Exhibit A – Detailed Specifications

REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

INTENT OF SPECIFICATIONS

It is the intent of these specifications to cover the furnishing and delivery to the purchaser a complete unit equipped as hereinafter specified, with a view to obtaining the best results and the most acceptable apparatus for service in the Fire Department.

These specifications cover only the general requirements as to the type of construction and test to which the apparatus must conform. Minor details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features.

All equipment and components shall comply with the National Fire Protection Association Pamphlet 1900 (2024 Edition).

Loose equipment shall be provided only as listed in these specifications.

QUALITY AND WORKMANSHIP

The design of the apparatus must embody the latest approved automotive engineering practices. The workmanship must be of the highest quality in its respective field. Special consideration shall be given to the following points:

1- Accessibility of the various units which require periodic maintenance operations, ease of operation (including both pumping and driving) and symmetrical proportions.

2- Construction must be rugged and ample safety factors must be provided to carry loads specified and to meet both on and off-road requirements and speed conditions.

3- Welding shall not be employed in the assembly to the apparatus in a manner that will prevent the ready removal of any component part for service or repair.

DATA REQUIRED OF THE CONTRACTOR - NFPA 1900 - 2024 Edition Section 7.21

NFPA 7.21.1 Fire Apparatus Documentation. The contractor will supply, at the time of delivery, the following information:

(1) The manufacturer's record of apparatus construction details, including the following information:
   (a) Owner's name and address
   (b) Apparatus manufacturer, model, and serial number
   (c) Chassis make, model, and serial number

(d) GAWR of front and rear axles and GVWR
(e) Front tire size and total rated capacity in pounds (kilograms)
(f) Rear tire size and total rated capacity in pounds (kilograms)
(g) Chassis weight distribution in pounds (kilograms) with water and manufacturer-mounted equipment (front and rear)
(h) For each engine, make, model, serial number, rated horsepower and related speed, and governed speed; and if so equipped, engine transmission PTO(s) make, model, and gear ratio
(i) Type of fuel and fuel tank capacity m Electrical system voltage and alternator output in amps
(k) Battery make, model, and capacity in cold cranking amps (CCA)
(1) Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio
(m) Ratios of all driving axles
(n) Maximum governed road speed
(o) For each pump, make, model, rated capacity in gallons per minute (liters per minute where applicable), maximum discharge pressure capability rating, and serial number
(p) For each pump, transmission make, model, serial number, and gear ratio
(q) Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable), and serial number
(r) Water tank certified capacity in gallons or liters
(s) Foam tank (if provided) certified capacity in gallons (liters)
(t) Aerial device (if provided) type, rated vertical height in feet (meters), rated horizontal reach in feet (meters), and rated capacity in pounds (kilograms)
(u) Paint manufacturer and paint number(s)
(v) Company name and signature of responsible company representative
(w) Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus (with the water tank full but without personnel, equipment, and hose)

(2) Certification of compliance of the optical warning system *(see 10.7.17)*
(3) Siren manufacturer's certification of the siren *(see 10.8.1.1)*
(4) Written load analysis and results of the electrical system performance tests *(see 10.13.1 and Section 10.14)*
(5) Certification of slip resistance of all stepping, standing, and walking surfaces *(see 12.6.4.5)*
(6) If the apparatus has a fire pump or a wildland fire pump, the pump manufacturer's certification of suction capability *(see* 13.2.4.1 or 15.2.4.1)
(7) If the apparatus is equipped with a fire pump or a wildland fire pump and special conditions are specified by the purchaser, the pump manufacturer's certification of suction capacity under the special conditions *(see* 13.2.4.2 or 15.2.4.2)
(8) If the apparatus has a fire pump, or a wildland fire pump copy of the apparatus manufacturer's approval for stationary pumping applications *(see* 13.3.1 or 15.3.1)
(9) If the apparatus has a fire pump, the engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum governed speed *(see* 13.3.2.2)

(10) If the apparatus has a fire pump or a wildland fire pump, the pump manufacturer's certification of the hydrostatic test *(see* 13.5.2.2 *or 15.5.2.2)*
(11) If the apparatus has a fire pump with a maximum discharge pressure capability rating that exceeds the hydrostatic test pressure of 13.5.2.1, the pump manufacturer's certification of the hydrodynamic test
(12) If the apparatus has a fire pump or a wildland fire pump, the certification of inspection and test for the fire pump *(see* 13.13.1.1.5 *or* 13.13.1.2.4 or 15.13.1.2.4, *as applicable)*
(13) If the apparatus is equipped with an auxiliary pump, the apparatus manufacturer's certification of the hydrostatic test *(see Section* 14.13)
(14) When the apparatus is equipped with a water tank, the certification of water tank capacity *(see Section* 17.6)
(15) If the apparatus has an aerial device, the certification of inspection and test for the aerial device *(see Section 20.31)*
(16) If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA 1910
(17) If the apparatus has a foam proportioning system, the foam proportioning system manufacturer's certification of accuracy *(see 18.10.4.2)* and the final installer's certification the foam proportioning system meets this standard *(see 18.11.2)*
(18) If the system has a CAFS, the documentation of the manufacturer's predelivery tests *(see Section* 19.9)
(19) If the apparatus has a line voltage power source, the certification of the test for the power source *(see* 21.15.7.2)
(20) If the apparatus is equipped with an air system, air tank certificates *(see* 23.5.1.2), the SCBA fill station certification *(see* 23.9.6), and the results of the testing of the air system installation *(see* 23.14.5 *and 23.15.4)*
(21) For wildland fire apparatus, or structural apparatus without stability control, certification of vehicle side slope stability, including the weight distribution assumed for the calculations or as loaded on the vehicle for the tilt table test *(see 7.14.3)*
(22) Any other required manufacturer test data or reports

OPERATION AND SERVICE DOCUMENTS - NFPA 1900 2024 Edition, Section 7.21.2

NFPA 1900 - 7.21.2 Operations and Service Documentation.

7.21.2.1 - The contractor shall deliver with the fire apparatus complete operation and service documentation covering the completed apparatus as delivered and accepted.

7.21.2.2 - The documentation shall address at least the inspection, service, and operations of the fire apparatus and all major components thereof.

7.21.2.3 - The contractor shall also provide the following documentation for the entire apparatus and each major operating system or major component of the apparatus:

(1) Manufacturer's name and address
(2) Country of manufacture
(3) Source for service and technical information
(4) Parts replacement information
(5) Descriptions, specifications, and ratings of the chassis, pump (if applicable), and aerial device (if applicable)
(6) Wiring diagrams for low-voltage and line-voltage systems to include the following information:
  (a) Pictorial representations of circuit logic for all electrical components and wiring
  (b) Circuit identification
  (c) Connector pin identification
  (d) Zone location of electrical components
  (e) Safety interlocks
  (f) Alternator–battery power distribution circuits
  (g) * Input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
(7) Lubrication charts
(8) Operating instructions for the chassis, any major components such as a pump or aerial device, and any auxiliary systems
(9) Precautions related to multiple configurations of aerial devices, if applicable
(10) Instructions regarding the frequency and procedure for recommended maintenance
(11) Overall apparatus operating instructions
(12) Safety considerations
(13) Limitations of use
(14) Inspection procedures
(15) Recommended service procedures
(16) Troubleshooting guide
(17) Apparatus body, chassis, and other component manufacturer's warranties
(18) Special data required by this standard
(19) A safety data sheet (SDS) for any fluid that is specified for use on the apparatus
(20) For structural fire apparatus, one copy of the latest edition of FAMA's *Fire Apparatus Safety Guide*

7.21.2.4 * - The contractor shall deliver with the apparatus all manufacturers' operations and service documents supplied with components and equipment that are installed or supplied by the contractor.

7.21.2.5 - Apparatus operator manuals shall be publicly accessible on the manufacturer's website.

7.21.2.6 - The apparatus shall include one or more of the following:

(1) The applicable apparatus operator manual(s) stored on the apparatus and protected in a permanent, dedicated, accessible location
(2) The applicable apparatus operator manual(s) available to be viewed on the apparatus on an accessible electronic display
(3) A means of accessing an Internet link to the applicable operator manual(s) for viewing on a computer, tablet, or smart phone

7.21.2.7

The apparatus operator manual shall specify the quantity and type of the following fluids used in the vehicle:

(1) Engine oil
(2) Engine coolant
(3) Chassis transmission fluid
(4) Pump transmission lubrication fluid
(5) Pump priming system fluid, if applicable
(6) Drive axle(s) lubrication fluid
(7) Air conditioning refrigerant
(8) Air conditioning lubrication oil
(9) Power steering fluid
(10) Cab tilt mechanism fluid
(11) Transfer case fluid
(12) Equipment rack fluid
(13) CAFS air compressor system lubricant
(14) Generator system lubricant

7.21.2.8 - The operator manual(s) shall specify all technical information needed to perform NFPA 1910 certification testing as described in **7.21.1(16)**.

7.21.2.9 * - The operator manual shall address the water fording capabilities of the vehicle.

HIGHWAY PERFORMANCE NFPA 1900, 2024 Edition, Section 7.16

7.16.1 - The apparatus, when loaded to its estimated in-service weight, shall be capable of the following performance while on dry, paved roads that are in good condition:

(1) Accelerating from 0 to 35 mph (55 km/hr) within 25 seconds on a 0 percent grade
(2) * Attaining a speed of 50 mph (80 km/hr) on a 0 percent grade
(3) * Maintaining a speed of at least 20 mph (32 km/hr) on any grade up to and including 6 percent

7.16.2 * - The maximum top speed of any fire apparatus with a GVWR over 33,000 lb (15,000 kg) shall not exceed either 68 mph (109 km/hr) or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower.

7.16.3 - If the combined water tank and foam agent tank capacities on the fire apparatus exceed 1250 gal (4732 L), or the GVWR of the vehicle is over 50,000 lb (22,680 kg), the maximum top speed of the apparatus shall not exceed either 60 mph (95 km/hr) or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower.

7.16.4 * - All wildland fire apparatus shall be capable of maneuvering across a 20 percent grade and up and down a 25 percent grade.

NFPA TAG REQUIREMENTS

A label that states the number of personnel the vehicle is designed to carry shall be located in an area visible to the driver.

A sign that reads **"OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION"** shall be provided and located in the chassis cab in an area that is visible from each seating position.

An accident prevention sign that states **"OVERALL HEIGHT OF APPARATUS ___INCHES"**

One "Final Stage Label" shall be attached to the driver's side door jamb. The label shall certify that the complete vehicle conforms to the federal motor vehicle safety standards, which have been previously fully certified by the incomplete vehicle manufacture or by the intermediate vehicle manufacture and have not been affected by the final stage manufacture.

An accident prevention sign that states **"DANGER: DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION - DEATH OR SERIOUS INJURY MAY RESULT"** shall be provided and installed at the rear of the apparatus.

A label stating **"DO NOT WEAR HELMET WHILE SEATED"** shall be visible from each seating location.

ENGINEERING DRAWINGS

Offeror shall submit blueprints which have been produced on computer-aided-design equipment.

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The blueprints submitted shall match exactly to the purchasers specifications and are on "D" size paper, 24" x 36".

The blueprints to be provided are provided as follows:

- Left side
- Right side
- Rear view
- Top view

The final production blueprints shall be provided and approved by the customer prior to any metal being sheared.

The design of the equipment is in accordance with the best engineering practices. The equipment design and accessories installed shall permit accessibility for use, maintenance, and service. All components and assemblies shall be free of hazardous protrusions, sharp edges, cracks or other elements which might cause injury to personnel or damage to equipment.

All oil, hydraulic, and air tubing lines and electrical wiring shall be located in protective positions properly attached to the frame or body structure and shall have protective loom or grommets at each point where they pass through structural members in compliance with NFPA 1900, 2024 edition, section 7.13.2.

Parts and components will be located or positioned for rapid and simple inspection and recognition of excessive wear or potential failure. Whenever functional layout of operation components determines that physical or visual interference between items cannot be avoided, the item predicted to require the most maintenance shall be located for best accessibility.

WARRANTY POLICY

Offeror shall warrant the Vehicle to be free from defects in material and workmanship, under normal use and service, for a period of thirty-six (36) months.
Offeror shall identify the location(s) at which all warranty work related to the apparatus is to be performed.

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OVERALL APPARATUS DIMENSIONS AND REQUIREMENTS - VS1

1. Wheelbase of chassis: 235"
2. Cab-to-axle dimension of chassis: 165.5"
3. Overall length of apparatus: 33' 9"
4. Overall width of apparatus body: 100"
5. Overall height of apparatus: 9' 11"
6. Overall length of body including rear step: 228"
7. Front overhang from center of front axle: 56"
8. Rear overhang from center of rear axle: 114"
9. Pump panel width: 46"

KENWORTH Model T-480 Tandem

0000480 S T480 Series Conventional

0071000 O T480 Aero Hood

0080070 O CARB Exempt Application Emergency Vehicle Only.

0090162 O T480 Tandem

0098446 O State of Registry: Virginia

Engine & Equipment

0130231 O PACCAR PX-9 450EV 450@2100 1250@1200, 2024 Emergency Vehicle, With Turbo Exhaust Brake (VGT Brake)

N09420 C333 0. ... Reserve Speed Limit Offset (
N09380 C334 0. ... Maximum Cycle Distance (N202
N09360 C400 252. Reserve Speed Function Reset
N09200 C399 120. Standard Maximum Speed Limit
N09400 C401 10. .. Maximum Active Distance (N20

N09220 C402 0. ... Expiration Distance (N207)
N09540 C395 0. ... Expiration Distance (N209)
N09260 C121 68. .. Max Vehicle Speed in Top Gea
N09440 C234 NO ... Engine Protection Shtdwn
N09460 C231 NO ... Gear Down Protection
N09580 C133 5. ... Idle Shtdwn Time
N09680 C233 NO ... Idle Shtdwn Override
N09480 C132 1400..Max PTO Speed
N09300 C128 68. .. Max Cruise Control Speed
N09500 C239 NO ... Cruise Control Auto Resume
N09520 C238 NO ... Auto Engine Brake in Cruise
N09780 C190 80. .. High Ambient Temperature Thr
N09740 C188 40. .. Low Ambient Temperature Thre
N09760 C189 60. .. Intermediate Ambient Tempera
N09720 C382 NO ... Enable Hot Ambient Automatic
N09600 C396 NO ... Enable Impending Shutdown Wa
N09620 C397 60. .. Timer For Impending Shutdown
N09640 C206 35. .. Engine Load Threshold
N09560 C225 NO ... Enable Idle Shutdown Park Br

1000046 O EPA Emissions Warranty Engine

1000151 S PremierSpec

1000243 O Gearing Analysis: Performance power before economy results.

1000255 O Customer's Typical Operating Spd: 68 MPH

1000524 RegistrationYear Year of Registration: 2024

1000684 Effective VSL Setting NA

1000858 O Engine Idle Shutdown Timer Disabled

1000891 Eff EIST NA Expiration Miles Use only with MX and Cummins engines

1002060 S Air Compressor: Cummins 18.7 CFM For Cummins And PACCAR PX engines.

1041399 S Air Cleaner: MD Composite Engine Mounted

1099300 O Air Inlet Ember Separator NFPA Compliant for Fire Applications.

1105232 O Fan Hub: Horton Variable Speed For use with PX engines, L9N or B6.7N natural gas engines on

2.1M only.

1121231 S Cooling Module: 2.1M MD - Aero Hood 1000 Square Inches

1247263 O EXH: Single Can 2024 RH Under with RH Side-of-Cab Vertical Tailpipe

1290136 O Tailpipe: 5 in. single 36 in. 45 degree curved.

1321102 S Fuel Filter: PACCAR 2.1M MD for PX-7 or PX-9 Fuel/water separator for 2021 and later engines.

1321205 O Run Aid:Fuel Heat *For Fuel Filter

1321305 O Start Aid:12V Heat *For Fuel Filter

1500029 O Kenworth Fuel Cooler Required for Cummins engines with a single fuel tank. Required for PACCAR MX-13 engine with a single fuel tank and stationary use: High RPM, low vehicle speed, sustained for longer than 1 hour. Optional for all other applications.

1700149 O Retarder: Jacobs for PX-9 and ISL With 3-way switch. Replaces the standard turbo brake for PX-9 engines.

1812451 O Alternator: Delco 40SI 320 amp Brushless with battery voltage sense

1821215 O Batteries: 4 PACCAR GP31 Threaded Post (700-730) 2800-2920 CCA dual purpose.

1836106 S Mitsubishi 105P55 12V Starter with Cummins and PX PACCAR 12 volt electrical system. W/ centralized power distribution incorporating plug-in style relays. Circuit protection for serviceability, 12 volt light system w/circuit protection circuits number & color coded. Only for Cummins or PX engines.

1840065 S 12V Low Voltage Disconnect for Battery Protection

1900996 O Jump Start Terminals Under Hood.

1901018 S Remote PTO/Throttle, 12-Pin, 250K, Back of Cab OR Back of Sleeper, J1939, Remote Control Provision

1901078 U J1939 Harness Extension Under Hood at Firewall

Transmission & Clutch

2011615 O Transmission: Allison 3000EVS 6-speed, With PTO Provisions at 4 and 8 o'clock. 6th Generation controls. Includes heat exchanger & oil level sensor. Emergency Vehicle Series for vocational

applications. Transynd transmission fluid is standard on all Allison 1000, 2000, 3000 & 4000 series transmissions.

2349099 U Jackshaft Installation: Include Narr Jackshaft Installation: Include USE CORRECT JACKSHAFT CODE 2349006

2406299 U 3 DANA SPL170XL

2409942 O Two Heavy-Duty One-Piece Aluminum Crossmembers This option upgrades existing crossmembers. The cost does not include the centerbearing and bracket. Crossmember locations will be in accordance with Kenworth engineering standards, using the major components specified on the DTPO.

2410018 O Torque Converter Included W/ Allison Transmission.

2410153 O Push Button Shifter Controls, Center Console Mounted for Allison Transmission. 2.1m Medium Duty only.

2410244 O J1939 Park Brake Auto Neutral

2410409 U ALLSION EVS 227 PACKAGE Narr ALLSION EVS 227 PACKAGE

2429378 O Customer Installed Transmission PTO in the LH Mounted position (8 o'clock) for Allison 3000 & 4000 transmissions.

2460070 O Supplemental Allison Oil to Water Trans Cooler

2480315 U Severe Service Rear Transmission Support

Front Axle & Equipment

2516006 O Meritor MFS20 20K 3.74in. Drop Wide Track.

2607002 O Front Brakes: 14,601-22K Bendix Air Disc Brakes.

2690024 O Splined Rotor for Front Air Disc Brakes for Use with Aluminum Hubs.

2701319 O Front Hubs Aluminum Hub Pilot 20,000 lbs. 16.5x6in. or 7in. or air disc brakes. 10 Bolt, 11-1/4 in. bolt circle.

2741970 S ConMet PreSet Plus Hub Package; Front Axle.

2750001 S Hubcap: Front Vented.

2769000 O Slack Adjusters Included W/ Front Axle or Brakes. Also use with disc brakes.

2865025 O Front Springs: Taperleaf 20K W/ Shock Absorbers w/ maintenance-free elastomer spring pin bushings.

2895305 O Dual Power Steering Gears: 18/20K

2899336 O Power Steering Cooler:Radiator Mounted Air-to-Oil

2900061 O 50 mm Front Suspension Spacer Block

2900903 O Front Bendix Air Disc Brake Dustshield includes pad air disc brakes only.

Rear Axle & Equipment

3142160 O Dual Meritor RT46-160 Rear Axle rated at 46K. Tandem rear axles.

3200563 S Rear Axle Ratio - 5.63.

3306001 O Dual Rear Bendix Air Disc Brakes for Dual rear axles to 46K capacity.

3392604 O Splined Rotor for Dual Rear Air Disc Brake for use with aluminum hubs.

3407050 O Dual Rear Hubs: Aluminum Hub Pilot 46K; 11.25" bolt circle. Requires "R" series outer ends.

3441972 O ConMet PreSet Plus Hub Package; Dual Rear Axle.

3465900 O Rear Slack Adjusters Included W/ Axle or Air disc brakes.

3485002 O Spring Brakes Included W/ Dual Rear Air Disc brakes.

3490905 O Rear Air Disc Brake Dustshields for Dual Axle; includes pads only.

3495232 O Bendix 6S/6M Anti-Lock Brake System W/ Air traction control (ATC) and electronic stability program (ESP) for full truck. Must code for additional body information.

3500057 O Interaxle Driveline: 1 Dana SPL170XL Tandem Rear Axles Only

3500072 O Tanker Height less than 75 in. from Top of Frame rail

3511420 O Driver Controlled Differential Lock (Crosslock) for Meritor Axles 40K to 52K forward rear & rear rear axle. Under Speed Interlock is standard on T680.

3749203 O Rear suspension: Tandem Chalmers 854-46-L-HS 46K. 54 in. axle spacing. High center of gravity application. Unladen Height: 11.3 in. Laden Height: 9.6 in.

3832026 O Chalmers Shock Absorbers. 52K and Under suspension.

Tires & Wheels

4038628 O Front tires: Goodyear Armormax MSA 385/65R22.5 18PR AP 42.5 in diameter, all position. 19.8 in SLR. On/Off highway. Wide-base tire. in. SLR.

4238001 O Rear Tires: Goodyear Armor Max Pro Grade MSD

11R22.5 16PR

4900008 O Rear Tire Quantity: 8

5045216 O Front Wheel: Alcoa 82362 22.5x12.25 aluminum, with Lvl One [TM] finish High Polish, hub-pilot mount. 11400lb. maximum rating. Super single. Standard track axles may be over 102 in. w/425 tires. Air disc brake compatible.

5245263 O Rear Wheel: Alcoa 88565 22.5x8.25 aluminum, with Lvl One [TM] High Polish finish, hub-pilot mount. 8000lb. maximum rating. Severe service. Air disc brake compatible. Code is priced per pair of wheels.

5850040 O Wheelguards: All Axles.

5859010 O Single Front Axle: 2 wheels Dura-Bright Mirror Polish Dura-Bright outboard surface of aluminum wheels.

5859012 O Dual Rear Axle Wheels: 4 Wheels Dura-Bright Mirror Polish Dura-Bright outboard surface of outer dual or single aluminum wheels.

5900008 O Rear Wheel/Rim Quantity: 8

Frame & Equipment

6054410 O Frame Rails: 10-5/8 x 3-1/2 x 5/16 in. Steel to 309 in. to 380 in. Truck frame weight is 2.91 lb.-in. per pair of rails. Section modulus is 14.80 cu.in., RBM is 1,776,000 in-lbs per rail. 120,000 PSI yield. Heat treated. Frame rail availability may be restricted based upon application, axle/suspension capacity, fifth wheel setting, or component/dimensional specifications. The results of the engineering review may result in

a change to the requested frame rail. If a change is required Kenworth Application Engineering will advise the dealer of the appropriate material specification for a substitute rail.

6141600 O Full Steel Insert: for 10-5/8 in. or 10-3/4 in. Steel 337 in. to 416 in. or 2nd insert for 11-5/8 in. steel frame. Adds 1,149,000 in-lb to main rail RBM. Truck insert weight is 2.05 lb.-in. per pair of rails. Full frame insert length is equal to wheelbase plus rear frame cutoff plus dimension forward of front axle by model. See databook addendum section 7.2.

63087XX O Bumper: Tapered Steel, Painted. Requires a bumper setting code.

6319040 S 40 in. Bumper Setting. Requires a Bumper Code.

6321010 S Front Tow Loops: Two

6391201 O Custom Frame Layout: One Chassis CFL A/T: INSIDE FRAME RAIL FLANGES BODY BUILDER TO RELOCATE AS NEEDED CFL A/D: INSIDE FRAME RAIL BODY BUILDER TO RELOCATE AS NEEDED

6400633 O Battery Box: Temporary Across the Rails. Includes maximum cable length available.

6409908 O Battery Box Location: BOC Across the Rails.

6451126 O DPF/SCR Box Polished End Plates and Polished cover.

6490139 S Heavy-Duty One-PC Aluminum Intermediate/ Fill-In crossmember.

6490433 S Heavy-Duty 5-Piece Rear Cab Support, Hucked assembly. Huck fastened to frame.

6721102 S Rear Mudflap Arms: Betts B-25 Standard-Duty, straight. Includes B1732 mounting brackets as standard.

6722000 S Rear Mudflap Shields: White Plastic Antisail W/ Kenworth logo.

6742009 S Square End-of-Frame W/O Crossmember; Non-Towing.

Fuel Tanks & Equip

7140050 O 50 US Gallon D-Shape Rectangular Aluminum Under fuel tank, replace. With non-slip step.

7722170 S Small DEF Tank, 5.5 Gallons.

7839006 O Polished Fuel Tank Steps.

7840015 O Polish Only One Aluminum Tank.

7889061 O Polished Stainless Steel Tank Straps for 1 Tank.

7889206 O Minimum Required DEF to Fuel Fill Ratio.

7889217 O DEF capacity ratio - Truck to be centrally fueled

7889245 O Anti-Siphon Device in Fuel Tank Filler Neck. For any number of fuel tanks.

7889606 O DEF Tank Location is LH Under Cab.

7920050 O Location: 50 gal fuel tank LH under cab

Cab & Equipment

8024311 S Cab: Stamped Aluminum with Curved Windshield LED markers. Requires seperate roof code.

8090155 O Hood: Med Aero w/ Chrome Crown

8108003 O Ember Filter For Cabin Air. Used to keep embers out of the HVAC filter element. Cannot be used with code 8108002.

8108011 S Cab HVAC - Day Cab and 40 in. Sleeper System With Defrost, A/C, and 48,000 BTU/hr Heater. Includes automatic temperature control with one touch defrost operation and dash mounted cab temperature and solar intensity sensors. Pleated fresh air filter and cabin recirculation air filter standard. The Kenworth HVAC system is designed to provide optimal heating and cooling in all operating environments without need for additional insulation. Cab HVAC without sleeper heater AC is available with 40in sleeper.

8201047 O Kenworth Smartwheel: 18 in. Non-Leather With Integrated Radio and Cruise Controls.

8201200 S Adjustable Telescoping Tilt Steering Column.

8205135 O Information for Customer-Installed PTO Muncie 10-bolt.

8205177 O Dash Switch:1st Allison-Mounted PTO. Electric switch and wiring are factory-installed to control the 1st Allison Trans mounted PTO.

8222409 O Gauge: DD Virtual Gauge - Air Filter Restriction

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8222413 O Gauge: DD Virtual Gauge - Manifold Pressure Boost

8222414 O Gauge: DD Virtual Gauge - Engine Percent Torque

8222418 O Gauge: DD Virtual Gauge - Engine Hours Instrument Cluster

8222419 O Gauge: DD Virtual Gauge - Volts Instrument Cluster

8282024 S Main Instrument Package: 7" Digital Display Cluster. Includes Physical (Analog): Speedometer, Tachometer, Oil Pressure, and Coolant Temp; and Digital: Fuel Level #1, DEF Level, DPF Filter Status, Fuel Economy, Volts Telltale, OAT and Primary Air Pressure, Secondary Air Pressure, and Air Application for air brake trucks.

8330591 S Interior Trim Package: 2.1M MD Gray Foam Backing/Cloth Headliner W/Gray Sunvisor & Seat Color Three Underdash Center Console Cupholders (Two If Allison Transmission Is Selected).

8390635 U Rubber Floormat - NFPA Compliant

8410361 O Driver Seat: NFPA Compliant KW Air Seat HB Vinyl No Armrests, w/ Susp Bellows Cover and Isolator.

8460361 O Rider Seat: NFPA Compliant KW Air Seat HB Vinyl No Armrests, w/ Susp Bellows Cover, Isolator and Occupancy Sensor.

8489912 O NFPA Compliance Kit: 2.1 m Includes Seat occupancy sensors. Seat belt switches, VDR & seat sensor harness, reflective labels, and a second copy of operators manual.

8489914 U WELDON VDR HARNESS Narr WELDON VDR HARNESS

8496575 O Driver & Rider Seat Belts: Red, NFPA, Replaces Standard Seat Belts. (Available for NFPA RD Bench)

8601432 O Kenworth Radio DEA710 AM/FM/WB/USB, Bluetooth

8698965 O Speaker Package For Cab: (2) Speakers B-Pillar

8699017 O Telescoping Antenna: Mounted Behind LH Door. Replaces Top-of-Cab Antenna.

8700196 S Turn Signal: Self-Cancelling 0 8700283 S LH and RH Trip Ledge Rain Deflectors

8700663 O Kenworth TruckTech+: This system provides the World's Best reporting of engine and aftertreatment fault codes, as well as enhanced support for the truck owner through rapid communication of fault severity and recommended actions. This is standard on all Kenworth models with a PACCAR MX engine, Cummins X15 engine, PX engine or Natural Gas engine.

8800380 O Grabhandle: LH & RH SOC Non-Slip Ergonomic Grab Handles Mounted To The Left Hand and Right Hand Exterior Of The Cab For Entry and Exit. NFPA Compliant.

8800402 S Dual Cab Interior Grabhandles: A Pillar Mounted Dash Wrap and B Pillar Mounted Grabhandles

8832113 S Kenworth Daylite Door With Standard LH/RH electric door locks and LH/RH electric window controls.

8841411 S Single Air Horn Under Cab.

8850139 S Look-Down, Pass. Door, Black 11x6

8850841 O Mirror Shell: Dual Aero Chrome

8860852 O Mirror: Dual KW Aero Rear View Motor, heated with Integral CX.

8879922 O Solid Rear Wall. Deletes Rear Cab Window.

8890101 S One-Piece Bonded-In Windshield With Curved Glass. Standard.

8890356 O 4 1/4" Molded Wheelwell Fender Extension.

8890874 O Kenworth Cab Air Suspension.

88910XX S Roof: High Profile Stamped

Lights & Instruments

9010813 O Headlamps: Single Halogen Complex Reflector w/ Turn Indicator, Reflector and w/o DRL. Fender Mtd.

9010951 O Daytime Running Lights Located in Bumper. Driven by Chassis Height.

9020101 S 14-Pin RP170 Body Lighting Connector.

9022137 S Marker Lights: Five, Rectangular, LED

9030052 S LED Stop,Turn,Tail: With Two LED Backup Lights and With An LED License Plate.
9090052 O Brake Lights on when Engine Brake Active. Can only be selected when chassis also has engine brake. Cannot be used with options to delete engine brake.

9090115 O Reflectors: Two Midframe

9090180 O Backup Alarm: Tail Light Bracket Mounted Variable self-adjusting 82-102 DBA.

9090849 O Polyswitches Replacing Fuses. Switch Will automatically reset after removal of excess load.

Air Equipment

9101218 S Air Dryer: Bendix AD-HF Puraguard Heated

9108001 S Moisture Ejection Valve W/ Pull Cable Drain.

9140020 S Nylon Air Tubing in Frame & Cab, Excluding Hoses subject to excessive heat or flexing.

9140238 O Locate Air Dryer Outside RH Rail BOC. This code requires the use of a custom frame layout code.

9140289 O Air Tanks: Mounted Inside Frame Flanges where possible. This code requires the use of a custom frame layout code.

Extended Warranty

9200008 S Base Warranty - PACCAR PX-9 Engine 24 months / 250,000 miles / 402,336 km / 6250 hours.

9200022 O Base Warranty - Standard Service Medium Duty 12 months / Unlimited miles & km

9212661 O TruckTech+ RD - 5YR Sub PACCAR PX Engines

9220001 O Base Warranty: Emissions 5YR/100K MI - EPA Engine

Miscellaneous

9409852 O GHG Secondary Manufacturer: Does Not Apply

9490003 O Additional Lead Time Required for Off Highway & /or specialty component truck.

9490206 O Warning Triangle Reflector Kit: Shipped Loose. Kit consists of 3 triangles in plastic carrying case. Not floor mounted.

9490404 O One 5 lb. Dry Chemical Type Fire Extinguisher mounted outboard of driver seat. Class ABC.

9490645 O Zinc Phosphate Frame Rail Paint Processing. Requires frame rail code. Code is for 1 pair of rails.

9490647 O Zinc Phosphate Frame Insert Paint Processing. Requires any 1st frame insert code. Code is for 1 pair of any frame inserts.

9491659 S VMUX Architecture

Paint

9700000 O Paint Color Number(s).

N9702 A - Z9990 UNPUBLISHED PAINT
N9704 B - L0006 WHITE N9770 BUMPER Z9990 UNPUBLISHED PAINT
N9720 FRAME N0001 BLACK

9943001 O Bumper Painted Color A

9943052 O Day Cab Pearl Metallic Paint

9944822 O 2 - Color Cust Design - Day Cab - Lo Complex Must submit design for approval. A Custom Design and Color Layouts order form is required with all custom designs. When transmitting ETO Electronic Paint Order, please submit all custom forms to Kenworth Sales Department, Attn: Paint Coordinator. Custom paint designs will be reviewed on a case by case basis. Approval or disapproval is at the discretion of Kenworth Truck Company. Consult with your paint coordinator if the chassis paint sketch includes any of the following items: Items attached to the frame or below the frame are to be painted a color that is different than the frame paint color, Items attached to the cab or sleeper are to be painted a color that is different than the cab or sleeper paint color, The requested paint number cannot be identified as a number or type approved by Kenworth.

9960003 O Non-Standard Paint Color. Narr Z9990

9965510 S Base Coat/ Clear Coat. The Kenworth Color Selector contains additional instructions, as well as information on Kenworth paint guidelines and surface finish applications. Kenworth is standard with Dupont Imron Elite paint.

Exhibit A – Detailed Specifications

REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

Total Weight (lbs) 16,329

Prices and Specifications Subject to Change Without Notice. *Unpublished options may require review/approval. Dimensional and performance data for unpublished options may vary from that displayed in CRM. PRICING DISCLAIMER While we make every effort to maintain the web site to preserve pricing accuracy, prices are subject to change without notice. Although the information in this price list is presented in good faith and believed to be correct at the time of printing, we make no representations or warranties as to the completeness or accuracy of this information. We reserve the right to change, delete or otherwise modify the pricing information which is represented herein without any prior notice. We carefully check pricing specifications, but occasionally errors can occur, therefore we reserve the right to change such prices without notice. We disclaim all liability for any errors or omissions in the materials. In no event will we be responsible for any damages of any nature whatsoever from the reliance upon information from these materials. Please check your order prebills to confirm your pricing information*

TRANSMISSION SHIFT LOCK - ALLISON-3000 EVS

The transmission shall have a shift lock-up to keep the automatic transmission in direct gear during pumping operations. The transmission shift lock-up shall be automatically activated when the pump is placed in gear and deactivated when the pump is taken out of gear.

CHASSIS MODIFICATION - RELOCATE CHASSIS BATTERIES

The frame-mounted chassis batteries shall be relocated to lower portion of the right pump panel area with an access door.

CONSOLE BETWEEN THE DRIVER AND OFFICER SEAT

An aluminum console shall be specially designed to fit between the driver and the officer seats, to house all electrical lighting switches.

The console shall also be designed to hold the customer's specified communication equipment.

Exact layout shall be approved by the customer, prior to construction.

MUDFLAPS

Heavy-duty black rubber mudflaps shall be provided behind the front tires.

Black, anti-sail mudflaps shall be installed behind the rear wheels.

Exhibit A – Detailed Specifications

REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

CHASSIS MODIFICATIONS - REAR STAINLESS STEEL TOW EYES

Two (2) stainless steel tow eyes shall be attached directly to the chassis frame rails at the rear.

EXTENDED FRONT BUMPER

The chassis front bumper shall be extended 16 inches to accommodate specified accessories.

LINEX COATED COMPONENTS - NONE

NO items will be coated with Black Linex (or equivalent) prior to installation.

BUMPER APRON

An apron, constructed of .125" aluminum diamond plate, shall be provided and installed between the bumper and the front face of the cab. The apron shall be bent downward at the outboard edges to fill the space between the ends of the bumper and the wheel wells. The ends of the apron will be usable as mounting surfaces for warning lights.

The apron shall be fastened with stainless steel bolts, and shall be capable of supporting a 250 pound weight.

FRONT BUMPER COMPARTMENT - CENTER

A compartment shall be provided in the bumper apron, located in the center between the frame rails, which may be used as a hose well. The compartment shall be constructed of .125 inch 5052-H32 grade aluminum, and shall include drain holes in the bottom corners to allow excess moisture to escape. The compartment will be sized to hold 150' of 1.75" DJ hose.

STRAPS FOR CENTER BUMPER COMPARTMENT

The hose shall be secured with straps to prevent unintentional deployment of the hose, per NFPA 1900, 2024 edition, section 12.9.6.

HELMET STORAGE

The helmets will be stored in a compartment as specified by the purchaser at pre-paint inspection.

VEHICLE DATA RECORDER AND SEAT BELT WARNING SYSTEM

DATA RECORDING SYSTEM

The chassis shall be equipped with a Weldon *Vehicle Data Recorder* (VDR) system. The system shall be designed to meet NFPA 1900, 2024 edition, section 7.12.5(4). The following information shall be recorded:

- Vehicle speed in mph
- Acceleration (fron the speedometer) in mph/sec
- Deceleration (from the speedometer) in mph/sec
- Engine speed in rpm
- Engine speed control position in % of full speed control
- Antilock braking system event - on/off
- Seat occupied status - Occupied: Yes/No by position
- Seat belt status - Buckled: Yes/No by position
- Master optical warning device switch - on/off
- Time - 24-hour clock
- Date -year/month/day

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1900 guidelines, and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel-mounted, female, type-B USB connection point, remotely mounted in the left side foot well of the cab.

SEAT BELT WARNING

A Weldon seat belt warning system, integrated with the *Vehicle Data Recorder* system, shall be installed for each seat within the cab. The system shall activate an indicator light in the instrument panel, a digital seat position indicator with a seat position legend in the switch panel, and an audible alarm.

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, and the corresponding seat belt remains unfastened. The warning system shall also activate when any seat is occupied, and the corresponding seat belt was fastened in an incorrect sequence. Once activated, the visual indicators and audible alarm shall remain active until all occupied seats have the seat belts fastened.

TIRE PRESSURE INDICATOR – NFPA 1900, 2024 Edition, Section 7.14.6

Reel Wheels *Tire Watch* stainless steel electronic LED valve caps shall be installed on all wheels. Caps shall illuminate with a red LED when tire pressure drops 8 psi. The valve caps are self-calibrating, and are set to the pressure of the tire upon installation.

SNOW CHAINS - ONSPOT

One set of Onspot six (6) strand snow chains shall be provided and installed on the rear axle of the chassis to provide instant traction while traveling on ice and snow at speeds below 35 MPH.
Control switch shall be located in the cab.

FRONT WHEEL TRIM

The front axle shall be trimmed with stainless steel "baby moon" hub caps, (with hole for oil seals,) and stainless steel lug nut covers.

REAR WHEEL TRIM

The rear axle(s) shall be trimmed with stainless steel "Lincoln hat" hub covers and stainless steel nut covers.

IGNITION ON LIGHT

A green "MASTER DISCONNECT ON" indicator light, visible from the driver's position, shall be provided.

IGNITION - KEY CHAIN

The key to the chassis ignition shall be permanently chained to the dash to prevent accidental removal of the key from the cab.

MASTER LOAD DISCONNECT SWITCH

The chassis battery system shall be equipped with a Cole-Hersee model 2484-09 master load disconnect switch, installed in the cab and accessible to the driver.

BATTERY CHARGER, BUILT-IN BATTERY SAVER, BAR GRAPH DISPLAY, AND AUTO PUMP

A Kussmaul Auto Charge #1200 Series Model #091-187-12, 15 amp battery charger and 3 amp Battery Saver shall be provided and installed. The charger shall include a Model #091-199-001 remote digital display.

The Auto Charge 1000 with Parasitic Load Compensation (PLC) is a compact, microprocessor controlled, completely automatic, single channel battery charger designed for vehicles with a single battery system. The PLC charger is designed to withstand the shock and vibration encountered by vehicle mounted equipment.

The Battery Saver component shall eliminate drain on vehicle's battery system when vehicle is not in use. The system shall automatically disconnect auxiliary vehicle loads from battery when the charger is energized.

Parasitic Load Compensation feature is designed especially to meet the heavy duty requirements of emergency vehicles. Parasitic load compensation allows the operator to input the total number of parasitic load amps on the vehicle. The charger will then shift the absorption stage set point so the battery voltage will drop to the float voltage when the desired current is reached. This will lead to a longer battery life and no overcharging or overheating.

AUTO PUMP

A Kussmaul 091-9B-1 Auto Pump shall be provided and plumbed to the chassis air brake system to maintain air pressure. System shall be 120 volt 60 Hz shaded pole A. C. motor operating a single cylinder air compressor designed specifically for installation on vehicles with air brakes. During long idle periods of the vehicle, when even the slightest seepage can cause an air brake system pressure to drop below the brake lockup pressure, the Auto Pump AC automatically starts to maintain the pressure.

It is to be powered by a Kussmaul #091-55-120 20 amp 120V auto-eject inlet receptacle, with weather proof cover and box, located on the left-hand pump panel.

CHASSIS MODIFICATION - EXTERNAL JUMPER POSTS

One (1) set of external jumper posts shall be supplied on the unit, located on the drivers side pump panel, and directly connected to the batteries.

The posts will be clearly color-identified, so there will be no confusion when connecting jumper cables or a battery charger to the posts.

CHASSIS MODIFICATIONS-110 VOLT SHORELINE

A 110 volt shoreline shall be run to the interior of the cab for accessory electrical equipment.

Line shall be wired to a six (6) outlet power strip, located in the center of the cab, where designated at the pre-paint inspection.

RADIO ANTENNA MOUNT

An antenna mounting base, Model MATM, with 17 feet of coax cable and weatherproof cap shall be provided for a two-way radio.

The mount shall be located on the cab roof.

The cable shall be routed to the right side interior for customer to route to the instrument panel if needed.

RADIO MOUNTING

A customer-supplied, pre-programmed radio will be installed in the cab.

ANODE SYSTEM

Two (2) anodes shall be installed in the pump to prevent damage caused by galvanic corrosion within the pump.

One (1) installed in the suction side of the pump and one (1) installed in the discharge side of the pump.

The anodes should be inspected every 12 months and replaced when over 75% of the zinc has been consumed. Performance of the anode life will vary with water quality and PH.

AUTOMATIC FIRE PUMP PRIMING SYSTEM WITH LIFT GAUGE

A Trident Model #31.011.3 automatic air-operated priming system shall be installed. The unit shall be of all brass and stainless steel construction, and designed for fire pumps of 1,250 GPM (4,690 LPM) or more. Due to corrosion exposure. no aluminum or vanes shall be used in the primer design. The primer shall be a three-barrel design with ¾" NPT connection to the fire pump.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine-mesh strainer to prevent entry of debris into the primer body.

AUTOMATIC PRIMER CONTROL WITH VACUUM GAUGE PANEL

The 12 volt primer control shall be an automatic-type, with a pump panel three-way switch to operate an air solenoid valve. The air valve shall direct air pressure from the air brake system to the primer. To prevent freezing, no water shall enter the primer valve control.

A vacuum gauge, 2" in diameter, with graduations from zero to 30 feet, shall be installed in the primer control panel. The gauge shall be physically connected to the vacuum side of the primer, and read only when the primer is running, so it will never see or be subject to damage from high pump intake pressures.

The automatic priming switch shall have three positions as follows:

- **Prime -** the lower position shall be a momentary "push-to-prime". The "Prime" position also allows the operator to "ramp" test the primer without the fire pump being engaged.

- **Off -** center position

- **Auto-Prime** - in the upper position, a green LED pilot light shall be illuminated when the switch is the "Auto-Prime" position. The *Auto-Prime* operates automatically when the pump pressure drops below 20 PSIG. The primer shuts off automatically when the pump pressure is re-established, and exceeds 20 PSIG. The *auto* mode only operates when the fire pump is engaged.

Warranty - The primer shall be covered by a five (5) year parts warranty.

PUMP SHIFT

A locking push/pull type air-power shift shall be installed to engage fire pump, with a red indicator light located on the cab dash and an additional red indicator light, located on the pump panel, to indicate when the pump is completely in gear.

A second, green, panel light will be activated when the chassis is placed into gear, to notify the operator when the throttle can be advanced.

PUMP - DARLEY CHAMPION - MODEL LDM - 1500 GPM

The pump must deliver the percentage of rated capacity at the pressure listed below:

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

Pump Casing: Vertically-split-type. Fine-grain alloy cast iron, bronze fitted.

Impeller: High-strength, bronze alloy, accurately balanced and splined to pump shaft for precision fit and durability.

Double suction design eliminates end thrust.

Seal Rings: Renewable, double-labyrinth bronze-type are standard.

Pump Shaft: Precision-ground stainless steel with long-wearing ceramic hard coating under packing glands.

Shaft is splined for broached impeller hubs for greater resistance to wear, torsional vibration, and torque imposed by engine.

Mechanical Seal: pressures are equalized around shaft.

Transmission Case: Alloy cast iron with adequate oil reserve capacity for low operating temperature.

Supplementary cooling is unnecessary.

Driveshafts: Precision ground heat treated alloy steel with 2", 10-spline, standard input and output.

Gears: 3-1/2" face helical. Precision-cut from heat-treated alloy steel for quiet operation and long life.

Gear Shift: A heat-treated alloy steel splined-spur gear engages either pump drive gear or truck drive shaft gear.

Bearings: Deep-groove radial-type ball bearings, oversized for long life.

Bearings are protected at all openings from road dirt and water splash with double-lip oil seals.

PRESSURE GOVERNOR, MONITORING, AND MASTER PRESSURE DISPLAY

Fire Research *InControl* series TGA401-D00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof, and have dimensions not to exceed 5-1/2" high by 10-1/2" wide by 2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red *Idle* push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

- *Pump Discharge*; shown with four (4) daylight bright LED digits, more than 1/2" high
- *Pump Intake*; shown with four (4) 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 (4) 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 nighttime 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 Cummins engine.

Exhibit A – Detailed Specifications

REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

PIPING

All piping shall be heavy-duty, 304 grade, schedule 10 stainless steel or Class 1 high-pressure flexible hose. All stainless steel fittings shall be threaded or welded.

Class 1 flexible hose shall be Black SBR synthetic rubber hose with 300# working and 1200# burst pressure, with stainless steel fittings.

Whenever possible, sweep-type elbows shall be utilized, in order to reduce friction loss. Thread-in 45's and 90's will be used elsewhere.

Victaulic or rubber couplings shall be used, where necessary, to allow flexing of plumbing, which will prevent damage or loosening of the piping, which can occur with rigid plumbing.

All threaded joints shall have non-hardening type sealant for easy removal for repairs.

All piping, including intake and discharge lines, shall be hydrostatically tested. A vacuum test shall be applied to the pump, plumbing, and valves, to test for leaks. The system shall be tested, and shall show minimum loss of no more than 10 inches of vacuum over a 5 minute period, as required by NFPA 1900, 2024 edition, section 15.13.6.4.

SYNFLEX SUCTION, DISCHARGE, PRESSURE AND CONTROL LINES

Small lines within the pump enclosure shall be constructed from Synflex hose. Uses include, but are not limited to, such lines as priming control, gauge lines, drain lines, air control valves, pump shift, supplemental cooling, foam flush, and air bleeder valves.

FIRE PUMP & PLUMBING SYSTEM PAINTING

The fire pump and plumbing system shall be painted job color, or the lower color when a two paint scheme is specified. No exceptions.

AKRON VALVES

All pump intake and discharge valves shall be *AKRON 8000* heavy-duty swing-out series. The valves shall have an all-brass body with flow-optimizing stainless steel ball, and dual-polymer seats. The valves shall be capable of dual-directional flow, while incorporating a self-locking ball feature, using an automatic friction lock design, and specially designed flow-optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require the lubrication of seats or any other internal waterway parts, and be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valves shall carry a ten (10) year manufacturers warranty. The valve shall be manufactured and assembled in the United States.

INTAKE RELIEF VALVE

An Elkhart Brass intake relief valve shall be installed on the suction side of the pump. The valve shall be the preset type at 125 PSI and is adjustable from 75 to 250 PSI, and shall be designed to prevent vibration from altering the setting. The relief outlet shall be directed below the pump with the discharge terminating in a 2-1/2" male NST connection. The discharge shall be away from the pump operator and labeled "Do Not Cap".

DARLEY THERMAL RELIEF VALVE

- Protect your pump from overheating with an easy to install stainless steel and brass temperature relief system. Preset temp of 120˚F, then dumps up to 55 gpm to atmosphere and resets automatically. Available in 12 and 24 volt. Rated to 600 psi and fits any pump.
- Thermal Relief Valve assembly with a light and test button - 12VDC and 120F

U.L. PUMP & VOLTAGE CERTIFICATION TEST

One (1) certification test shall be performed at the manufacturers on-site testing facility, by Underwriters Laboratories.

The certification shall include at minimum:

- Pumping test - NFPA 13.13.2
- Pumping engine overload test – NFPA 3.13.3
- Pressure control system test - NFPA 13.13.4
- Priming system tests - NFPA 13.13.5
- Vacuum test - NFPA 13.13.6
- Water tank-to-pump flow test - NFPA 13.13.7
- If the pump is driven by the chassis engine: engine speed advancement interlock test – NFPA 13.13.8
- Gauge and flowmeter test – NFPA 13.13.9
- Low voltage - NFPA 10.13
- Line voltage - NFPA 21.13.3

A test plate shall be provided at the pump operator's position that gives the rated discharges and pressures, together with the speed of the engine, as determined by the certification test. The plate shall be completely engraved with all information at the factory, and attached to the vehicle prior to delivery. The original U.L. certificate shall be provided upon acceptance and payment of the apparatus in full.

VENTED LUG CAPS AND PLUGS

All intake and discharge plugs and caps shall be vented-lug type, designed to relieve trapped pressure and help reduce possible operator injuries.

STEAMER INLETS

Two (2) 6" steamer inlets shall be provided on the pump panels, one (1) on the left side and one (1) on the right side.

Both inlets shall have screens and chrome caps with long handles.

SUCTION - LEFT SIDE

One (1) 2-1/2" suction valve shall be installed on the left side of the unit. The valve body shall be mounted behind the pump panel, with a 2-1/2" NST chrome inlet swivel, chrome plug and chain, and removable inlet strainer.

SUCTION - RIGHT SIDE

One (1) 2-1/2" suction valve shall be installed on the right side of the unit. The valve body shall be mounted behind the pump panel, with a 2-1/2" NST chrome inlet swivel, chrome plug and chain, and removable inlet strainer.

A push/pull "T" handle will be located in the Drivers side pump operators panel and marked right hand aux. suction.

TANK TO PUMP

There shall be two (2) 3" gated tank to pump lines piped to the pump, one from the front and one near the rear of the tank.

Piping from the sumps to the valves shall be 4" diameter.

The line shall be plumbed directly into the suctions of the pump for maximum efficiency.

A full-flow, inline ball valve, with check valve, shall be provided in each line to prevent accidental pressurization of the water tank through the pump connection.

Separate controls with function plates for each valve shall be located on the pump operator's panel.

TANK FILL - 2-1/2"

There shall be a 2-1/2" tank refill line installed, with a 2-1/2" inline valve.

Valve shall be controlled at the pump operator's panel, and will be clearly marked "TANK REFILL/PUMP COOLER".

BOOSTER REEL

A Hannay aluminum booster reel shall be installed in the rear compartment, between the frame rails.

Reel shall be constructed utilizing an aluminum welded base.

Rewind shall be a 12v electric motor that will chain-drive the reel drum.

The booster reel shall have an automatic brake to prevent the booster hose from unwinding.

Reel shall include 150' of 1" Reeltex lightweight booster hose.

A TFT *Twister* model #DS1040 1" nozzle shall be provided.

A weatherproof push button switch shall be provided on the rear body panel to the right side of the reel.

A gear-driven manual rewind shall be included.

The booster reel discharge control shall be located at the pump operator's control panel.

A 4-way roller system shall be provided behind an aluminum treadplate drop-down door.

CROSSLAY HOSEBEDS W/ 2" PLUMBING

Two (2) crosslays shall be installed over pump compartment.

Each section of the crosslay shall be capable of holding 200' of 1.75" double-jacketed hose in a single-stack load.

A 2" mechanical swivel with 1.5" NST hose connector shall be used in each crosslay, to allow deployment of hose in either direction.

Stainless steel rollers with nylon guides shall be mounted on both ends, and below crosslays.

A 1/4" aluminum divider shall separate the crosslays, and poly-plas matting shall be used on the stainless steel crosslay floor.

Each crosslay shall be plumbed with 2" piping and a 2" valve, and shall be controlled at the operator's panel.

CROSSLAY HOSEBED W/ 2-1/2" PLUMBING

One (1) crosslay shall be installed over the pump.

The crosslay shall be capable of holding 200' of 2.5" double-jacketed fire hose, in a single- stack load.

A 2.5" mechanical swivel hose connector shall be used in the crosslay, to allow deployment of hose in either direction.

Poly-plas matting shall be provided on the stainless steel crosslay floor.

Stainless steel rollers with nylon guides shall be mounted on both ends, and below the crosslay.

The crosslay shall be plumbed with 2.5" piping and a 2.5" valve, and shall be controlled at the operators panel.

RECESSED CROSSLAYS

Specified crosslays shall be recessed as low as possible in the pump panel.

CROSSLAY LID

A polished aluminum diamond plate lid shall be provided over the crosslay(s).

The lid shall have full length stainless steel hinge with velcro straps to hold lid firmly in place.

CROSSLAY NYLON CARGO FLAPS

Black cargo netting shall be installed on each end of the crosslay to retain the hose load. The flaps shall be secured with straps with buckle fasteners.

Meets NFPA 1900, 2024 edition, section12.9.6 - Any hose storage area shall be equipped with a positive means to prevent unintentional deployment of the hose from the top, side, front, and rear of the hose storage area while the apparatus is underway in normal operations.

DUNNAGE COMPARTMENT

The remaining area behind the crosslay(s) shall be used for additional storage space.

DUNNAGE COMPARTMENT

Each side of the dunnage compartment shall be enclosed with black vinyl-covered aluminum.

FRONT BUMPER DISCHARGE

One (1) discharge shall be piped to the left front bumper with 2.5" piping and 2.5" valve.

Discharge shall terminate above the gravel shield, to the left of the sump box, with a Trident 2.5" female NPT x 2.5" male NST chrome swivel elbow.

A control handle shall be provided on the pump operator's panel.

DRIVERS SIDE SUMP BOX

The left side running board shall have a 12 gauge stainless steel floating sump box, as large as possible.

The sump box shall have matting and drain holes in the floor of the compartment.

It shall be capable of holding 50' of 4" LDH.

The hose shall be secured with straps to prevent unintentional deployment of the hose, per NFPA 1900, 2024 edition, section 12.9.6.

PASSENGERS SIDE SUMP BOX

The right side running board shall have a floating 12 gauge stainless steel floating sump box, as large as possible.

The sump box shall have matting and drain holes in the floor of the compartment.

It shall be capable of holding 50' of 4" LDH.

The hose shall be secured with straps to prevent unintentional deployment of the hose, per NFPA 1900, 2024 edition, section 12.9.6.

DISCHARGE - 2.5" LEFT SIDE

One (1) 2.5" discharge shall be located on the left side pump panel, and shall be controlled from the operator's panel.

The discharge shall terminate with a 2.5" NST 30 degree turn-down with chrome cap and retainer chain.

DISCHARGE - 2.5" RIGHT SIDE

One (1) 2.5" discharge shall be located on the right side pump panel, and shall be controlled from the operator's panel.

The discharge shall terminate with a 2.5" NST 30 degree turn-down with chrome cap and retainer chain.

DISCHARGE - 4" RIGHT ELECTRIC - 4" STORZ

One (1) 4" Akron full-flow, electric-actuated discharge shall be located on the right side pump panel. The valve will be controlled by an Akron model 9335 controller with pressure readout which will be located on the operator's panel.

The discharge shall terminate with a 4" NST x 4" 30 degree Storz adapter with blind cap and retainer chain.

DISCHARGE - 2.5" LEFT REAR HOSEBED

One (1) 2.5" discharge shall be piped to the left rear of the hosebed, as low as possible, and shall be controlled from the pump operator's panel.

The discharge shall terminate with a 2.5" NST 30 degree turn-down, with chrome cap and retainer chain.

DISCHARGE - 3" DECK GUN

One (1) 3" deck gun discharge shall be plumbed to center of the dunnage area over the pump.

Piping will be firmly supported and braced.

The discharge shall be controlled at the operator's panel.

Discharge shall terminate with 4-bolt flange.

TFT EXTEND-A-GUN - 18"

A Task Force Tips, *Extend-A-Gun*, deck gun extender shall be supplied and connected to the deck gun discharge of the unit.

This will allow the deck gun to be lowered to a shorter travel height, yet still allow 360 degree use of the deck gun when fully extended 18 inches.

The *Extend-A-Gun* will be wired to the hazard light in the cab.

REDUCER

One (1) Akron style 337 chrome reducer, 2.5" NST female to 1.5" NST male adapter, with 1.5" cap and chain, shall be provided on the bumper discharge swivel.

PUMP MASTER DRAIN

The pump shall be equipped with a Trident master drain that will have the capacity to drain all lines and main pump at the same time. The master drain will be mounted on the left side panel, and will be readily accessible.

DRAIN VALVES

All side discharges and auxiliary suction drain valves shall be *Innovative Controls* 3/4" ball brass drain valves with chrome-plated lift lever handles and ergonomic grips. Each lift handle grip shall feature built-in color-coding labels and a verbiage tag, also supplied by *Innovative Controls*, identifying each valve. The

colors labels shall also include valve open and close verbiage. The drain valves shall located in the lower portion of the pump panels. All other discharges shall have *Class 1* brand 3/4" automatic bleeder drains.

INDEPENDENT PUMP MODULE

The pump module shall be a self-supported structure, mounted independently from the body and chassis cab. The pump module shall be fabricated and constructed from the same material as the body. The design shall allow for normal frame deflection, without imposing stress on the pump module structure. The pump module shall consist of a welded, tubular, stainless steel framework, properly braced, to withstand chassis frame flexing. The pump module shall be bolted to the chassis frame rails.

SIDE MOUNTED OPERATOR'S PANEL

CONSTRUCTION

The pump house shall be a properly-supported structure, mounted between the body and chassis cab, and shall be bolted to the chassis frame rails. The panel shall be supported by 1-1/2" stainless steel tubing.

The pump, and all of the pump-mounted valves, shall be completely enclosed by the pump house design.

The left side of the pump house shall consist of an upper, hinged panel containing all required gauges.

The lower panel shall contain left side specified discharges, inlets, drains, and pump controls.

The upper right side of the pump house shall consist of double, vertically-hinged access doors. The doors will be swing-open-style with quick-opening latches.

A separate, lower panel shall contain the specified right side-mounted discharges and inlets, and their respective drains.

The bottom panel shall be fastened to the pump house with stainless steel bolts, and shall be completely removable.

INNOVATIVE CONTROLS PUSH/PULL VALVE CONTROL HANDLES

For valve actuation, the apparatus pump panel shall be equipped with *Innovative Controls* side- mount valve controls.

The ergonomically-designed, push-pull T-handle shall be chrome-plated zinc with recessed labels for color coding and verbiage. The control rod, double laminated locking clips, and rod housing shall be stainless

steel, and shall provide a true, positive lock that will eliminate valve drift. Bronze and Teflon-impregnated stainless steel bushings, in both ends of rod housing, shall minimize rod deflection, never need lubrication, and ensure consistent, long-term operation. Where required, locking, quarter-turn, push-pull, T-handle controls will be provided.

The control assembly shall include a decorative, chrome-plated, zinc, panel-mounting bezel and four (4) mounting bolts.

IDENTIFICATION LABELS FOR PUMP PANEL

Innovative Controls verbiage label bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These labels shall be designed and manufactured to withstand the specified apparatus service environment.

The verbiage label bezel assemblies shall include a chrome-plated, panel-mount bezel with durable, easy-to-read, UV-resistant, polycarbonate inserts, featuring the specified verbiage and color coding. The UV-resistant, polycarbonate verbiage and color inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

SIDE MOUNTED OPERATOR'S PANEL

The following items shall be located on the left side pump panel:

- Individual 0-400# compound discharge gauges shall be provided for each 1.5" or larger discharge
- One (1) -30 to 400 psi master pressure gauge
- One (1) -30 to 400 psi master vacuum gauge
- One (1) engine oil pressure gauge with audible & visual alarm
- One (1) engine water temperature gauge with audible & visual alarm
- One (1) engine voltmeter
- One (1) waterproof engine tachometer
- Two (2) UL test connections
- One (1) master pump house lighting switch
- One (1) engine throttle control
- One (1) relief valve control and open indicator light
- One (1) primer control
- All discharge controls
- One (1) tank fill/pump bypass control
- One (1) tank to pump valve controls
- One (1) pump ENGAGED indicator light

- One pump certification plate
- One liquid level meter with sensor in the water tank

RUNNING BOARDS

Running boards shall be provided on each side of the pump module, which shall extend from the front of the side compartments, forward to the back of the cab. Running boards shall be covered with 1/8" aluminum diamond plate. The inboard edge shall be formed upward 1-1/2", to provide a kick strip along the bottom of the pump panel. The outer edge shall be bent downward to provide a safety rail.

Running boards are supported by 1.50" structural stainless steel tubing, welded to the pump house framing, and shall be able to support a minimum of 500 pounds. The running board stepping surface will comply with the latest version of NFPA 1900.

BLACK VINYL PUMP PANELS

The pump and gauge panels shall be constructed of black, vinyl-covered aluminum, to allow easy identification of the gauges and controls, and to eliminate glare.

The black vinyl shall be bonded to the aluminum by the company that supplies the product.

TRIM RINGS

Bright, polished, removable trim rings shall be installed around all panel-mounted suction inlets and discharge outlets. The trim rings shall be bolted in place with flush stainless steel screws.

Bright, polished trim rings shall also be installed around the master gauges and each individual pressure gauge. The trim rings shall be bolted in place with flush stainless steel screws.

The trim rings shall incorporate color-coded identification labels and warning labels where required.

PANEL LIGHTING

The side-mount pump panel shall be illuminated by four (4) TecNiq (model E10-W000-1) 6.00" LED lights with clear lens.

Lights shall be mounted across the top of the gauge panel, and shall be protected by a full-width, polished stainless steel shield.

Lights are controlled by a panel-mounted master light switch.

One (1) side pump panel light shall illuminated when the pump is shifted into gear from inside the cab, affording the operator illumination when first approaching the control panel.

4.0" INNOVATIVE CONTROLS MASTER GAUGES

The master intake and master discharge gauges shall be 4" diameter Innovative Controls pressure gauges. Each gauge shall have a one-piece nylon case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. Clear, scratch-resistant, molded crystals with captive O-ring seals shall be used to ensure distortion-free viewing, and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation, and ensure proper operation from –40°F to +160°F. Each gauge shall meet ANSI B40.1 Grade 1A requirements with an accuracy of +/- 1%, full scale, and include a size-appropriate, phosphorous-bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauges shall be installed into decorative, chrome-plated mounting bezels that incorporate valve-identifying verbiage.

The master gauges shall be installed on the pump panel, no more than 6 inches apart. The gauge on the left shall be the master pump intake gauge, and shall display a range from -30 to 400 psi, with black graphics on a white background. The gauge on the right shall be the master pump discharge gauge, and shall display a range from -30 to 400 psi, with black graphics on a white background.

2-1/2" INNOVATIVE CONTROLS GAUGES

The valve discharge gauges shall be 2 ½ " diameter Innovative Controls pressure gauges. Each gauge shall have a one-piece nylon case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. Clear, scratch-resistant, molded crystals with captive O-ring seals shall be used to ensure distortion free viewing and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from –40°F to +160°F.

Each gauge shall exceed ANSI B40.1 Grade B requirements, with an accuracy of +/- 1.5% , full scale, and shall include a size-appropriate, phosphorous-bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy. A polished stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauges shall be installed into decorative, chrome-plated, mounting bezels that incorporate valve-identifying verbiage and color labels. The gauges shall display a range from 0 to 400 psi, with black graphics on a white background.

ICI WATER LEVEL MONITOR

An Innovative Controls SL-10 Series tank level monitor system shall be installed. The system shall include an electronic display module, a pressure transducer-based sender unit, and a 10' connection cable. The display module shall show the volume of water in the tank using 10 superbright, easy-to-see LEDs. Tank level indication is enhanced by the use of green LEDs at the full and near-full levels, amber LEDs between ¾ and ¼ tank levels, and red LEDs at the near-empty and empty levels. A wide-angle diffusion lens in front of the LEDs creates a 180° viewing angle. The electronic display module shall be waterproof and shock resistant, being encapsulated in a urethane-based potting compound. The potted display module shall be mounted to a chrome-plated, panel-mount bezel with a durable easy-to-read polycarbonate insert, featuring blue graphics and a water icon.

All programming functions shall be accessed and performed from the front of the display module. The programming includes self-diagnostics, manual or self-calibration, and networking capabilities to connect remote slave displays. Low tank level warnings shall include flashing red LEDs, starting below the ¼ level, down-chasing LEDs when the tank is almost empty, and an output for an audible alarm.

The display module shall receive an input signal from a pressure transducer. This stainless steel sender unit shall be installed on the outside of the water tank near the bottom. All wiring, cables and connectors shall be waterproof without the need for sealing grease.

Location of water tank level monitor shall be on the pump operator's panel.

ICI 5-LED REMOTE CAB- MOUNTED SLAVE WATER TANK LEVEL MONITOR

An Innovative Controls SL Series tank level monitor remote, cab-mounted mini slave display shall be installed. The system shall include an electronic display module and a 10' connection cable. The display module shall show the volume of water in the tank, using 5 easy-to-see LEDs that automatically dim and brighten as the ambient light in the cab changes. Tank level indication is enhanced by the use of a green LED at the full level, amber LEDs at the ¾, ½ and ¼ tank levels, and a red LED at the empty level. The electronic display module shall be waterproof and shock resistant, being encapsulated in a urethane-based potting compound. The potted display module shall be mounted to a chrome-plated, panel-mount bezel with a durable, easy-to-read polycarbonate insert featuring blue graphics and a water icon.

The remote slave display shall receive input data from an Innovative Controls SL Series master display unit, and mirror its function. Low tank level warnings shall include flashing a red LED starting below the ¼ level, down-chasing LEDs when the tank is almost empty, and an output for an audible alarm.

All wiring, cables and connectors shall be waterproof without the need for sealing grease.

Location of remote water tank level monitor shall be in the cab dash or center console.

WHELEN TANK LEVEL LIGHTS,

There shall be three (3) Whelen Strip-Light Plus XL tank lights surface mounted within a chrome bezel. Lights will be mounted vertically, one (1) on each side of the body, and one (1) on the rear of the body.

The light strips shall feature four (4) colors of LED lights to indicate the fluid level of a tank. The lights shall change in color to indicate the water level of the tank in ¼ tank increments. The colors shall change from green, indicating a full tank, to blue, amber, and red as the tank level drops.

AIR OUTLET ON OPERATOR'S PANEL

A non-emergency air outlet with a male quick coupler shall be installed on the left pump panel. The outlet will be plumbed to the chassis auxiliary air tank, and will include a pressure protection valve set at 70 PSI.

Per NFPA 1900, 2024 edition, section 23.12.2, the chassis air brake system shall not be used for emergency use applications such as airbags, tools, air reels, and other rescue applications.

AIR HORN BUTTON ON PANEL

An air horn button shall be installed on the pump operator's panel.

This button will allow pump operator to activate air horns at any point in time. The button will be a waterproof, momentary-contact switch, included in the pump panel light switch bezel. The button shall be red in color, and shall be clearly marked, to distinguish it from other pump panel elements.

DIRECT TANK FILL - 4.00" FIREMAN'S FRIEND CHECK VALVE

Two (2) Fireman's Friend 4.00" semi-automatic direct tank fill valve shall be mounted in the rear of the tank, one each side of the rear dump valve.

The internally-mounted, check-type fill valve is capable of flowing at a rate in excess of 1,000 gallons per minute. The fill valve shall be self-deflecting, requiring no additional diffusion device. It shall be constructed of stainless steel, with a spring-actuated, piston-type sealing mechanism to minimize seal wear and provide positive sealing of valve after shutting off the feed source.

The inlets will terminate with a 4" storz adapter with screen, blind cap with retainer chain. The inlet shall have a 30-degree turndown to allow for easy hose connection.

A 3/4" bleeder will be provided on each fill.

DUMP VALVE-10" NEWTON ELECTRIC ACTIVATED

One (1) Newton model 1070-34C 10" square stainless steel dump valve shall be provided and installed centered on the rear of the unit in the lowest portion of the tank. The valve will be electric-activated with three (3) control switches located:

- One (1) in the cab
- One (1) on the left rear of the unit
- One (1) on the right rear of the unit

MANUAL SLIDE EXTENSION

A Newton manual stainless steel slide extension shall be installed on the rear Newton dump valve. The extension can extend up to 20" beyond the end of the valve.

SIDE DUMP VALVES BETWEEN REAR AXLES

Side dump valves shall be provided on each side of the apparatus, located between the rear axles.

Left side dump valve will be a Newton model 1080-34-27-4DEG electric-actuated valve with Newton model 5018SR-34 electric-actuated telescoping chute, mounted on the driver's side between the tandem rear wheels.

Right side dump valve will be a Newton model 1080-34-27-4DEG electric-actuated valve with Newton model 5018SL-34 electric-actuated telescoping chute, mounted on the passenger's side between the tandem rear wheels.

This system shall allow the chutes to extend approximately 17" beyond the valve.

The valves shall be recessed behind the side body panels. The stainless steel slide extensions will extend and retract automatically when the valve is opened. Control switches shall be located in the cab and near each dump valve.

Hinged stainless steel doors, painted to match the body color, shall be provided over each valve opening. The doors shall open and close automatically upon activation of the valve.

WATER TANK

The UPF poly water tank shall be constructed of PT3™ polypropylene material. This material shall be a non-corrosive, stress-relieved thermoplastic and shall be UV-stabilized for maximum protection. The tank

shell thickness may vary depending on the application, and may range from ½" to 1" as required. Internal baffles are generally 3/8" in thickness.

The tank capacity shall be 3000 gallons, and will be equipped with a 6" vent/overflow.

TANK CONSTRUCTION

The poly water tank shall be of a specific configuration, and is designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas, as required and tested, for maximum strength and integrity. The tank construction shall include PolyProSeal™ technology, wherein a sealant shall be installed between the plastic components prior to being fusion-welded. This sealing method will provide a liquid barrier, offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with a removable lifting assembly, designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" PT3™ polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another, and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1900. The walls shall be welded to the floor of the tank, providing maximum strength as part of the tank's unique Full Floor Design™. Tolerances in design allow for a maximum variation of 1/8" on all dimensions.

CAPACITY CERTIFICATION

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

TANKNOLOGY™ TAG

A tag shall be installed on the apparatus, in a convenient location, which shall contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include:

- The capacity of the water and foam(s)
- The maximum fill and pressure rates
- The serial number of the tank
- The date of manufacture
- Tthe tank manufacturer and contact information

The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

Exhibit A – Detailed Specifications

REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

TANK LID

The tank cover shall be constructed of 1/2" thick PT3™ polypropylene and shall be UV-stabilized to incorporate a multi-piece locking design which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank, and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold-downs consisting of 2" minimum polypropylene dowels, spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions. A minimum of two lifting dowels shall accommodate the necessary lifting hardware.

TANK FILL TOWER

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" PT3™ polypropylene and shall be a minimum dimension of 12" x 12" outer perimeter. The fill tower shall be blue in color, indicating that it is a water-only fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe.

OVERFLOW AND VENT PIPE

The fill tower shall be fitted with an integral 6” ID schedule 40 P.V.C. combination overflow/vent pipe that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels, as required in NFPA 1900, so as to not interfere with rear tire traction.

TANK SUMP

There shall be one (1) sump, standard, per tank. The sump shall be constructed of a minimum of 1/2" PT3™ polypropylene and be located in the left/front quarter of the tank, unless specified otherwise. On all tanks that require a front suction, a 3" 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" N.P.T. threaded outlet on the bottom for a drain plug, per NFPA. This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 3" above the inside floor.

TANK OUTLETS

There will be two (2) standard tank outlets:

- One (1) for the tank-to-pump suction line, which shall be a minimum of 4” coupling and
- One (1) for a tank fill line, which shall be a minimum of a 2” N.P.T. coupling.

All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

WATER TANK MOUNTING

The tank shall rest on the body cross members, spaced a maximum of 22" apart, and shall be isolated from the cross members through the use of ¼" to 1/2" rubber, 2-1/2" wide. The tank shall sit, cradle-mounted, using four (4) stainless steel corner angles 3" x 3" x ¼" thick. Angles are welded directly to the body cross members. The angles shall keep the tank from shifting left to right or front to rear. The angles are also isolated from the tank through the use of ¼" to ½" rubber. The tank is designed on the free-floating suspension principle, and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The body or hose bed cross braces shall act as water tank retainers.

STAINLESS STEEL BODY & COMPARTMENT CONSTRUCTION

The complete apparatus body and subframe shall be fabricated of 12 gauge, type 304 grade stainless steel sheeting with a tensile strength of 87,000 psi and a yield strength of 39,000 psi.

All body and compartment components shall be break-form design. Compartments are constructed of 12 gauge, type 304 stainless steel. This shall include compartment floors, side walls, and ceilings. No Exception. Compartments shall be formed from a single sheet of metal when possible. The exterior of the compartments shall be solid-seam welded. The corner seams shall be caulked with gray silicone caulking. All burrs shall be removed to eliminate sharp edges.

Interiors of compartments are to be left natural stainless steel with a swirl finish applied to give a lasting and pleasing appearance.

COMPARTMENT SUPPORTS

Compartment floor supports shall be provided, fabricated of 12 gauge stainless steel. Support members measuring 2.00" x 4.00" shall be installed under the compartment floors. The supports shall be formed, U-shaped sections that will extend the full width beneath the compartment floors. The upper body walkway floor will be supported in a similar fashion.

STAINLESS STEEL SUBFRAME

A 1.50" x 3.00" stainless steel tubular subframe shall be fabricated to support the body and tank. Structural stainless steel rails shall run the full length of the body, across the top of the chassis frame rails. Stainless steel crossmembers measuring 3.00" shall be utilized to ensure rigidity, with cross members being space no more than 24" apart.

The subframe and cross members shall be MIG-welded. All compartments and all stainless steel sheeting is TIG-welded with 308 stainless steel filler wire.

The complete body structure shall be secured to the chassis frame rails with high-grade 5/8" diameter U-bolts.

Heavy duty rubber sill measuring 1.00" x 3.00" will be installed between the body subframe and chassis frame rails to prevent stress on the body and tank components. The rubber sill shall be retained by a full length stainless steel channel.

STEPPING, STANDING, & WALKING SURFACES

All stepping, standing, and walking surfaces on the body shall meet NFPA 1900 anti-slip standards.

WHEEL WELLS

Twelve gauge stainless steel wheel wells shall be an integral part of the body construction.

Wheel wells and cabinetry are to be designed so road debris will not be trapped on top of the cabinets.

Full, one-piece, circular, 24"-deep stainless steel wheel well liners shall be installed. The fender flares shall be bright polished stainless steel and are attached to the wheel well using stainless steel bolts.

WIRING ACCESS PANELS

Wiring access panels shall be provided in the body interior corner compartments. The panels shall be bolted in place to allow easy removal for service.

FUEL TANK ACCESS

If the apparatus is equipped with a rear, frame-mounted fuel tank, a removable, bolt-on access panel will be provided in the rear compartment wall.

REMOVAL OF BODY

The completed body with all related parts will be removable in its entirety, and shall accompany the water tank when removed.

FASTENERS

All fasteners used in securing components to the body shall be type 304 stainless steel.

COMPARTMENT VENTS

Compartments shall have a minimum of two (2) 4" louvered stainless steel vents per compartment. They shall be installed in the rear wall of each compartment in a fashion
to prevent foreign matter and water from entering.

COMPARTMENT DRAINS

Duckbill-type rubber floor drains will be installed in the corners of the lower compartment floors.

TANKER BODY - HINGED DOORS

LEFT SIDE COMPARTMENTS

L1: 37.00” High x 28.00” Deep x 54.00” Wide
Door Opening: 34.50” High x 48.50” Wide

L2: 37.00” High x 28.00” Deep x 42.00” Wide
Door Opening: 34.50” High x 36.50” Wide

RIGHT SIDE COMPARTMENTS

R1: 73.00” High x 13.00/28.00” Deep x 54.00” Wide
Door Opening: 69.50” High x 48.50” Wide

R2: 36.00” High x 13.00” Deep x 60.00” Wide
Door Opening: 32.50” High x 56.25” Wide

R3: 36.00” High x 13.00” Deep x 60.00” Wide
Door Opening: 32.50” High x 56.25” Wide

R4: 55.50"/73.00"” High x 13/28.00” Deep (55.5" High) x 42.00” Wide
Door Opening: 69.50” High x 36.50” Wide

SQUARE BACK BODY DESIGN

The rear side body compartments and the body side walls shall extend all the way to the rear of the apparatus, and shall be a squared-off design.

Exhibit A – Detailed Specifications

REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

REAR BUMPER

The rear bumper shall be fabricated of 1.50" x 1.50" and 1.50" x 3.00" structural stainless steel tubing. The bumper shall be fully-welded design, and shall be welded to the rear side body compartments.

The rear bumper shall be 12.00" deep, and shall run the full width of the vehicle.

REAR BUMPER MODIFICATON

The sides of the rear bumper shall have a raised stainless steel panel to allow for the mounting of one (1) warning light on each side.

BUMPER STEP SURFACE

The bumper step shall be covered with aluminum diamond plate, with welded end caps. The bumper stepping surface will comply with the latest version of NFPA 1900.

TOP SIDE BODY TRIM

The top of all side body compartments shall be covered with aluminum diamond plate.

Top overlay edges shall be angled downward, and shall extended over the outer body panel approximately 1.00".

REAR BODY TRIM

Any areas on the rear not covered with reflective chevron stripping shall be covered with aluminum diamond plate.

FRONT COMPARTMENT TRIM

Front exterior wall of the front compartments shall be covered with aluminum diamond plate.

SIDE BODY POST TRIM

Side body support posts shall be covered with aluminum diamond plate.

PUMP HOUSE TRIM

The front of the pump house shall be covered with aluminum diamond plate.

STAINLESS STEEL RUB RAILS

Rub rails shall be provided and installed below each side compartment. The rub rail assembly shall be constructed of 1.00" wide x 1.50" high, heavy-duty, 14-gauge, 304-grade stainless steel tubing with black end caps and will be DA finished. Rub rails shall be bolted to the lower exterior edge of the apparatus body, with 0.50" nylon spacers installed between the body and the rub rail.

HOSE BED

A stainless steel hose bed with swirl finish shall be located above the water tank. The hose bed front and side walls shall be free of all sharp edges, to prevent hose damage. There shall be two (2) removable floor sections, constructed of fiberglass grating. This will allow for proper ventilation and drainage of hose.

HOSE BED DIVIDERS

Two (2) full-length, adjustable hose bed dividers shall be located in the hose bed, and shall be fully-adjustable by means of stainless steel uni-strut tracking. Tracking will be located at the front and rear of the hose bed.

Each divider shall be one piece, and shall be constructed of 1/4" extruded aluminum. The divider's bottom T-bar shall extend the full length of the hose bed. A smooth 1/2" diameter top edge is provided to prevent damage to hose.

The dividers shall be bolted in place with stainless steel fasteners, and shall be easily adjusted from side to side with simple hand tools.

HOSE BED CAPACITY

The hose bed shall be capable of holding the following hose (listed left-to-right):

300 Feet of 3.00" DJ hose (Drivers side)
Walkway
1,000 Feet of 4.00" LDH hose (Passengers side)

REAR HOSE BED RESTRAINT

Black, heavy-duty nylon webbing will be provided across the rear of the hose bed to secure the hose. The webbing shall be held in place by means of shock cord fasteners on four corners and quick release straps around the hand rail.

HOSE BED FRONT DEFLECTOR

A 24", hinged, aluminum diamond plate cover shall be provided at the front of the hose bed to prevent air from lifting the hose. The cover shall be hinged on the front, with full-length stainless steel piano hinges. The cover shall be held in the open position by two (2) manual pneumatic lift cylinders. The cover shall be held in the closed position with two (2) stainless steel butterfly latches.

HAND RAILS

Access hand rails shall be constructed of 1-1/4" in diameter extruded aluminum tubing with ribbed rubber inserts. Access rail escutcheons and brackets shall be chrome-plated, and shall be attached with stainless steel bolts. Anchoring of posts and framing members for handrails of all types shall capable of withstanding a load of at least 225 pounds, applied in any direction, at any point along the rail.

Hand rails and handholds shall be constructed so that three points of contact (two hands and one foot, or one hand and two feet) can be maintained at all times while ascending and descending.

VERTICAL HAND RAILS

Two (2) 48" long hand rails shall be mounted vertically, at the rear of the apparatus, one (1) on each side of the rear compartment.

VERTICAL PANEL-MOUNTED HAND RAILS

Two (2) 24" long hand rails shall be mounted vertically, one (1) each side, near the pump panel, to allow easy access to the dunnage area.

HORIZONTAL HAND RAILS

One (1) 72" long hand rail shall be mounted horizontally just below the hosebed.

HORIZONTAL HAND RAILS

Two (2) 12" long hand rails shall be mounted horizontally, one each side, on the top of the dunnage compartment.

FOLDING ACCESS STEPS

Four (4) Innovative Controls folding steps shall be provided and installed. Each step shall be designed to exceed the strength, load, and traction requirements of NFPA. Each step shall be chrome-plated, and shall include a molded gasket to help prevent water ingress and keep the step mount from damaging painted surfaces. The step shall include a drain at the bottom to allow any water to escape the assembly.

The folding step shall be spring-loaded to hold the step in the upright, stowed position while in transit, and when not in use.

The step shall include a white LED step light.

Location: Rear of unit to allow easy access to the hose bed.

ADDITIONAL FOLDING ACCESS STEPS

Eight (8) additional *Innovative Controls* folding steps shall be provided and installed. Each step shall be designed to exceed the strength, load, and traction requirements of NFPA. Each step shall be chrome-plated, and shall include a molded gasket to help prevent water ingress and keep the step mount from damaging painted surfaces. The step shall include a drain at the bottom to allow any water to escape the assembly.

The folding step shall be spring-loaded to hold the step in the upright, stowed position while in transit, and when not in use.

The step shall include a white LED step light.

Location to be determined at pre paint inspection.

REAR ACCESS LADDER - NONE

NO custom-fabricated stainless steel access ladder shall be installed on the rear of the body.

ZICO HYDRAULIC PORTABLE TANK SYSTEM

A *Zico* Model #PTS-HA, portable tank system shall be provided. The tank lift includes two (2) self-contained hydraulic actuators. These hydraulic actuators create a strong, rigid system, designed to sustain a maximum load of 500 lbs.

The PTS-HA shall securely store the specified portable tank over the side compartments, and shall lower the portable tank to a convenient height at the flip of a switch for quick, easy, and safe retrieval.

An NFPA-compliant flashing light shall be provided on each end of the bracket, and shall be wired to the hazard light in the cab, to activate when system is out of stowed position.

LOCATION: The portable tank bracket shall be installed on driver's side of the apparatus.

CONTROL SWITCH LOCATION

The *Zico* lift control switch shall be mounted in the driver-side pump panel.

ZICO LIFT PORTABLE TANK - PAINTED ALUMINUM COVER

The complete top and side of the bracket shall be covered with a painted aluminum panel, designed to protect the portable tank. The cover shall be painted job color.

TANK SIZE

The *Zico* tank lift system shall be sized to hold a 3000 gallon portable tank.

SUCTION HOSE MOUNTING BRACKETS

Two (2) aluminum V-Trays shall be provided and mounted on stainless steel unistrut tracking, located on the right side of the apparatus, over the ladders.

The hose shall be held in place with quick release holders.

SUCTION HOSE MOUNTING BRACKET

One (1) painted aluminum C-Tray shall be provided and mounted on top of the portable tank rack cover.

The hose shall be held in place with quick release holders.

LADDER BRACKET IN HOSEBED - NONE

NO extension ladder and roof ladder shall be mounted in the hose bed.

NO pike pole tubes or folding ladder shall be mounted.

WHEEL CHOCK STORAGE COMPARTMENT (DOUBLE COMPARTMENT)

One (1) spare air bottle style compartment shall be provided in the front portion of the driver side rear wheel well area. The compartment will be capable of holding the two (2) 4Guys provided chocks. The compartment shall be fabricated of stainless steel, and shall be lined to prevent vibration. The compartment shall have a drain hole in the floor.

NOTE! Compartment dimensions shall be sized so the AC-32 wheel chocks can be stored in the compartment in lieu of the spare bottles.

AIR BOTTLE STORAGE COMPARTMENT (TRIPLE COMPARTMENT)

One (1) spare air bottle compartment shall be provided in the rear portion of the driver side rear wheel well area. The compartment will be capable of holding three (3) spare air bottles. The compartment shall be fabricated of stainless steel, and shall be lined to prevent vibration. The compartment shall have a drain hole in the floor.

AIR BOTTLE STORAGE COMPARTMENT (TRIPLE COMPARTMENT)

One (1) spare air bottle compartment shall be provided in the front portion of the officer side rear wheel well area. The compartment will be capable of holding three (3) spare air bottles. The compartment shall be fabricated of stainless steel, and shall be lined to prevent vibration. The compartment shall have a drain hole in the floor.

AIR BOTTLE STORAGE COMPARTMENT (TRIPLE COMPARTMENT)

One (1) spare air bottle compartment shall be provided in the rear portion of the officer side rear wheel well area. The compartment will be capable of holding three (3) spare air bottles. The compartment shall be fabricated of stainless steel, and shall be lined to prevent vibration. The compartment shall have a drain hole in the floor.

COMPARTMENT DOORS

The wheel well compartments, where specified, will have vertically-hinged, painted, stainless steel doors with Southco #E3-17-22 all-stainless-steel door latches. The doors shall be labeled: "SPARE SCBA CYLINDER" or as specified at the pre-paint inspection.

Doors shall be wired to the door ajar circuit.

SHELVING - ADJUSTABLE

A total of five (5) adjustable shelves shall be provided and installed in customer specified location.

Shelf construction, where specified, shall be rigid 3/16" aluminum with 2" lip on the front and rear.

The shelving shall be adjustable by means of a threaded tightener that slides in a track to allow precise height adjustment. All tracking will be stainless steel uni-strut.

TRAYS - PULL OUT

Four (4) Accuride slide-out trays shall be provided and installed on the floors of customer- specified

compartments.

Sliding trays, where specified, shall be mounted in a manner that provides for maximum overhead clearance.

The tray shall have a capacity of 300 pounds in the fully-extended position.

The side-mounted slides will be equipped with ball bearings for ease of operation.

Tray will lock, automatically, in the open and closed positions. Manual-type locks will not be acceptable.

LOCATION:

SHELF, TRAY AND FLOOR MATTING

All compartment floors, shelves, and trays shall be lined with black Mateflex 13" X 13" x 9/16" interlocking tiles. Compartment floors shall have tapered edging at front compartment opening.

COMPARTMENT DOORS

Doors to be fabricated of 304 grade stainless steel with 18 gauge inner and outer panels.

The doors shall be 3/4" thick and reduce the compartment depth by approximately 5/8" with the door closed. The double-panel design provides strength and a tight fit with 5/8" insulation installed between the panels for sound dampening.

Doors shall be of a rigid design. Door outer panel edges will be folded and welded to the inner panel. Welding of the inner panel directly to the outer panel face shall not be permitted due to distortion caused by welding. The use of body filler prior to painting of the outer door panels shall not be permitted. **No Exception**.

Each door is to have closed-cell rubber seal to provide a weatherproof seal between the door and compartment.

The compartment doors shall pivot on full length stainless steel piano hinges with a 3/16" pin diameter. Hinges shall be welded to compartment wall and bolted to doors with 10-24 stainless steel bolts.

Compartment doors will have stainless steel flush bent D-ring handles. Latching mechanism shall be non-locking safety slam positive latch. Gasket material is placed between the door handles and outer door panels to prevent electrolytic reaction between dissimilar metals to protect paint finish. Mechanism is enclosed in stainless steel not exposed to equipment stored in compartment.

An inner two-point latch shall be provided on the second door of all double doors with a rubber- covered pull cable, when applicable.

Interior of doors shall be left natural stainless steel with swirl finish applied to give a lasting and pleasing appearance.

DRIP RAILS

Bright aluminum J-channel shall be provided over each lower side body compartment, and at the front and rear of the compartments.

DOOR CLOSURES

All vertically-hinged doors shall have power lift, gas-filled cylinders installed.

Closure shall assist in the closing of door once it has past the halfway point.

DOOR CLOSURES

All horizontally-hinged doors shall have power lift, gas-filled cylinders installed. Doors shall be held open at a 90 degree angle to the body.

Closure shall assist in the closing of door once it has past the halfway point.

12 VOLT ELECTRICAL SYSTEM

All wiring and electrical equipment shall meet NFPA 1900, (2024 edition,) and SAE standards.
A master optical warning device switch that energizes all of the optical warning devices shall be provided.

The optical warning system shall be capable of two separate signaling modes during emergency operations. One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency, and is calling for the right of way. The other mode shall signal that the apparatus is stopped, and is blocking the right of way. Switching of modes shall be controlled by the parking brake.

All wiring to be GXL ultra high-temperature cross link type. Wiring installed by the builder shall be run in protective split loom where exposed to the outside. Where wires pass through body compartments or panels, grommets, snap bushings, or compression fittings shall be utilized.

All wiring harnesses and associated wiring shall be secured with nylon, ultraviolet-resistant cable ties or bolted to the body with cable clamps.

Polyolefin "heat shrink" tubing with adhesive or Deutsch water tight connectors shall be used on all exterior wiring connections.

Flexible, non-conductive polyurethane film shall be sprayed on all terminal studs, relays, starter, batteries, etc., to prevent corrosion.

All wiring shall be protected by automatic reset-circuit breakers which conform to SAE standards. Any required exterior fuses shall be protected by an environmentally-sealed fuse holder.

The breakers shall be selected to prevent wire damage when subjected to extreme current overload. Wiring to be color, function, and/or number coded.

An Innovative Controls power distribution relay board shall be utilized. The distribution board contains independent switching relays with selectable input polarity. Relays can be connected in either their normally-open or normally-closed positions. The relay board features heavy-duty components, visual diagnostics, and load management inputs. The system is user-friendly for trouble shooting.

A wiring diagram for the body electrical system shall be included with the apparatus.

JUNCTION BOX

The electrical junction box for all 12 volt wiring shall be located in a convenient location. It will be recessed into the compartment wall so as not to protrude into the storage area. It shall be protected by a removable access panel.

The compartment shall be sealed and weatherproof. All components in compartment shall have identification tags.

CLEARANCE LIGHTS

All required clearance lights shall be provided, at the rear and on each side of the unit, to meet federal regulations. <u>All lights will be (LED) Light Emitting Diode type with a five (5) year warranty.</u>

On apparatus 30 feet in length or longer, a Trucklite model 60072Y amber LED turn signal light with stainless steel flange shall be mounted, one (1) each side, in rear wheel well area at approximately running board height.

LED STEP AREA LIGHTING

Four (4) step area lights shall be provided, one (1) mounted each side on the front compartment face to illuminate the panel running board steps, and two (2) mounted at the rear of the unit to illuminate the rear tailboard step. These lights shall be activated when the parking brake is applied. Whelen 3SCOCDCR series 3.00" round LED lights shall be utilized. Depending on body application, the lights will either be mounted in a rubber grommet or surface mounted with a chrome flange.

HAZARD LIGHT

A red, flashing light shall be located in the driving compartment, and shall be illuminated automatically whenever the apparatus parking brake is not fully engaged ***and:***

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

The lights shall be marked "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

LICENSE PLATE LIGHT

One (1) Trucklite model 15055 LED license plate light and bracket shall be provided on the rear of the unit.

EMERGENCY WARNING LIGHT SWITCH CONTROLS

All warning light switches shall be mounted in the cab in a readily accessible location.

A master switch and individual switches to be provided to allow preselection of lights. The light switches are to be "rocker" type with an internal indicator light to show when the switch is energized. All switches to be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches shall be done by either printing or etching on the switch panel.

WHELEN M6FCV4 QUAD CLUSTER REAR DOT LIGHTING

BACKUP LIGHTS

Two (2) Whelen model M6BUW Super LED backup lights

STOP/TAIL LIGHTS

Two (2) Whelen model M6BTT series Super LED Brake/Tail lights

DIRECTIONAL LIGHTS

Two (2) Whelen model M6T series Super LED arrow directional turn signal lights

The backup lights, stop/tail lights, and directional lights along with rear lower level warning lights shall be installed on the lower rear face of the unit and shall be recessed in chrome plated flange.

QUAD CLUSTER LENS

Each light in the quad cluster shall have a clear lens.

COMPARTMENT LIGHTS

SoundOff Signal model ECVCLLED21, 21" LED compartment lighting shall be provided to provided in each compartment. The lighting shall be mounted behind the door jamb on each side of the 30" tall compartments.

All compartment lighting shall be automatic by the opening and closing of the door.

All main apparatus body compartments shall have door ajar switches.

COMPARTMENT LIGHTS

SoundOff Signal model ECVCLLED43, 43" LED compartment lighting shall be provided in each compartment. The lighting shall be mounted behind the door track on both sides of the 60" tall compartments.

All compartment lighting shall be automatic by the opening and closing of the door.

All main apparatus body compartments shall have door ajar switches.

BACK-UP ALARM

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

LED GROUND LIGHTING

The apparatus shall be equipped with lighting capable of providing illumination at a minimum level of two (2) foot candle on ground areas within 30.00" of the edge of the apparatus in areas designed for personnel to climb onto the apparatus or descend from the apparatus to the ground level. Lighting designed to provide

illumination on areas under the driver and crew riding area exits, which shall be activated automatically when the parking brake is set. Lights shall be installed in a manner that illuminates all walkways and steps for safe operation of the apparatus.

TecNiq E10-WSOO-1 6.00" LED lights mounted in a stainless steel bracket shall be utilized.

One (1) light located each side under the panel running boards.
Two (2) lights mounted under the rear step.
One (1) light located each side under the cab steps.

PUMP COMPARTMENT LIGHT

One (1) SoundOff model ECVCSLLED10-10” LED pump compartment light shall be provided within the pump enclosure. The control switch shall be located on the pump operators panel.

ENGINE COMPARTMENT LIGHT

There shall be a TecNiq E18 high outpout utility light with switch, mounted inside engine compartment, to provide sufficient lighting for vehicle maintenance.

HOSE BED LIGHTS

There shall be two (2) TecNiq (model E10-W000-1) 6.00" LED lights with clear lens lights mounted at the front of the hose bed. The lights will be activated by a swtich located on the pump panel.

DUNNAGE AREA LIGHTS

There shall be two (2) Whelen 3SCOCDCR series 3.00” round LED lights provided and mounted in the dunnage area to provide adequate illumination of this area. The lights will be activated when the parking brake is applied.

ELECTRICAL LOAD MANAGER

The apparatus shall be equipped with an Innovative Control Electrical Load Manager (ELM) for performing electrical load management. The ELM shall have 16 programmable outputs to supply warning and load switching requirements. Outputs 1-12 shall be independently programmable to activate during the scene mode, the response mode, or both.

These outputs can also be programmed to activate with the ignition or master warning switch, or to sequence and shed along with the priority. Output 13 shall be designated to activate a fast idle system. Output 14 shall provide a low voltage warning for an isolated battery. Output 15 is a user configurable output and shall be

programmable for activating between 10.5 and 15 volts. Output 16 shall provide a low voltage alarm that activates at the NFPA required 11.8 volts.

The ELM shall have a digital display to indicate system voltage in normal operation mode and also indicate the output configuration during programming mode. The ELM shall be protected against reverse polarity and shorted outputs and be enclosed in a metal enclosure to enhance EMI/RFI protection. The ELM shall have an operating temperature range of -40C to +105C (-40F to +220F).

WHELEN NFPA APPROVED UPPER LEVEL LIGHT PACKAGE

ZONE A - FRONT UPPER

A Whelen Freedom IV model F4N0VLED 60" lightbar shall be mounted centered on the front of the cab roof.

The lightbar shall feature four (4) corner Red Linear-LEDs and six (6) front Linear LEDs (4) Red & (2) Clear lights.

The clear lights shall be disabled when the parking brake is engaged.

ZONE B & D - SIDE UPPER

Two (2) Whelen M9 Super LED lights with chrome bezels will be mounted one each side on the upper front side corners of the body.

Two (2) Whelen M9 Super LED lights with chrome bezels will be mounted one each side on the upper rear side corners of the body.

ZONE C - REAR UPPER

Two (2) Whelen M9 Super LED lights with chrome bezels will be mounted on the upper rear of the body.

UPPER LEVEL LIGHT LENS COLOR

The upper level lights shall have clear lenses.

WHELEN LOWER LEVEL LIGHTING

ZONE A - LOWER

Four (4) M7 series Super LED lights with chrome bezels mounted on the front grille, one in each corner. Two shall be Red and two White.

These lights shall flash in a "X" pattern.

ZONE B & D- SIDE LOWER

Two (2) M7 series Red Super LED lights with chrome bezels mounted one (1) each side on the end of the front bumper gravel shield.

Four (4) M7 series Red Super LED lights with chrome bezels mounted one (1) each side in the rear body fender area and one (1) each side on the end of the rear step.

ZONE C - LOWER

Two (2) M6 series Red Super LED lights mounted on the lower rear of the apparatus in M6FCV4 chrome housing.

LOWER LEVEL LIGHT LENS COLOR

The lower level lights shall have clear lenses.

ARROW STICK

One (1) Whelen TAZ86 LED Traffic Advisor light shall be mounted center rear of unit. The TACTL5 control head shall be mounted in the chassis cab. 1.74" high x 2.17" deep x 36.00" long

The unit shall include eight (8) Linz6 LED lamps with amber lens.

RECESS MOUNT DIRECTIONAL LIGHT

The directional light shall be recess mounted for protection of the light.

HIGH BEAM "WIG-WAG" FLASHER

A high beam headlight flasher shall be wired into the headlight system and shall include an override system if the highbeam headlights are required.

VOYAGER OBSERVATION SYSTEM

The apparatus shall be equipped with a Voyager Observation system. The system shall help prevent common backing accidents by allowing the driver to see what is behind the apparatus. The rear camera will activate automatically when the transmission is shifted into reverse. The system shall include a Voyager AOM713WP 7" Color Tri-View heavy duty Monitor mounted in the cab and a VCCS130 Voyager color camera shall be mounted on the rear of the vehicle and the left and right side in the customer specified locations determined at the pre-paint inspection.

Monitor System Includes:

7" Wide Format, Heavy Duty Color LCD Panel
Waterproof housing
Backlit controls
Integrated audio speaker
NTSC and PAL video signal compatible
Three camera (A/V) inputs
Manual (pushbutton) or automatic (trigger) source selection
Turn-signal (pulsed DC) compatible trigger inputs (AV2, AV3)
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
Removable sun-visor included

Camera System includes:

Built-in microphone. (rear camera only)
LED enhanced low-light performance and image orientation selector switch.

FLEX ARM MARKER LIGHT

There shall be two (2) Britax flex arm double face marker lights provided and mounted one each side of the rear bumper. They shall be illuminated whenever the clearance lights are turned ON.

WHELEN 295SLSA1 ELECTRONIC SIREN AMPLIFIER

A Whelen Model 295SLSA1 electronic siren amplifier shall be provided and installed in the cab within reach of the officer and driver.

Features:

21 Scan-Lock Siren Tones

Tone Off • Wail • Yelp • Piercer • Yelp 249 • Airhorn Command Code • Airhorn Low Command Code • Hi/Low • Simulated Mechanical • Pulsed Airhorn • Airhorn Hi/Low • Alternate Wail • Alternate Yelp • **Whoop • Warble** • Airhorn • Low Frequency Airhorn • Manual Simulated Mechanical Coast to Stop • Manual Simulated Mechanical Stop • Manual Wail Coast to Stop • Manual Wail Stop

SIREN SPEAKER

One (1), 100 watt siren speaker shall be recess mounted in the front bumper.

Q2B SIREN RECESS MOUNT

One (1) Federal Signal *Q2B* siren model #Q2B-012NNSD electro-mechanical siren shall be provided. The *Q2B* siren shall be a streamlined, chrome-plated siren, designed to provide reliable and long-life operation. The electro-mechanical siren shall produce the distinctive *Q2B* sound that is a registered trademark of Federal Signal, and shall be provided with a heavy duty clutch and an electric brake. The *Q2B* siren shall measure 10.5” high x 14” long x 10” deep and shall produce 123 decibels at ten feet. The siren shall operate off the vehicles 12V system.

The siren shall be active only when the master warning switch is on, to prevent accidental engagement. A momentary siren brake rocker switch shall be provided in the switch panel on the dash.

The entire *Q2B* siren shall be recess-mounted in the front bumper, Drivers side. No part of the siren shall extend past the face of the bumper.

FOOT SIREN SWITCH

There shall be a Linemaster SP-491-S119 momentary floor mounted foot switch provided for Q2B Siren operation and installed on both the driver and passengers side floor in the cab.

AIR HORNS - ON SIDE HOOD

Two (2) Grover Stutter tone air horns will be mounted one (1) each side on the side of the hood.

FOOT SIREN SWITCH

There shall be a Linemaster SP-491-S119 momentary floor mounted foot switch provided for Air horn operation and installed on both the driver and passengers side floor in the cab.

AIR HORN CONTROL - CENTER LANYARD

The chassis-supplied air horn lanyard will be relocated above the center of the windshield where it will be accessible from both seat positions.

HORN SIREN SWITCH

There shall be a three-way selector switch provided, which shall switch from electric horn to air horn, or to siren. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements.

WHELEN PIONEER SUMMIT BROW LIGHT

One (1) 44" long forward-facing Whelen Pioneer Summit S44MW brow light with built-in amber identification lights shall be installed under the Freedom light bar. The S44MW produces a light output of 19,440 lumens and features 100% solid state electronics. Hard-coated lenses minimize environmental damage from sand, sun, salt, and road chemicals. Extruded and die-cast aluminum housing is powder-coated white. A screwless lens retainer design provides a clean finish and improved ability to adjust the optic configuration. The light is IP67 rated for dust and water resistance.

NOTE! The amber ICC lights shall not be wired to activate since the cab roof already has them.

LED SURFACE MOUNT SCENE LIGHT

Six (6) Fire Research Radiant Lux LED Scene Light model RDC260-Q22 surface mount lights shall be installed. The lights shall be mounted with two (2) screws to a flat surface. The lamp head shall be no more than 6 1/4" high by 16 1/4" wide and have a profile of 2 3/16” beyond the mounting surface. Wiring shall extend from the electronics box at the rear of the lamp head.

The lamp head shall have sixty-six (66) ultra-bright white LEDs, 56 for flood lighting and 10 to provide a spotlight beam pattern. It shall operate at 12/24 volts DC, draw 10A Max./5A Max. and generate 22,000 lumens of light. The lamp head shall have a unique lens that directs flood lighting onto the work area and focuses the spotlight beam into the distance. The lamp head shall be powder coated. The LED scene light shall be for fire service use.

Location of light shall be:

PAINT AND PREPARATION

All metal surfaces will be properly sanded, prepared and finished ready for our Axalta Coating Systems pretreatment. This is done to insure optimum adhesion, corrosion resistance, and durability.

After pretreatment, 1220S Axalta Coating Systems 5000 URO primer filler is applied designed to fill any minor surface defects and provide an adhesion layer between the pretreatment and the Imron Base Coat/Clear Coat. This is also applied to improve color gloss, retention, and durability of the paint.

Next the URO primer will be sanded to a smooth prepainting surface. The surface will be decontaminated and prepared for application of High Solids Axalta Coating Systems Productive Base Coat/Clear Coat finish to complete the finished paint process.

A full inspection is performed of Defects, Depth Imagery, Gloss, Film Build, Color Match and Texture, all to meet or exceed Axalta Coating Systems OEM fleet finish specifications.

Body assemblies that cannot be finish painted upon assembly shall be painted prior to finish assembly. All doors are removed and painted separate from the body.

Prior to reassembly and reinstallation of lights, handrails, door hardware, and any miscellaneous items; a gasket material or silicone sealant shall be applied to prevent damage to the finish painted surfaces and to protect against electrolysis between dissimilar metals.

Touch up paint shall be provided for each color paint used.

The complete apparatus body will be painted a single color Blue to match the lower color of the cab.

The cab shall remain White over Blue as painted from the chassis supplier.

Upper Cab Paint Color: White Paint # _____(Match Pierce 10 / Sikkens FLNA 4040)

Lower Cab/Body Paint Color: Indigo Blue Met Paint # _____(Match Pierce 279 / Sikkens FLNA 91172)

LETTERING

Lettering shall be provided. It shall be computer generated, non-reflective, SignGold vinyl 22Kt gold lettering with a White border.

Computer generated lettering provides a proportional layout design and durable finish.

Included will be a maximum of eighty five (85) three (3) inch letters.

GOLD REFLECTIVE 12.00" LETTERS

12.00" computer generated, Gold Reflective letters with a White border shall be provided.

Exhibit A – Detailed Specifications
REV'D KW T480 ST STL SQ BODY TANKER - 1500P/3000W

Must specify Quantity __13___

*"KENTS STORE" - ON REAR BODY
* "T-30" - ON REAR BODY

NOTE! Space is limited on the rear body w/ all of the scene/warn/arrowstik lights, a dump and 2-fills. Size of letters may need to be reduced to fit.

REFLECTIVE STRIPING

A 1"-4"-1" wide reflective stripe shall be applied to the unit in a straight line.

The 1" stripes shall be Gold and the 4" shall be White.

Per NFPA 1900, 2024 edition, section 12.8.3.1 this shall include at least 50 percent of the cab and body length on each side, excluding the pump panel areas, and at least 25 percent of the width of the front of the apparatus.

Z ON REFLECTIVE STRIPING

A pair of "Z's", one each side of body, shall be provided on the reflective striping.

VINYL EMBLEM

One (1) custom Kents Store "Blue Steer" emblem shall be provided and mounted on the painted tank rack cover as directed by the Fire Dept.

Emblem or crosses will be computer generated, 3M "Scotch-Cal", non-reflective, Viny and will be sized proportionally to fit the tank rack cover.

Computer generated emblem provide a proportional layout design and durable finish.

NOTE! A better detail picture will need to be provided without any flash or reflections and must be taken straight on, not angled or distorted.

REFLECTIVE MATERIAL - INTERIOR CAB DOOR

The cab doors shall have a minimum of 96 square inches of reflective material affixed to the inside of each door per NFPA 1900, 2024 edition, section 12.8.3.

REFLECTIVE CHEVRON - NFPA 1900, 2024 edition, section 12.8.3.2

50 percent of the rear-facing vertical surfaces, visible from the rear of the apparatus shall be equipped with retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees. Each stripe shall be 6" in width.

Diamond Grade Stripe Colors will be _____.

FRONT BUMPER REFLECTIVE CHEVRON

The front bumper will be covered with diamond grade Red & Fluorescent Yellow stripping.

EQUIPMENT

The following equipment shall be provided along with any necessary mounting brackets.

NFPA EQUIPMENT CLARIFICATION

Any equipment specified in the "Minor Equipment" section (e.g. hose, nozzles, adapters, AED, traffic cones, traffic safety vests, etc.) of NFPA 1900 for each apparatus classification which is not specified in this proposal will be considered to be customer supplied.

3000 GALLON ALUMINUM-FRAME PORTABLE TANK WITH A 22 OZ HPR™ LINER

A 3000-gallon aluminum FOL-DA-TANK™ (FDTA300022H) with a 22 oz high performance rubber (HPR™) liner shall be supplied with the apparatus. HPR™ has superior cold-crack, cut and abrasion resistance than vinyl. The welded frame shall be constructed of 1" square by 1/8" thick wall 6005-T5 aluminum tubing with rounded exterior corners of a minimum radius 5/32". All surfaces shall be free from weld spatter, burs, and sharp surface blemishes to prevent injury to users and damage to the liner. The aluminum frame shall be painted to prevent pitting and corrosion due to water exposure.

The closed tank dimensions shall be 13'3" long x 8" wide x 29" tall and 13'3" long x 13'3" wide x 29" tall when open. The tank will weigh 135 pounds. The liner will have one standard drain sleeve, eight (8) grab handles on the floor to assist in draining and folding the tank, solid brass grommets used for attaching the liner to the tank, and hinge protectors to prevent injury when users are opening and closing the tank. The liner shall be laced through the grommets to the top frame rail with a braided polypropylene rope with end treatments to prevent fraying. The liner hem shall be formed around the entire top perimeter of the tank and shall be constructed by welding two layers of vinyl to each other for maximum possible strength. The hem shall not be sewn.

The tank shall also include the FOL-DA-TANK™ Rapid Release mechanism consisting of a hinged aluminum bar mounted to the vertical frame element and a heavy-duty locking clamp mounted to the opposing vertical frame element adjacent to the drain sleeve. The Rapid Release holds the drain sleeve closed when the tank is in use and allows the user to release it and empty the tank in seconds. This mechanism shall not change the profile dimensions of the tank when open and closed.

SUCTION HOSE

Three (3) Harrington 6" x 10' light weight PVC suction hose with male and 6" long handled female couplers.

LADDERS - NONE

NO Duo-Safety ladders will be furnished by 4 Guys.

WHEEL CHOCKS

Two (2) Zico AC32 wheel chocks will be provided and stored in the left front wheelskirt compartment.

SPANNER WRENCH SET W/HYDRANT WRENCH

Three (3) sets of Kochek style K45-3-KBR spanner wrenches shall be provided and mounted in the customer-specified locations. Each set includes (1) hydrant wrench and (2) spanner wrenches with mounting bracket.

Locations: TBD

SPANNER WRENCH SET

One (1) set of Kochek style K46-2-KBR spanner wrenches shall be provided and mounted in customer specified location. Includes (2) spanner wrenches with mounting bracket.

Location:

SPANNER WRENCH - LDH

One (1) set of Kochek style KS34-KBR - Set of four (4) storz wrenches w/holder will be provided and mounted in customer specified location.

Location:

WIRED HEADSET SYSTEM

A David Clark "wired" headset communication system for two (2) people shall be provided and installed in the cab. The system will include one (1) radio interface, two (2) under helmet headsets, and two (2) headset hangers.

SAFETY FIRE VEST

The NFPA required Safety Vest will be supplied and installed by the purchaser before the truck is placed into service.

TRAFFIC CONES

The NFPA required traffic cones will be supplied and installed by the purchaser before the truck is place into service.

AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)

The NFPA required AED will be supplied and installed by the purchaser before the truck is placed into service.

ASSORTED FASTENERS

One (1) generous size bag of assorted miscellaneous stainless steel fasteners that were used in the actual construction of the apparatus shall be shipped with the completed vehicle for use as spares.