (2) Shelves Location, Specify Ext Compts**

Each adjustable shelf shall be installed as follows:

1. One (1) in exterior compartment L1.
2. One (1) in exterior compartment L3.

**Two (2) Shelves Shallow, (Qty) Adjustable w/1.5" Flange, .190" Alu**

**SHALLOW ALUMINUM SHELVES - ADJUSTABLE**

Two (2) adjustable aluminum shelves shall be installed and shall have a flange 1-1/2" deep and a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

**Two (2) Shelves Location, Specify Ext Compts**

Each adjustable shelf shall be installed in the upper portion of the compartments as follows:

1. One (1) in exterior compartment R1.
2. One (1) in exterior compartment R3.

Note: With a t-tank apparatus and a generator with a load center located in L1 or R1 there can only be one shallow shelf in the compartment with the load center.

**Four (4) Trays, (Qty), Pullout w/Slides & Gas Shock, .190" Alm 250#**

**ALUMINUM TRAYS - PULL OUT**

Four (4) heavy duty pullout trays shall be installed and shall be equipped with Grant slides and a gas shock to hold the tray in both the in and out positions and shall be made from .190" aluminum with a maximum capacity of 250 pounds.

**Four (4) Pullout Trays, Locations, Specify Ext Compts**

Each heavy duty pullout tray shall be installed as follows:

1. One (1) in compartment L1.
2. One (1) in compartment L3.
3. One (1) in compartment R1.

4. One (1) in compartment R3.

One (1) Tray, (Qty) HD, Pullout w/Slides & Gas Shck, .190" Alm, 500

**ALUMINUM TRAY - PULL OUT**

One (1) heavy duty pullout tray shall be installed on the floor of the compartment and shall be equipped with Grant slides and a gas shock to hold the tray in both the in and out positions and shall be made from .190" aluminum with a maximum capacity of 500 pounds.

One (1) Heavy Duty Pullout Tray Location, Specify Ext Compt

The heavy duty pullout tray shall be installed in RR1 compartment.

One (1) Trays, (Qty), Adj, Pullout w/Slides & Gas Shck, 250#

**ALUMINUM TRAYS - PULL OUT**

One (1) heavy duty adjustable pullout trays shall be installed and shall be equipped with Grant slides and a gas shock to hold the tray in both the in and out positions and shall be made from .150" aluminum with a maximum capacity of 250 pounds. The trays shall be adjustable up or down within the compartment.

One (1) Pullout Trays, Locations, Specify Ext Compts

Each heavy duty pullout tray shall be installed as follows:

1. One (1) in compartment RR1.

One (1) Toolboards, (Qty) FoxTrax, Alum, Mtd Rr Wall, Spcify Ext Com

**ALUMINUM TOOL BOARDS**

The upper half of the rear wall of one (1) exterior compartments shall be covered with FoxTrax aluminum extrusion tool mounting board.

One (1) Toolboard Locations, Specify Ext Compts

Tool mounting boards shall be installed on the upper back wall of L2 compartment.

One (1) Vertical Dividers, (Qty) Aluminum Ext Compts, Specify Placem

**VERTICAL DIVIDERS**

One (1) vertical dividers shall be provided in the L1 exterior compartments. The placement of each divider shall be approximately 16" from the front wall door opening so there is 16" between the door opening and the vertical divider for the vertical pull out tool board.
One (1) Vertical Tool Board, FULL Height Pull Out

**FULL HEIGHT PULL OUT VERTICAL TOOL BOARD**

One (1) full height vertical pull out tool board(s) shall be installed in an exterior body compartment.

Each board shall be equipped with Grant slides and a gas shock to hold the board in both the in and out positions.

The tool board shall be made from .25" aluminum and be fully adjustable across the width of the compartment.

One (1) FoxTrax, (qty) Alum Tool Mounting Extrusions, Mtd Tool Brds

**ALUMINUM TOOL MOUNTING EXTRUSION**

Both sides of one (1) tool boards shall be covered with FoxTrax aluminum extrusion tool mounting.

One (1) Vertical Toolboard Location, Specify Ext Compt

Each vertical tool mounting board shall be installed in the compartments as follows:

1. One (1) in exterior compartment L1, forward portion.

One (1) Vertical Toolboard, Swing-Out

**SWING-OUT VERTICAL TOOL BOARD**

One (1) full height swing-out vertical tool board(s) with a 150 pound capacity shall be furnished and installed in an exterior body compartment.

The tool board shall be constructed of .25" aluminum.

A single D-Ring latch shall be provided that can easily be operated with gloved hands.

One (1) FoxTrax, (qty) Alum Tool Mounting Extrusions, Mtd Tool Brds

**ALUMINUM TOOL MOUNTING EXTRUSION**

Both sides of one (1) tool boards shall be covered with FoxTrax aluminum extrusion tool mounting.

One (1) Vertical Toolboard Location, Specify Ext Compt

Each vertical tool mounting board shall be installed in the compartments as follows:

1. One (1) in exterior compartment L2 mounted to Swing Out.

One (1) Electrical System, 12V, Body, Multiplexed w/Circuit Brkr Pnl
APPARATUS BODY ELECTRICAL SYSTEM

All body electrical shall conform to NFPA 1901 latest edition standards. The apparatus shall be equipped with a heavy-duty 12-volt negative ground system.

All 12-volt apparatus wiring shall pass through a heavy duty power disconnect solenoid. The 12-volt control of the power disconnect switch is to be triggered by the Master Battery Disconnect.

The apparatus shall be equipped with a Class1 Es-Key Management System for complete control of the electrical system devices.

The right rear compartment shall house a relay based Power Distribution Module (PDM). The PDM shall contain 12 standard automotive relays. Each relay's output shall be monitored by the Es-Key system to provide true on/off feedback. Each output shall be capable of handling up to 30 amps and be protected by an automatic circuit breaker. The PDM shall be mounted on a removable panel in the left rear compartment with sufficient harness length to allow a technician the ability to remove the PDM and place it on a compartment shelf for diagnostics and service.

All wiring shall be color-coded and function coded to assist the technician in servicing the electrical system. All circuits shall be divided and balanced for proper load distribution. Where possible, wiring shall be routed in looms as a single harness. Heat resistant convoluted loom shall be used. Only solderless, insulated crimp automotive electrical connectors shall be used.

One (1) Body - LED - ICC Lighting with Body Side Clearance LED & Reflector

APPARATUS ICC MARKER LIGHTING

Two (2) amber Whelen OS Series LED side clearance lights shall be supplied, one (1) each side mounted ahead of the forward body compartment. These lights are to be mounted in a chrome flange.

Five (5) red LED clearance lights shall be supplied, mounted in the rear of the apparatus.

Two (2) red LED clearance lights shall be supplied, mounted facing the side of the apparatus.

A red diamond shaped reflector shall be mounted on each lower rear corner of the apparatus body.

ICC lighting utilized and lighting positions shall be in conformance with FMVSS 108.

One (1) Rear Stop/Tail/Turn/Reverse with NFPA Lower Zone C Warning - Techniq ICC Lights

REAR STOP/TAIL/TURN/BACKUP LIGHTS

There shall be a chrome plated light housing provided on the rear of the apparatus that includes the stop/tail/turn and lower zone C warning lights.

The rear of the apparatus shall be equipped with TecNiq High Output K60 Series light heads.

- The top light in the assembly shall be a red LED with red lens stop/tail light.
- The upper middle light set shall be an amber LED lamp with an amber lens with an arrow mask.
The lower middle lights shall be white LED backup lamps with clear lens.

The lower lights shall be NFPA warning lamps as specified for lower zone C.

The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The coated PC board and sealed lens/reflector assembly shall provide additional protection against environmental elements. The solid state warning light shall be vibration resistant and designed with fully sealed submersible electronics. The K60 is rated IP68 for dust and water resistance.

TecNiq Inc. extends a Lifetime Limited Warranty to the original purchaser that the TecNiq Inc. Lamp is free from defects in workmanship and/or materials only. See the TecNiq warranty document for details.

One (1) Body Side Turn Signal, Whelen LED, Wheelwell Mounted

**SIDE MOUNTED TURN SIGNAL LIGHTS**

Two (2) Whelen, model RSA02ZCR, linear amber LED turn signal lights shall be provided mounted one each side in the rear wheel well area. The lights shall be mounted in a chrome flange.

One (1) Back Up Alarm

**BACK-UP ALARM**

A solid state electronic backup alarm shall be installed on the rear of the apparatus and wired to the backup light circuit.

One (1) Backup Lights Activated With Rear Scene Lights

Additionally, the backup lights shall be activated when the rear scene lights are activated.

One (1) License Plate Bracket w/LED Light

One (1) license plate mounting, and LED light shall be provided. The light and bracket shall be located on the rear of the apparatus.

One (1) Rear Warning - Zone C Lower, Power Rear, TecNiq - LED

**REAR LOWER LEVEL WARNING LIGHTS**

Two (2) TecNiq High Output Red LED Flashing Warning Lights model K60 lighthouse(s) shall be provided. The lighthouses shall be surface mounted and shall fit standard mounting holes secured with four (4) stainless steel screws. Wiring shall extend from the lighthouse back. The lighthouses shall be fitted with high efficiency optics and a permanently affixed lens to provide a warning light beam across all angles. The lighthouses shall be fitted with AutoSync, a feature that will automatically synchronize the flash patterns of the warning lights without additional wiring. Fully sealed, submersible electronics shall be furnished on each lighthouse. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The solid state warning light shall be vibration resistant and designed with fully sealed submersible electronics. The K60 is rated IP68 for dust and water resistance.

TecNiq Inc. extends a Lifetime Limited Warranty to the original purchaser that the TecNiq Inc. Lamp is free from defects in workmanship and/or materials only. See the TecNiq warranty document for details.
These two (2) lights fulfill the requirements for Lower Zone C lower level warning devices.

One (1)

Lens Color - Both Red

Both warning light lenses shall be red in color.

One (1)

Lightbar, Frt, Whelen - Justice - LED - Type III

ROOF MOUNTED LIGHTBAR

A Whelen Justice model JE2NFPA, 56" lightbar system shall be supplied and permanently mounted on the cab roof, as far forward as possible. This lightbar system shall be supplied with:

- two (2) JDCR red CON3 Super-LED lightheads
- two (2) JDCA amber CON3 Super-LED lightheads
- one (1) ULF22 Two channel LED flasher to run steady burn lightheads

This lightbar fulfills the requirements for Upper Zone A and in combination with the upper rear warning devices fulfills the requirements for Upper Zones B, C, and D. Any clear warning light(s) in the lightbar shall be disabled automatically for the "Blocking Right of Way" mode.

One (1)

Grille, Frt, Whelen - C6 SurfaceMax Series - Super LED

LOW LEVEL WARNING LIGHTS

Two (2) Whelen warning lights, C6 SurfaceMax Series, Super-LED lightheads shall be mounted in the front grille each with a Whelen chrome plated flange. These lights shall be separated as far as practical one on each side.

The self-contained flashing light shall have 75 Scan-Lock™ flash patterns including steady burn with hillow power. The C6LR will meet SAE J595 and J845 requirements.

These two (2) lights fulfill the requirements for Lower Zone A lower level warning devices.

One (1)

Lens Color - Both Red

Both warning light lenses shall be red in color.

One (1)

Hood Side, Whelen - C6 SurfaceMax Series - Super LED

FRONT INTERSECTION LIGHTS

Two (2) Whelen warning lights, C6 SurfaceMax Series, Super-LED lightheads shall be mounted one (1) on each side of the hood with a Whelen chrome plated flange.

The self-contained flashing light shall have 75 Scan-Lock™ flash patterns including steady burn with hillow power. The C6LR will meet SAE J595 and J845 requirements.

These two (2) lights fulfill the requirements for Lower Zone B & D lower level warning devices.
One (1)

Lens Color - Both Red

Both warning light lenses shall be red in color.

One (1)

Body, Side Over Wheel, Whelen - C6 SurfaceMax Series - Super LED

**BODY SIDE WARNING LIGHTS**

Two (2) Whelen warning lights, C6 SurfaceMax Series, Super-LED lightheads shall be mounted one (1) on each side of the cab over the rear wheel with a Whelen chrome plated flange.

The self-contained flashing light shall have 75 Scan-Lock™ flash patterns including steady burn with hi/low power. The warning lights shall be programmed for Hi-power with the same flash pattern for both the right and left intersection lighthead.

These two (2) lights fulfill the requirements for Lower Zone B & D lower level warning devices.

One (1)

Lens Color - Both Red

Both warning light lenses shall be red in color.

One (1)

Upper Rear, Whelen - Beacons w/Stanchions - Super LED

**REAR UPPER LEVEL WARNING LIGHTS**

Two (2) Whelen Super-LED warning lights, model B6MM LED beacons, shall be mounted on the rear of the apparatus one on each side of the hosebed on polished stainless steel stanchions.

These two (2) lights fulfill the requirements for Upper Zones B, C & D upper level warning devices.

The upper beacon portion of the light shall be red in color.

The lower directional linear Super-LED rear facing portion of the light shall have,

One (1)

Lens Color - Driver's Red / Officer's Amber

The driver's side lens shall be red in color and the officer's side amber in color.

One (1)

Labels, Identification & Safety, Mtd Drvr's Compt/Pump Panel

**IDENTIFICATION AND SAFETY LABELS**

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

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

A permanent plate with pump performance data and serial numbers shall be installed on the pump panel.

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

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

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

If an inlet located at the pump operators position is valved, it shall be provided with a permanent label with language per NFPA-1901, current edition.

One (1)
Wheel Chocks, (2) Worden HWG, HD Alum w/Std-Out Brkt L/S

**WHEEL CHOCKS**

One (1) pair of heavy duty, high tensile molded aluminum wheel chocks measuring 7.75" high x 8.5 wide x 15" long shall be provided with the apparatus.

Two chock holders shall be provided and mounted on the left side of the apparatus below the front body compartment.

Four (4)
SCBA Brackets, (Qty) Zico, Mtd Ext Compts

**SCBA BRACKETS**

Four (4) Zico SCBA mounting brackets with a positive holding strap shall be provided in apparatus body exterior compartments.

Four (4)
Specify SCBA Bracket Location
The SCBA brackets shall be installed on the chassis seats.

One (1) Striping, 1"x4"x1" Scotchlite, Reflective, Vhcl Prmtr

**REFLECTIVE SAFETY STRIPE**

A 1" x 4" x 1" wide 3M brand Scotchlite reflective stripe shall be affixed to the perimeter of the vehicle. The striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 60% of the perimeter length of each side and width of the rear, and at least 25% of the perimeter width of the front of the vehicle shall have reflective stripe.

One (1) Body Stripe Flare, "Z" Pattern - Body Front Door

**BODY STRIPE "Z" PATTERN**

The stripe on each side of the apparatus shall run straight back to the body, with a reverse "Z" pattern shape on the front body door and then run straight back from there to the rear of the body.

One (1) Base Stripe Color, White Reflective

**REFLECTIVE STRIPE COLOR**

The apparatus body striping shall be white reflective.

One (1) Accent Stripe Color, Black Reflective

The smaller accent stripe(s) shall be black reflective.

One (1) Water Tank Warranty - Service Life

**WATER TANK WARRANTY**

The water tank is to be free from defects in material and workmanship for the normal service life of the apparatus in which the water tank is installed.

If a tank has a defect in material or workmanship covered by the warranty, the tank manufacturer shall repair at their cost, by authorized personnel or authorized third parties. The tank manufacturer shall make an effort to effectuate repair within 48 hours following initial notification of a covered defect. The tank manufacturer shall make a reasonable effort to repair tank at most convenient location to end user.

The tank manufacturer shall reimburse all reasonable costs associated with rendering the tank accessible for repair, including, but not limited to, removal and reassembly of the hose bed floor.

One (1) **Limited Warranty - Use For Contracts - 4.001**

One (1) Limited Warranty
Department Add-on's

One (1)  Foam Pro 2000 System (or compatible) capable of operating on both Hydrant and Tank Operations. Must be plumbed into (3) 1.75" attack line and one rear 2.5" discharge. One Foam Tank capable of holding 30 gallons of Class A Foam.

Two (2)  Two Hose Reels with 200' of 1" Booster line. To be located on top between the Hose bed and Pump controls. One reel capable of being pulled from the right side of the truck and one capable of being pulled from the Left side of the truck.

Four (4)  Zico EZ-Lock Mechanical Bracket-Adjustable top clamp with center pull release to be installed in the three rear passenger seats and in the front passenger seat.

One (1)  Foldable steps from the driver's side to access the Top Mount pump operations.
Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of Stephens County, Georgia has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal E-Verify Work Authorization User Identification Number

Date of Authorization

__________________________________________

Name of Contractor

__________________________________________

Physical Address

City, State Zip Code

__________________________________________

Phone Number

__________________________________________

$ __________________

Contract Amount

__________________________________________

Name of Project

__________________________________________

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, __, 20___ in _____(city), ______(state).

Signature of Authorized Officer or Agent

__________________________________________

Printed Name and Title of Authorized Officer or Agent

__________________________________________

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF ___________, 20___.

NOTARY PUBLIC
My Commission Expires: _________
SAVE AFFIDAVIT

STATE OF GEORGIA
COUNTY OF STEPHENS

By executing this affidavit under oath, as an applicant on behalf of _______________________________ for ___________________________ (type of public benefit) as referenced in O.C.G.A. § 50-36-1, from Stephens County, the undersigned applicant verifies one of the following with respect to the application for a public benefit:

1.) __________ I am a United States citizen

2.) __________ I am a legal permanent resident of the United States

3.) __________ I am a qualified alien or non-immigrant under the Federal Immigration and Nationality Act with an alien number issued by the Department of Homeland Security or other federal immigration agency.

My alien number issued by the Department of Homeland Security or other federal immigration agency is: ____________________________.

The undersigned applicant also hereby verifies that he or she is 18 years of age or older and has provided at least one secure and verifiable document, as required by O.C.G.A. § 50-36-1 (e) (2), with this affidavit.

The secure and verifiable document provided with this affidavit can be classified as: ____________________________

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of O.C.G.A. § 16-10-20 and face criminal penalties as allowed by such criminal statute.

Executed in Toccoa, Georgia

Signature of Applicant, on behalf of ____________________________

Printed Name of Applicant ____________________________

Business Name ____________________________

Business Address ____________________________

City, ____________________________ State

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE ________ DAY OF __________________, 20___

________________________________________

NOTARY PUBLIC

My Commission Expires:
Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Name (as shown on your income tax return)

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:

- Individual/sole proprietor
- C Corporation
- S Corporation
- Partnership
- Trust/estate
- Limited liability company. Enter the tax classification (C=corporation, S=S corporation, P=partnership)

Exempt payee

Print or type information on page 2.

Address (number, street, and apt. or suite no)

City, state, and ZIP code

List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)
Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see how to get a TIN on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

Employer identification number

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Certification instructions. You must sign item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here

Signature of U.S. person

Date

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.