Proposal for Furnishing Apparatus

Mar 14, 2025

Department: City of Columbus, Division of Fire

Attn: Chief Smith

3675 Parsons Ave. Columbus, OH 43207

Upon an order being placed by you, and final acceptance by _____Pierce Mfg_____ the apparatus and equipment herein named will be manufactured for the following prices:

Bid # 337	Price
Two (2) Pierce Enforcer pumpers	$2,504,426.00
Includes: Delivery, Dealer prep, Pierce training	
Includes an equipment allowance of $100,000.00	
If booked in March, approx. completion in October, 2026	
If L9 engines are available at order booking in March: A credit of $65,449.00 per truck will be applied	
Total :	**$2,504,426.00**

Any discount(s),whether implied or explicit, will be applied upon delivery, acceptance, and final invoicing of Apparatus.Said apparatus and equipment are to be built and shipped in accordance with the specifications hereto attached, delays due to strikes, war, or intentional conflict, failures to obtain chassis, materials, or other causes beyond our control notpreventing, within about 960 calendar days after receipt of this order and the acceptance thereof by_____Pierce_____. Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible.

Persistent Inflationary Environment: If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0% or more between the month Pierce accepts our order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0% for each year or fractional year between the Order Month and the Evaluation Month. Atlantic will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.

Taxes: Tax is not included in this proposal. In the event that the purchasing organization is not exempt from sales tax or any other applicable taxes and/or the proposed apparatus does not qualify for exempt status, it is the duty of the purchasing organization to pay any and all taxes due.

Cancellation: In the event this proposal is accepted, and a purchase order is issued then cancelled or terminated by Customer before completion, Atlantic Emergency Solutions may charge a cancellation fee of 30% of the purchase price.

Terms: The terms of this proposal will be governed by the laws of the Commonwealth of Virginia. Atlantic Emergency Solutions requires an authorized individual from the above stated Customer sign and date this proposal and have it referenced on any purchase order. Upon signing of this proposal, the terms and conditions stated herein will be considered binding and accepted by Customer. No additional terms or conditions will be binding upon Atlantic Emergency Solutions unless agreed to in writing and executed by a duly authorized officer of Atlantic Emergency Solutions.

This proposal is valid until April 30, 2025

Sincerely,

Dave Reichman, Regional Vice President

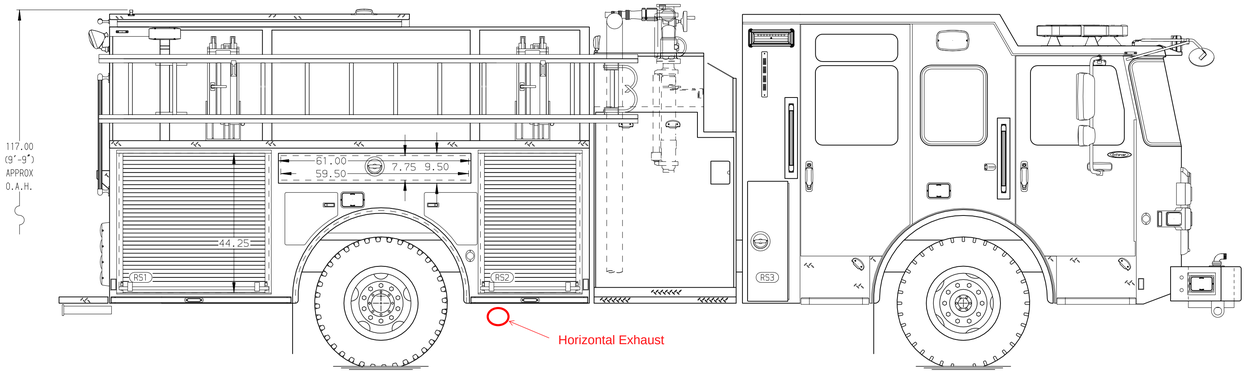
330-407-9082
dreichman@atlanticemergency.com

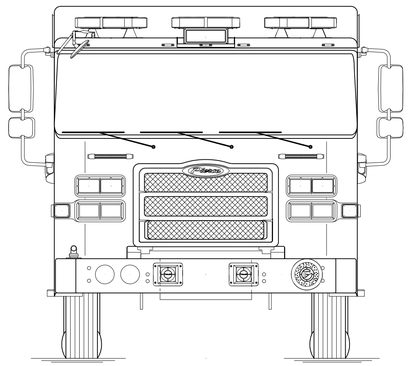
X_____

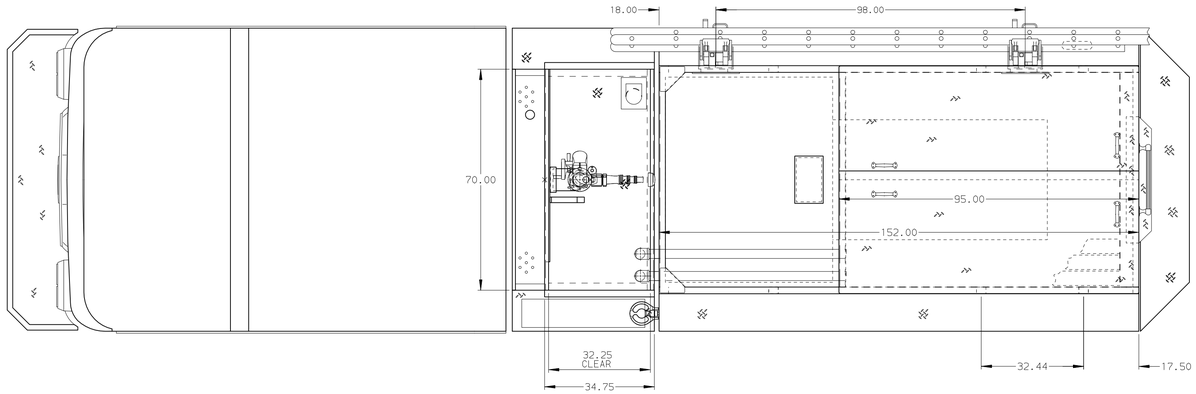
Name:_____

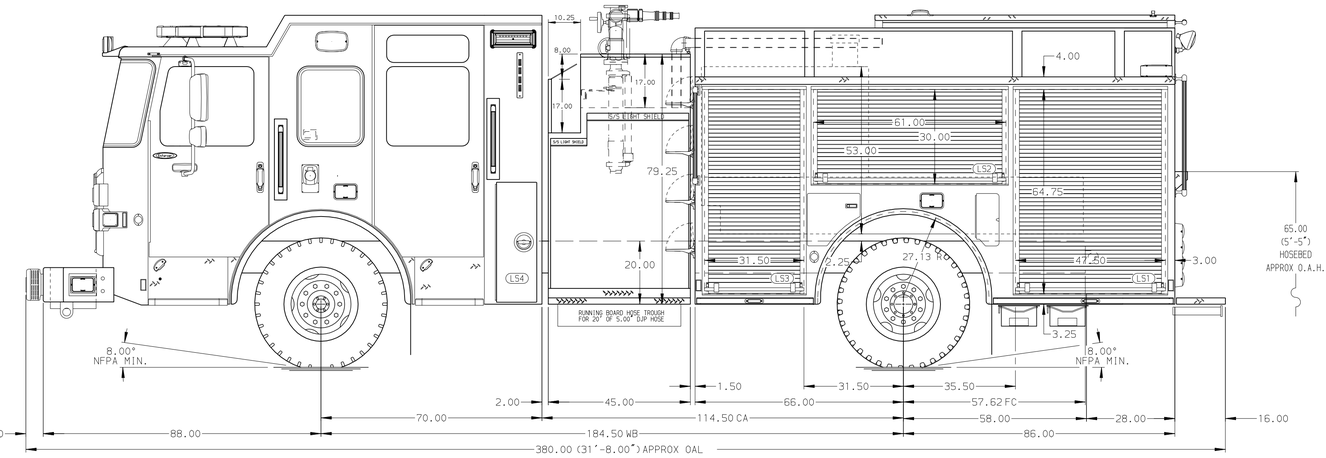
Title:_____

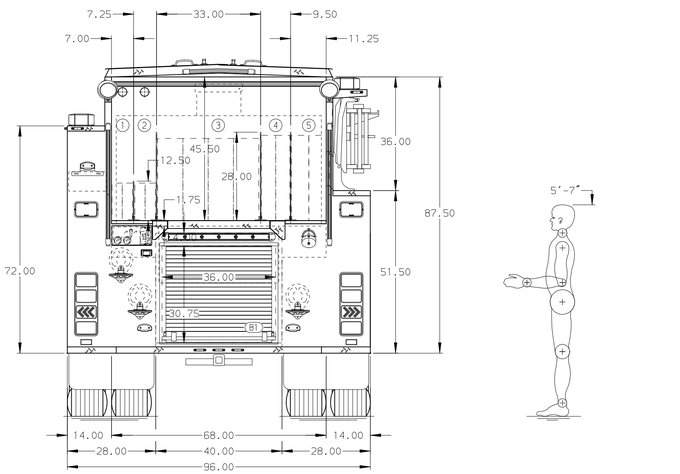
Date:_____











HOSEBED CAPACITIES

① - 250' OF 1.75" DJP HOSE
② - 250' OF 1.75" DJP HOSE
③ - 1000' OF 5.00" DJP HOSE
④ - 500' OF 2.50" DJP HOSE
⑤ - 500' OF 3.00" DJP HOSE

STAINLESS STEEL BODY

NOTE

DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS AS MAY OCCUR OR BE NECESSARY IN CONSTRUCTION.
MINOR DETAILS NOT SHOWN.

CUSTOMER APPROVAL

APPROVED BY: _____

DATE: _____

REV	DATE	BY	CH
▽	-	-	-

CHASSIS DATA

MAKE: PIERCE

MODEL: ENFORCER

DWG NO.: 04-8492

Pierce MANUFACTURING INC.

TITLE: 1500-D-750P, 750G WATER, 152" PUMPER BODY
(1) CROSSLAY, LADDER RACK, DELUGE OUTLET

FOR: COLUMBUS DIVISION OF FIRE BID#337
ATLANTIC EMERGENCY SOLUTIONS INC JOSEPH PACK JR

JOB NO.	PRELIM
SCALE: 1:24	DATE
DRAWN BY: SAM	22JAN21
CHECKED BY: -	-
SHEET SIZE: D	SHEET NO.: 1 OF 1

Option List

3/14/2025

Customer:	COLUMBUS DIVISION OF FIRE	**Bid Number:**	337
Representative	Reichman, David	**Job Number:**	
Organization:	Atlantic Emergency Solutions, Inc	**Number of Units:**	2
Requirements Manager:		**Bid Date:**	01/29/2025
Description:	Columbus Division of Fire	**Stock Number:**	
Body:	Pumper, Medium, Aluminum, 2nd Gen	**Price Level:**	51 (Current: 51)
Chassis:	Enforcer Chassis	**Lane:**	Lane 1

Line	Option	Type	Option Description	Qty
1	0010012		No Boiler Plates requested	1
2	0661794		Single Source Compliance	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0764706	SP	BMP Truck - Pre-Approval at Bid - Approved Option Will Be Required at Booking	1
7	0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	1
8	0533347		Pumper/Pumper with Aerial Device Fire Apparatus	1
9	0588611		Vehicle Certification, Pumper	1
10	0661778		Agency, Apparatus Certification, Pumper/Tanker, U.L.	1
11	0816495		Certification, Vehicle Inspection Program, NFPA 1900	1
12	0799172		FLEET CUSTOMER	1
13	0537375		Unit of Measure, US Gallons	1
14	0529326		Bid Bond, 10%, Pierce Built Chassis	1
15	0816849		Performance Bond, Not Requested	1
16	0000007		Approval Drawing	1
17	0002928		Electrical Diagrams	1
18	0649754		Enforcer Chassis	1
19	0000110		Wheelbase	1
			Wheelbase - 187.50	
20	0000070		GVW Rating	1
			GVW rating - 42000	
21	0649713		Frame Rails, 10.25" x 3.50" x .375", Saber FR/Enf	1
22	0020018		Frame Liner Not Req'd	1
23	0821544		Axle, Front, Hendrickson Steertek, 20,000 lb, Saber FR/Enforcer	1
24	0821552		Suspension, Front, Hendrickson, Steertek NXT, 20,000 lb, Saber FR/Enforcer	1
25	0807746		Shock Absorbers on Front Axle, Steertek	1
26	0000322		Oil Seals, Front Axle	1
27	0802633		Tires, Front, Goodyear, Armor Max MSA, 385/65R22.50, 18 ply, Fire Ser. Load Rtg	1
28	0019611		Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	1
29	0530458		Axle, Rear, Meritor RS24-160, 24,000 lb, Saber/Enforcer	1
30	0544253		Top Speed of Vehicle, 68 MPH /109 KPH	1
31	0555350		Suspen, Rear, Hendrickson FMX 242 EX, Air Ride, 24,000 lb	1
32	0000485		Oil Seals, Rear Axle	1
33	0782805		Tires, Rear, Goodyear, Armor Max MSD, 12R22.50, LRH, Single	1
34	0019625		Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	1
35	0568081		Tire Balancing, Counteract Beads	1
36	0794137	SP	Tire Pressure Monitoring Valve Cap, Quick Pressure, QP-000080	1
			Qty, Tire Pressure Ind - 6	
37	0801909		Lug Nut, Covers, Chrome	1
38	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
39	0003240		Axle Hub Covers, Rear, S/S Baby Moon (Pair)	1
40	0032044		Mud Flap, Full Width, Rear, No Logo	1
41	0002046		Mud Flap, Front and Rear, No Logo	1
42	0544802		Chocks, Wheel, SAC-44-E, Folding, (Up to 44" Diameter Tires)	1
			Qty, Pair - 01	
43	0544806		Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal	1
			Qty, Pair - 01	
			Location, Wheel Chocks - Left Side Rear Compt	
44	0820509		ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/ULC	1
45	0810608		Brakes, Meritor, EX225, 17", Disc Plus, Front w/ Steertek	1

Line	Option	Type	Option Description	Qty
46	0000730		Brakes, Meritor, Cam, Rear, 16.50 x 7.00"	1
47	0020784		Air Compressor, Brake, Cummins/Wabco 18.7 CFM	1
48	0644232		Brake Reservoirs, 4,272 Cubic Inch Minimum Capacity, Saber FR/Enforcer	1
			Paint Color, Air Tanks - Black #98	
49	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
50	0000790		Brake Lines, Nylon	1
51	0049120		Inlet/Outlet, Air, w/Disconnect Fitting, w/Location Feature	1
			Location - DS Step well	
			Qty, Air Coupling (s) - 1	
52	0004200		Hose, Air 25' length, w/air chuck	1
			Qty, - 1	
53	0000845		Air Tank, Additional for Extra Capacity	1
			Paint Color, Air Tanks - Black #98	
54	0011835		Guard, U-Bolt over "Prk Brk" Knob	1
			Qty, - 01	
			Location, driver's/passenger's/center - Driver's	
55	0630142		Moisture Ejectors, Automatic, w/Heat, All Tanks, Enforcer/Saber FR	1
56	0012034		Moisture Ejector, Manual, Remote Mounted	3
			Location - Under LS3 Compartment	
			Qty, Man. Moist Ejector - 3	
57	0050221		Valve, Prk Brk, Special Location	1
			Location - Center lower switch console for driver and officer access	
58	0615609		Fittings, Compression Type, Entire Apparatus, Single Rear Axle	1
59	0808535		Engine, Cummins X10, 450 hp, 1250 lb-ft, W/OBD, EPA 2027, Saber FR/Enforcer	1
60	0811409		Not Required, Engine Contingency Adjustment	1
61	0001244		High Idle w/Electronic Engine, Custom	1
62	0687994		Engine Brake, Jacobs Compression Brake, Cummins Engine	1
			Switch, Engine Brake - e) ISC/ISM/ISL9/ISX Hi Med Lo	
63	0644227		Clutch, Fan, Air Actuated, Saber FR/Enforcer	1
64	0640477		Air Intake, Metal Screen, Saber FR/Enforcer	1
65	0814375		Exhaust System, Horizontal, Right Side	1
			Exhaust, Diffuser - Aluminized Steel (Standard)	
			Exhaust, Material/Finish - Aluminized Steel (Standard)	
			Location, Diffuser Termination - 2.00" Past Rub Rail (Standard)	
			Tip, Exhaust - Straight Tip (Standard)	
66	0788765		Radiator, Saber FR/Enforcer	1
67	0722490		Cooling Hoses, Gates Silicone and Rubber Combination - Custom	1
68	0693258		Fuel Tank, 65 Gallon, Left Side Fill, Stainless Steel, Rear Air Suspension	1
			Finish, Fuel Tank - Painted	
69	0001129		Lines, Fuel	1
70	0582182		DEF Tank, 4.5 Gallon, DS Fill, Rear of Rear Axle, Common Door	1
			Door, Material & Finish, DEF Tank - Polished Stainless	
71	0723716		Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	1
72	0552712		Not Required, Shutoff Valve, Fuel Line	1
73	0553019		Cooler, Engine Fuel, Imp/Vel, SFR/Enf	1
74	0645743		Fuel/Water Separator, Racor 690R1210, 10 Micron, Heater, IATS, ISL9	1
75	0887559		Trans, Allison 6th Gen, 3000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	1
76	0625329		Transmission, Shifter, 5-Spd, Push Button, 3000 EVS	1
77	0684459		Transmission Oil Cooler, Modine, External	1
78	0001370		Driveline, Spicer 1710	1
79	0637248		Steering, Dual Gear, TRW TAS-65, w/tilt, Pump w/ Cooler, Saber FR/Enforcer	1
80	0509229		Steering Wheel, 2 Spoke	1
81	0690274		Logo/Emblem, on Dash	1
			Text, Row (1) One - Columbus	
			Text, Row (2) Two - Division OF	
			Text, Row (3) Three - Fire	
82	0606441		Bumper, 19" Extended, Steel Painted, Saber FR/Enforcer	1
83	0640197		Tray, Hose, Center, 19" Bumper, Outside Air Horns	1
			Grating, Bumper extension - Grating, Rubber	
			Capacity, Bumper Tray - 20) 125' of 1.75"	
84	0633481		Cover, Raised, 1.50", Aluminum Treadplate, Two (2) Flush Lift & Turn, Hose Tray	1
			Stay arm, Tray Cover - d) No Stay Arm	

Line	Option	Type	Option Description	Qty
85	0614646		No Lift & Tow Package, Imp/Vel, AXT, SFR/Enf	1
86	0628336		Tow Eyes, Painted, Below Deck, Color Feature	1
			Paint, Color - Lower cab color	
87	0558109		Notch, Front For Recessing Of Q2B, Painted Bumper	1
			Location - Driver's side	
88	0532853		Recess, Side Zone Warning Light, In Side of Extended Bumper	1
			Material, Brkt, Recess Lt Bumper - Painted Smooth Aluminum	
89	0698960		Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	1
90	0648332		Cab, Enforcer, 7010	1
91	0647919		Engine Tunnel, ISL, Spray Insulation, Saber FR/Enforcer	1
92	0887601		Cab Insulation, Enforcer/Saber FR	1
93	0633594		Rear Wall, Interior, Adjustable Seating	1
94	0632103		Rear Wall, Exterior, Cab, Saber FR/Enforcer	1
			Material, Exterior Rear Wall - Aluminum Treadplate	
95	0639727		Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer	1
96	0691738		Indicator, Cab Not Engaged Into Lockdown Latches, Tied to Do Not Move Truck Lt	1
97	0695930		Grille, Bright Finished, Front of Cab, Enforcer	1
98	0663120		Scuffplate, S/S Behind Handrails	4
			Location - behind each cab handrail Qty, - 04 Material Trim/Scuffplate - c) S/S, Polished	
99	0647932		Not Required, Trim, S/S Band, Across Cab Face, AXT/Saber/Enforcer	1
100	0015440		No Chrome Molding, On side of cab	1
101	0628259		Mirrors, Lang Mekra, Aero 300, Convex, Heated/Remote, Custom Chassis	1
102	0663040		Mirror, 8.00" Convex, Round, Cab Front, Front Cross View, Heated	1
103	0648170		Door, Half-Height, Saber FR/Enforcer 4-Door Cab, Raised Roof	1
			Key Model, Cab Doors - 751 Cab, Exterior Door Handle, Finish - 4-Door, Chrome/Black	
104	0655543		Door Panel, Brushed Stainless Steel, Saber/Enforcer 4-Door Cab	1
105	0630636		Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber FR/Enforcer	1
106	0627553		Steps, 4-Door Cab, Grip Strut Inserts, Saber FR/Enforcer	1
			Step Well Material - Aluminum Treadplate	
107	0811117	SP	Handrail, Exterior, Brey-Krause, 24" Formed, S/S, Coat Hook Btm, 4-Door Cab	1
108	0892638		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	1
			Color, Trim - Chrome Housing	
109	0002141		Fenders, s/s on cab - Saber/Enforcer	1
110	0674349	SP	Handrail, 10" on Cab Below Windshield, One (1) Piece, Stainless Steel, Pair	1
111	0637984		Window, Side of C/C, Fixed, Saber FR/Enforcer	1
112	0012090		Not Required, Windows, Front/Side of raised roof	1
113	0779033		Not Required, Windows Rear of Crew Cab, Saber FR/Enforcer	1
114	0824002		Compt, 16.50 W x 38 H x 15 D, Ea Side C/C, Dbl Pan, 70" SFR/Enf	1
			Light, Aux Cab Compartments - Pierce, Hinged Side Finish, Cab Compt/Component - D/A Finish Door, Cab Exterior Cabinet - Double Pan, (2), Non-Locking Door, Exterior Stop - 2-Web Strap	
115	0894089		Dash, Heavy Duty Metal, Enforcer	1
			Material Finish, Metal Dash - Fire Smoke Gray	
116	0607217		Mounting Provisions, 3/16" Alum, Full Engine Tunnel, Saber FR/Enforcer	1
			Mounting Provision Spacing - .25" Material Finish, Cab Interior - Painted	
117	0750824		Cab Interior, Vinyl Headliner, Saber FR/Enforcer, CARE	1
			Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray Engine Tunnel Cover - Painted Cab Interior Rear Wall Material - Painted Aluminum	
118	0753903		Cab Interior, Paint Color, Saber FR/Enforcer	1
			Color, Cab Interior Paint - b) black	
119	0726474	SP	Floor, Aluminum Treadplate, Cab & Crew Cab, Safe-Stride C/C, SFR/Enf	1
			Color, Safe-Stride - Black	
120	0722696		HVAC, Standard-Duty, Enforcer, CARE	1
			HVAC System, Filter Access - Removable Panel Auxiliary Cab Heater - Both HVAC System, Control Loc. - Panel Position #12 Plenum Cover Material - Metal, Painted	

Line	Option	Type	Option Description	Qty
121	0012122		Fans, Window Defrost, One (1) Fan on Each Side	1
122	0639675		Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf	1
			Sun Visor Retention - No Retention	
123	0622887		Grab Handles, Driver Door Post, Officer Door Post Low, Saber FR/Enforcer	1
124	0002526		Light, Engine Compt, All Custom Chassis	1
125	0631830		Fluid Check Access, Saber FR/Enforcer, Arrow XT	1
			Latch, Door, Storage - Lift and Turn Latch, Flush	
126	0631747		Map Box, 2 bin, Open from Top, 18.00" L x 12.00" W x 8.00" D	1
			Location - To be determined	
127	0583039		Not Required, Side Roll and Frontal Impact Protection	1
128	0622617		Seating Capacity, 6 Belted Seats	1
129	0632962		Seat, Driver, Bostrom, Sierra, Air Ride, High Back, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
130	0632918		Seat, Officer, Bostrom 450, Fixed, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
131	0620420		Radio Compartment, Below Non-Air Ride Seat, Saber FR/Enforcer	1
			Latch, Door, Storage - Lift and Turn Latch, Flush	
132	0632850		Seat, Rr Fcng C/C, LS Otbrd, Bostrom 450, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
133	0102783		Not Required, Seat, Rr Facing C/C, Center	1
134	0632846		Seat, Rr Fcng C/C, RS Otbrd, Bostrom 450, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
135	0108189		Not Required, Seat, Forward Facing C/C, LS Outboard	1
136	0770929	SP	Seat, Fwd Fcng C/C, Ctr, (2) Bostrom 450, SCBA, 5.50" Sp, SECONDARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
137	0108190		Not Required, Seat, Forward Facing C/C, RS Outboard	1
138	0042359		Upholstery, Seats In Cab, All Vinyl, Bostrom, CARE	6
			Color, Cab Interior Vinyl/Fabric - c) Black	
			Qty, - 06	
139	0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats	5
			Qty, - 05	
140	0690610		Embroidery, Seats, Cab and Crew Cab	1
			Qty, Seats Embroidery - 6 Seats	
141	0681146		Door, Access, Each Side, Forward Facing Seat Riser	1
142	0603866		Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	1
			Seat Belt Color - Red	
143	0543133		Bracket, Helmet Holder, Zico UHH-1	1
			Qty, Helmet Storage Brkt - 6	
144	0647647		Lights, Dome, FRP Dual LED 4 Lts	1
			Color, Dome Lt - Red & White	
			Color, Dome Lt Bzl - Black	
			Control, Dome Lt White - Door Switches and Lens Switch	
			Control, Dome Lt Color - Lens Switch	
145	0652881		Lights, Dome, FRP Dual LED	1
			Location - Centered in crew cab	
			Qty, - 01	
			Color, Dome Lt - Red & White	
			Color, Dome Lt Bzl - Black	
			Control, Dome Lt White - Door Switches and Lens Switch	
			Control, Dome Lt Color - Lens Switch	
146	0816997		Portable Hand Light, Provided by Fire Dept, NFPA/ULC 2024	1
147	0644187		Cab Instruments, Black Gauges, Black Bezels, Saber FR/Enforcer	1
			Emergency Switching - Individual Switches	
148	0002544		Air Restriction Indicator - Pierce Chassis	1
149	0543751		Light, Do Not Move Apparatus	1
			Alarm, Do Not Move Truck - Pulsing Alarm	
150	0637359		Not Required, Door Open Indicator w/Do Not Move Truck Light, Enf/Saber FR	1
151	0632738		Switching, Cab Instrument Lower Console & Overhead, Rocker, Enforcer	1
152	0802940		Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer	1
			Location, Wiper Control - Standard Location	
153	0820894		Wiring, Spare, 15 A 12V DC, Batt Dir, 1st NFPA1900/ULC	1
			Location, Wiring - Engine Tunnel - Officer's Side	

Line	Option	Type	Option Description	Qty
153			12vdc power from - Battery direct	
			Wire termination - Butt Splice	
154	0650545		Radio, AM/FM/CD/USB/Aux Input, Sony	1
			Speakers, AM/FM Radio - One (1) pair of speakers, Cab	
			Antenna, AM/FM Radio - Roof-mounted rubber antenna LS	
			Location, AM/FM Radio - b) within reach of the officer	
155	0763646		Vehicle Information Center, LCD On Gauge Cluster Only, Sab/Enf	1
			System Of Measurement - US Customary	
156	0816633		Collision Mitigation, HAAS Alert (R2V), HA7	1
			Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	
157	0610240		Vehicle Data Recorder w/Seat Belt Monitor	1
158	0662683		Intercom, Firecom 5100D Single Radio, 6-Pos, D,O,4C	1
			Location - Overhead, TBD	
			Location, Intercom, C Cab - 4) 2 forward & 2 rearward facing seats	
159	0006240		Cable, Radio to Intercom Interface, Firecom, 1 Radio	1
			Radio, First Two-Way Make - Motorola High Power	
			Radio, First, Two-Way Model - Motorola APX8500	
160	0681413		Headset, Firecom, FH-51 Over Head, Radio Transmit	2
			Qty, - 02	
			Location, Headset - Driver Seat and Officer Seat	
161	0681396		Headset, Firecom, FH-52 Over Head, Intercom Only	4
			Qty, - 04	
			Location, Headset - DS Inbrd, Rear Fcng Seat, DS Inbrd, Fwrd Fcng Seat, PS Inbrd, Fwrd Fcng Seat and PS Inbrd, Rear Fcng Seat	
162	0819255		Hangers For Headsets, NFPA/ULC 2024, Each	6
			Qty, - 06	
			Location, Headset Hangers - Driver Seat, Officer Seat, DS Outbrd, Fwrd Fcng Seat, DS Outbrd, Rear Fcng Seat, PS Outbrd, Fwrd Fcng Seat and PS Outbrd, Rear Fcng Seat	
163	0559156		Install Customer Provided Two-Way Radio(s)	1
			Location - - in pass side overhead switch panel #4. See photo for location of PTT	
			Qty, - 01	
164	0559512		Install Customer Provided MDT, Complete (Qty)	1
			Location - Mounted on the instrument panel in front of the officer	
			Qty, - 01	
165	0696438		Antenna Mount, Custom Chassis, Cable Routed to Radio Box	1
			Location - *	
			Qty, - 01	
166	0003757		Antenna, Std and Add'l Mts Only, 2-way Radio,Cust,Spl Cable Routing	1
			Location - cable routed to center instrument panel area for MDC	
			Qty, - 01	
			Location 1 - antenna opposite the standard antenna	
167	0723201	SP	Camera, FRC, 7" Display, Cab, Inview360HD, SDC	1
			Location - Driver's side dash	
			Location, Event Button - Driver Side Dash	
168	0814831		Not Required, Camera Switcher	1
169	0734233		Key Storage, Knox-Box, KeySecure 6, KS-6K2, WiFi, Cab Surface Mt	1
			Location - Mounted on the tunnel, final location to be determined at post paint inspection	
170	0768717		Bracket, Mounting, 60 Degree, KeySecure 5/6, Knox KLS-MB-60	1
			Location - *	
171	0624241		Electrical Power/Signal Protection & Control, Enforcer	1
172	0624256		Electrical System, Enforcer Hard Wired	1
173	0665713		Batteries, (4) Interstate Grp 31, 950 CCA ea, Threaded Stud	1
174	0008621		Battery System, Single Start, All Custom Chassis	1
175	0546514		Battery Compartment, Stainless Steel, Saber/Enforcer	1
			Material Finish - Painted	
176	0813813		Charger, Sngl Sys, IOTA, DLS 45, 45 amp	1
177	0814869		Location, Cab, Charger, Behind Driver Seat	1
178	0814945		Location, Cab, Ind/Remote, Driver's Step Area	1
179	0016856		Shoreline, 15A 120V, Kussmaul Auto Eject, 091-55-15-120, Super	1
			Qty, - 01	

Line	Option	Type	Option Description	Qty
179			Color, Kussmaul Cover - b) red	
			Connection, Shoreline - charger	
180	0026800		Shoreline Location	1
			Location, Shoreline(s) - DS Cab Side	
181	0036804		Light, Indicator, Shoreline Inlet Powered, Green 1st	1
182	0696378	SP	Cover, Protection over Battery, Alum Treadplate	1
183	0121711		Alternator, 320 amp, Leece-Neville 4962PA, Sgl Sys	1
184	0012766		Radio Cut-Out, Interlocked to Emerg Master Switch	1
185	0644176		Load Manager, Integrated In Electrical System, Saber FR/Enforcer	1
186	0780484		Headlights, Rect LED, HiViz FT-4X6-4KIT, AXT/DCF/Enf/Imp/Sab/Vel	1
187	0625953		Light, Directional, Wln 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Enf/Sab	1
			Color, Lens, LED's - m)match LED's	
188	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
189	0735474		Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts, Saber FR/Enforcer	1
			Light Guard - No Guards	
190	0625210		Lights, Directional, Cab Front Side, Truck-Lite 19036Y LED, AXT/Enf	1
191	0627282		Lights, Clearance/Marker/ID, Rear, FRP LED Bar & P25 LED 4Lts	1
192	0804514		Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg	1
			Color, Lens, LED's - Clear	
			Flash Pattern, Directional Lts - Steady On (Arrow)	
193	0806466		Lights, Backup, Wln M62BU, LED, For Tail Lt Housing	1
194	0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt	1
			Color, Trim - Chrome Housing	
195	0556842		Bezels, Wln, (2) M6 Chrome Pierce, For mtg (4) Wln M6 lights	1
196	0689602		Alarm, Back-up Warning, ECCO SA917	1
197	0695735		Lights, Perimeter Cab, Truck-Lite 44310C LED	1
			Cab, Perimeter Scene - Cab, 4dr Custom	
198	0769572		Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	1
199	0770056		Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Rear Step	1
			Control, Perimeter Lts - Parking Brake Applied	
200	0556360		Lights, Step, P25 LED 4lts, Pump Pnl Sw	1
201	0782880		Lights, Side Scene, Wln M9LZC LED, 1st	1
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Cab Sw Panel PS and Cab and Crew Cab Dr Sw, DS	
			Location, Scene Lights - DS Crew Cab, Over EMS Compt Access	
202	0782877		Lights, Side Scene, Wln M9LZC LED, 2nd	1
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Cab Sw Panel PS and Cab and Crew Cab Dr Sw, DS	
			Location, Scene Lights - PS Crew Cab, Over EMS Compt Access	
203	0776995		Light, Roof Mt, HiViz, FT-MB-12-*-*, 17"	3
			Qty, - 03	
			Location, driver's/passenger's/center - DS, Center, PS Under Lightbars	
			Control, Scene Lts - Cab Sw Panel DS and Cab Sw Panel PS	
			Color, Lt Housing HiViz - White	
			Scene Light Optics - Flood/Spot	
204	0772040		Lights, FRC, SPA***-Q15, 15,000 Lum, 12 VDC, 1st	2
			Location - Behind DS Crew Cab Door High, Behind PS Crew Cab Door High	
			Qty, - 02	
			Color, FRC/Rom Lt Housing - FRC, White Chrome Face	
			Control, Scene Lts - Cab Sw Panel DS and Cab Sw Panel PS	
			Mount, FRC - Fixed Side Mount, Model 580	
205	0689891		Lights, Deck, Wln (2) PFBP12C LED Rear Flood Lights	1
			Switch, Scene Lt Cntrl - h)switch at rear	
206	0645877		Lights, Hose Bed, Sides, Dual LED Light Strips	1
			Control, Hose Bed Lts - Cup Switch At Rear	
207	0645681		Lights, Not Required, Rear Work, Deck Lights At Rear	1
208	0709438		Lights, Walk Surf, FRP Flood, LED	1
209	0060115		Pumper, Medium, Aluminum, 2nd Gen	1
210	0554271		Body Skirt Height, 20"	1
211	0013492		Tank, Water, 750 Gallon, Poly, Med, New York Style	1

Line	Option	Type	Option Description	Qty
212	0003405		Overflow, 4.00" Water Tank, Poly	1
213	0028107		Not Required, Foam Cell Modification	1
214	0633066		Sleeve, Through Tank	1
			Qty, Sleeve - 1 Water Tank Sleeve - Plumbing/Hydraulic Diameter - 3" Plumbing	
215	0553725		Restraint, Water Tank, Heavy Duty, Special Type Tank, 4x4, or Export	1
216	0003429		Not Required, Direct Tank Fill	1
217	0003424		Not Required, Dump Valve	1
218	0048710		Not Required, Jet Assist	1
219	0030007		Not Required, Dump Valve Chute	1
220	0514778		Not Required, Switch, Tank Dump Master	1
221	0618241		Hose Bed, Aluminum, Pumper, New York Style	1
			Material Trim/Scuffplate - b) S/S, Brushed	
222	0723549		Painted Hose Bed	1
			Paint Color, Hose Bed Interior - Match Lower Body	
223	0003481		Hose Bed Capacity, Special	1
			Capacity, Hosebed - HB PC 200' - 1-3/4" HB PC 250' - 1-3/4" 1000' - 5" 500' - 3" HB PC - 500' 2-1/2"	
224	0003488		Divider, Hose Bed, Unpainted	4
			Qty, Hosebed Dividers - 4	
225	0805760		Cover, Hose Bed, Alum Treadplate	1
226	0807424		Hose Restraint, Hose Bed, Web, Rear, Separate From Top	1
			Fastener, Rear Restraint, Top - Velcro Straps/Footman Loops Fastener, Rear Restraint, Bottom - Velcro Straps/Footman Loops	
227	0010133		Cross-Divider, Hose Bed	1
228	0013512		Running Boards, 12.75" Deep	1
229	0689496		Tailboard, 12" Deep, Full Width, Extended Substructure, Angled Corners	1
230	0815881		Wall, Rear, Smooth Aluminum/Body Material, Flush Rear Wall	1
231	0889214		Tow Eyes, w/Tow Bar, 2G Pumper	1
232	0024110		Tray, Hose, Running Board, 20' of 5.00" Soft Suction Hose	2
			Location, Hose Tray, Running Board - a) both sides Qty, Tray, Hose - 2	
233	0895820		Construction, Compt, Alum, 2G Pumper	1
234	0023650		LS 152" Rollup, Full Height Front & Rear, FDLER	1
235	0083731		RS 152" Lap, 3/4 Height Front & Rear, (1) Broom, FDLER	1
236	0594005		Doors, Rollup, Amdor, Side Compartments	5
			Qty, Door Accessory - 05 Color, Roll-up Door - AMDOR Satin Aluminum Latch, Roll-up Door - Non-Locking Liftbar	
237	0073671		Compt, Rear, Rollup, 30.75" FF, 31.88" D	1
238	0594003		Door, Amdor, Rollup, Rear Compartment	1
			Color, Roll-up Door - AMDOR Satin Aluminum Latch, Roll-up Door - Non-Locking Liftbar	
239	0808926		Body Modification, 12.50" Reduced Depth Rr Compt, 65 Gal Fuel Tank/Air Susp,SR22	1
240	0625184		Guard, Drip Pan, S/S, Rollup Door, Pumper	6
			Qty, Door Accessory - 06 Location, Door Guard/Drip Pan - LS1, LS2, LS3, RS1, RS3 and B1	
241	0616670		Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door, Pumper/Tanker	7
			Qty, - 07 Location, Compartment Lights - All Body Compts	
242	0687146		Shelf Tracks, Painted	7
			Qty, Shelf Track - 07 Location, Shelf Track - LS1, LS2, LS3, RS1, RS2, RS3 and B1	
243	0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	5
			Qty, Shelf - 05 Material Finish, Shelf - DA Finish Location, Shelves/Trays, Predefined - RS1-Centered, LS2-Centered, LS3-Centered, LS1-Centered Left of Partition and B1-Centered	
244	0589413		Tray, 250 lb Slide-out, 2" Sides - Adj. Height, Max Width/Depth	1
			Location - DS3	

Line	Option	Type	Option Description	Qty
244			Qty, Tray (slide-out) - 01 Material Finish, Tray - DA Finish	
245	0647091		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides Qty, - 01 Location, Tray Slide-Out, Floor Mounted - B1 and LS3 Material Finish, Tray - DA Finish	1
246	0725648		Cabinet, Drawer Assembly, CTECH, Two Drawers, Up To 24" Wide, 24" Deep Qty, - 01 Location - TBD Size, Drawer Height 1 (Top) - 3.00" Size, Drawer Height 2 - 3.75"	1
247	0819423		Toolboard, Pac Trac, Installed on Compartment Walls Location - tbd Qty, Comp. Accessory - 03	3
248	0726457		Partition, Vertical Compt, Predefined Locations Qty, Partition - 02 Location, Partition/Toolboard, Predefined - * Locations To Be Determined At A Later Date Material Finish, Partition - DA Finish	2
249	0543479		Heater, Electric, 12VDC RoadPro 300 Watt Ceramic Location - RS3, right hand wall, high and behind roll up door. Qty, - 01 Fill in Blank - tbd	1
250	0659383		Matting, Turtle Tile w/Ramp, Compartment Floors Location - LS1, LS2, LS3 B1,RS1,RS2,RS3 Qty, Comp. Accessory - 07 Color - 1) black Color, Tile Edge - yellow	7
251	0028026		Matting, Turtle Tile, Compartment Shelving Only Location - Each Shlef Qty, Shelf - 06 Color - 1) black	6
252	0726584	SP	Box, Hose Storage, w/Partitions, Inside Compartment Location - B1 Qty, - 01 Size - Full width of compartment Fill in Blank - (4) Slots to be determined on hose size	1
253	0726582	SP	Box, Hose Storage, w/Partitions, Inside Compartment, 2nd Location - RS1 Qty, - 01 Size - 20 inches wide 12 inches tall Fill in Blank - (2) slots for hose to be determined	1
254	0024016		Rub Rail, Aluminum Extruded, Side & Rear of Body	1
255	0784811		Fender Crowns, Rear, Stainless, w/Removable Liner Material Finish, Fender Liner - Painted Aluminum Black 101	1
256	0519849		Not Required, Hose, Hard Suction	1
257	0626229		Handrails, Side Pump Panels, Per Print	1
258	0004126		Handrails, Beavertail, Standard	1
259	0610196		Handrail, Rear, Above Hose Bed, New York Style/Low Hose Bed Handrail Finish - Black Rubber Covered Reinforcement, Hose Bed Divider - Tied to Upper Handrail/Crossbar	1
260	0657651		Compt, Air Bottle, Double, Fender Panel Qty, Air Bottle Comp - 3 Door Finish, Fender Compt - Polished Location, Fender Compt - Double - LS Fwd, Double - RS Fwd and Double - RS Rear Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	3
261	0004225		Ladder, 24' Duo-Safety 900A 2-Section	1
262	0004230		Ladder, 14' Duo-Safety 775A Roof	1
263	0550204		Rack, Zico Quic-Lift, (3) Ladders Location, driver's/passenger's/center - Right	1
264	0733387		Ladder, 10' Duo-Safety Folding 585A	1
265	0761360		Brackets, Folding Ladder, Zico Ladder Rack	1

Line	Option	Type	Option Description	Qty
266	0816920		Pike Pole, Provided by Fire Department, NFPA/ULC 2024	2
			Qty, - 02 Pike Pole Make/Model - Duo-Safety 10' Pike Pole	
267	0816918		Pike Pole, 6', Provided by Fire Department, NFPA/ULC 2024	2
			Qty, - 02 Pike Pole Make/Model - Duo-Safety 6' Pike Pole	
268	0785102		Steps, Folding, Front of Body, Cargo Bed Access, w/LED, Trident	1
			Coating, Step - black Location, Steps - Full Height Left Side w/LED Light	
269	0592994		Steps, Folding, Rear of Body, w/LED, Trident	1
			Coating, Step - black	
270	0512439		Step, Special Width, Rear Of Body, 8.00", 45 Degree Corners	1
271	0007575		Pump House, Side Control, 48", Control Zone	1
272	0035500		Raised Pump House Structure, Side Control	1
273	0830615		Heater, Electric, Gauges, Test Ports, Transducers	1
274	0558968		Compartment, Inside the Left Side Cargo Compt, w/Hinged Door, Alum. 4-way	1
275	0001937		Pump, Hale, QTWO-150, 1500 GPM, Two Stage	1
276	0014482		Seal, Mechanical, Hale	1
277	0014477		Trans, Pump, Hale, Gear	1
278	0635600		Pumping Mode, Stationary Only	1
279	0604308		Pump Shift, Air w/o Manual Override, Split Shaft, Interlocked, Hale	1
280	0003148		Transmission Lock-up, EVS	1
281	0004547		Auxiliary Cooling System	1
282	0014485		Transfer Valve, Power, Hale	1
283	0746501		Valve, Relief Intake, Elkhart	1
			Qty - 1 Pressure Setting - 180 psig Intake Relief Valve Control - Behind Right Side Pump Panel	
284	0826104		Controller, Pressure, FRC, Pump Boss Max, PBA500	1
			Pressure Governor Throttle Control - Clockwise Pressure Governor Default Mode - RPM Setting Pressure Governor Std/Metric - Standard psi readouts Pressure Governor Transducer - Single 600 PSI Pressure Governor Alarm - Additional alarm provided	
285	0072153		Primer, Trident, Air Prime, Air Operated	1
286	0658542		Thermal Relief Valve, TRV120-L w/Red Warning Light and Alarm, Hale Pump	1
			Location, Thermal Relief Discharge - Ground	
287	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
288	0602509		Plumbing, Stainless Steel and Hose, Two Stage Pump, Control Zone	1
289	0089437		Plumbing Without Foam System	1
290	0004645		Inlets, 6.00" - 1250 GPM or Larger Pump	1
291	0014650		Pump Suction Tube(s), Short, All	1
292	0895474		Valve, w/Relief, LS Side Pump Inlet, Hale MIV 2.0, Handwheel Cntrl	1
293	0895457		Valve, w/Relief, RS Side Pump Inlet, Hale MIV 2.0, Handwheel Cntrl	1
294	0004646		Cap, Main Pump Inlet, Long Handle, NST, VLH	1
295	0084610		Valves, Akron 8000 series- All	1
296	0016158		Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	2
			Qty, Inlets - 2	
297	0004700		Control, Inlet, at Valve	1
298	0004660		Inlet (1), Left Side, 2.50"	1
299	0004680		Inlet, Right Side, 2.50"	1
300	0539172		Anodes, Zinc, (3), Pump, 2-Inlet & 1 Discharge Side	1
301	0092569		No Rear Inlet (Large Dia) Requested	1
302	0064116		No Rear Inlet Actuation Required	1
303	0092696		Not Required, Cap, Rear Inlet	1
304	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
305	0092568		No Rear Auxiliary Inlet Requested	1
306	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
307	0029043		Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing	1
308	0004905		Outlet, Tank Fill, 1.50"	1
309	0070431		Control, Outlets, Pierce Handwheel, w/Indicator	8
			Location - all discharges	

Line	Option	Type	Option Description	Qty
309			Qty, Discharges - 08	
310	0004940		Outlet, Left Side, 2.50"	2
			Qty, Discharges - 02	
311	0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
312	0092570		Not Required, Outlets, Left Side Additional	1
313	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
314	0004945		Outlet, Right Side, 2.50"	1
			Qty, Discharges - 01	
315	0025091		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
316	0092571		Not Required, Outlets, Right Side Additional	1
317	0089584		Not Required, Elbow, Right Side Outlets, Additional	1
318	0816625		Outlet, Large Diameter, Right Side, Akron Valve	1
			Outlet, Large Diameter, Plumbing - 4.00"	
			Outlet, Large Diameter, NST Adapter - 4.00" MNST	
			Outlet, Large Diameter, Valve Actuation - Pierce large handwheel	
319	0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	1
			Qty, - 01	
320	0648906		Outlet, Front, 2.50" w/2.50" Plumbing	1
			Fitting, Outlet - 2.50" NST with 90 degree swivel	
			Drain, Front Outlet - Automatic	
			Location, Front, Single - top of right bumper	
321	0683235	SP	Outlet, Rear, 3" w/3" plumbing, w/Handwheel	1
			Qty, Discharges - 01	
			Location, Outlet - a) right side	
322	0639417		Elbow, Rear Outlets, 30 Degree, 3.00" FNST x 3.00" MNST, VLH	1
323	0092574		Not Required, Outlet, Rear, Additional	1
324	0085695		Not Required, Elbow, Rear Outlets, Large, Additional	1
325	0000216		Outlets, (3) Front HB, (2) 1.50" (1) 2.50"	1
			Location - (2) 1.5" on the left side and (1) 2.50 on the right side.	
326	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
327	0723042		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	1
328	0075983		Outlet, 3.00" Deluge w/Elkhart Electric Extender 18", Handwheel	1
329	0095958		Deluge Outlet, Special Height/Location	1
			Fill in Blank - on the deluge outlet in the dunnage area.	
330	0066206		Monitor, Elkhart Vulcan 8500, Manual Control - No Ground Base	1
331	0029304		No Nozzle Req'd	1
332	0075964		Deluge Mount, Elkhart Vulcan When An Extender Is Used	1
333	0723726		Speedlay Module Not Required	1
334	0722432		Hose Restraint Not Required, No Speedlay Module	1
335	0723395		Speedlays, Not Required	1
336	0723394		Speedlays, Not Required	1
337	0788405		Not Required, 1.50" Crosslays, Top Mount w/Speedlays	1
338	0558463		Crosslay, 2.50", Special Cap or Single Stack	1
			Capacity, Special Xlay - 300' of 2.5" double stack	
			Qty, Crosslays - 1	
339	0591145		Hose Restraint, Crosslay/Deadlay, Top/Ends, Elastic Netting	2
			Qty, - 02	
340	0029260		Not Required, Speedlays	1
341	0750536		Hose Restr, Spdly, Not Required, No Spdly	1
342	0747170		Cover, Crosslay, Hinged Alum Treadplate, Vinyl Flaps on Sides, Cords	1
			Color, Vinyl Cover - a) red	
343	0592410	SP	Crosslays, 8.00" Lower, Std Height Pump House	1
344	0019853		Crosslays, 8.00" Lower Than Standard - Control Zone w/9.00" Raised PH	1
345	0044333		Not Required, Foam System	1
346	0012126		Not Required, CAF Compressor	1
347	0552517		Not Required, Refill, Foam Tank	1
348	0042573		Not Required, Foam System Demonstration	1
349	0045465		Not Required, Foam Tanks	1
350	0091110		Not Required, Foam Tank Drain	1
351	0091079		Not Required, Foam Tank #2	1
352	0091112		Not Required, Foam Tank #2 Drain	1

Line	Option	Type	Option Description	Qty
353	0738111		Approval Dwg, All Pump Panel(s), Includes Color And Label Tags, FLEET	1
			Num Of Truck(s) or Sim Unit, ALL Pump Pnl, Dwg - Fleet, No Similar Pierce Truck	
354	0032479		Pump Panel Configuration, Control Zone	1
355	0005525		Material, Pump Panels, Side Control Brushed Stainless	1
356	0721765		Panel, Pump Access - Right Side Only, Side Control	1
			Latch, Pump Panel Access, Side Mount - Swell Latch, Black	
357	0583824		Light, Pump Compt, Wln 3SC0CDCR LED White	1
			Qty, - 01	
358	0586382		Gauges, Engine, Included With Pressure Controller	1
359	0005601		Throttle, Engine, Incl'd w/Press Controller	1
360	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	1
361	0549333		Indicators, Engine, Included with Pressure Controller	1
362	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
363	0763096		Fittings, Compression IPO PTC, All Pump Panel Gauges	1
364	0005780		Control, Air Horn At Pmp Pnl, Button	1
365	0560441		Grille, Speaker Louvered S/S, Each	1
			Location - DS Qty, - 01 Fill in Blank - to be determined	
366	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
367	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
368	0037928		Gauge, Flowmeter / Pressure, FRC Insight Ultimate, FPA400	4
			Qty, Gauges/Disc. - 04 Discharge w/Flowmeter - Three (3) Hosebed Discharges and (1) rear 2-1/2"	
369	0604123		Gauge, Water Level, FRC, WLA 300-A00, TankVision Pro, w/Remote Light Driver	1
370	0604028		Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display	3
			Location - Behind crew cab doors, high and at rear body Qty, - 03 Activation, Water Level G - pb) parking brake is applied	
371	0006774		Not Required, Foam Level Gauge	1
372	0593161		Light Shield, S/S LED	1
373	0682498		Light Shield/Step 8", PS LED, P25 LED Stp Lt	1
374	0682261		Light Shield/Step 8", DS LED, P25 LED Step Lt	1
375	0606694		Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	1
376	0606835		Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	1
377	0016064		Control, Air Horn, Horn Ring, PS Push Button	1
378	0547475		Siren, Wln 295HFSA7 200W, Dual Tone, Flush Mount	1
379	0510206		Location, Elect Siren, Recessed Overhead In Console	1
			Location, Elec Siren - Overhead, DS Center Sw Pnl	
380	0076156		Control, Elec Siren, Head Only	1
381	0601294		Speaker, (2) Wln, SP123BMC, Chrome ABS	1
			Connection, Speaker - siren head	
382	0601559		Location, Speaker, Frt Bumper, Recessed, Each Side, Inside Frame (Pos 3 & 5)	1
383	0895310		Siren, Federal Q2B	1
			Finish, Q2B Siren - Chrome	
384	0006095		Siren, Mechanical, Mounted Above Deckplate	1
			Location, Siren, Mech - a) Left	
385	0748305		Control, Mech Siren, Multi Select	1
386	0748282		Control Mech Siren, Ft Sw LS	1
387	0740391		Sw, Siren Brake, Momentary Chrome Push Button, RS	1
388	0746353		Not Required, Warning Lights Intensity	1
389	0605736		Lightbar, Wln, Freedom IV-*, 3-21.5", RRRWR RRRR RWRRR, 30 Deg	1
			Filter, Whl Freedom Ltbrs - No Filters	
390	0016380		No Additional Lights Req'd, Side Zone Upper	1
391	0602583		Lights, Front Zone, Wln 6RB* M6** M6** 6RB* LED, 4lts Q Bezel	1
			Color, Lens, LED's - c)clear Color, Lt DS Frnt Outside - DS Front Outside Red Color, Lt PS Frnt Outside - PS Front Outside Red Color, Lt DS Front Inside - r) DS Front Inside Red Color, Lt PS Front Inside - r) PS Front Inside Red	

Line	Option	Type	Option Description	Qty
392	0653937		Flasher, Headlight Alternating	1
			Headlt flash deactivation - a)w/high beam	
393	0540679		Lights, Side Zone Lower, Wln M6*C LED, Clear Lens 2pr	1
			Location, Lights Front Side - b)each side bumper	
			Color, Lt Side Front - Red	
			Color, Lt Side Rear - Red	
			Location, Lights Rear Side - Over Rear Wheels	
394	0672937		Lights, Side, Wln WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st	4
			Location, Lights - LS1,LS3,RS1,RS3	
			Qty, - 04	
			Color, Lights, Warning - gla) red	
			Control, Light - b) side warning	
395	0564655		Lights, Rear Zn Lwr, Wln M6*C LED, Clear Lens, For Tail Lt Housing	1
			Color, Lt DS Rear - r) DS Rear Lt Red	
			Color, Lt PS Rear - r) PS Rear Lt Red	
396	0740407		Lights, Rear, Wln M6** LED, Features 1st	2
			Location - (1) each side of the rear body bulkhead	
			Qty, - 02	
			Color, Lights, Warning - Red Flashing	
			Control, Light - f) emerg master	
			Color, Lens, LED's - Clear	
			Color, Trim - Chrome Trim	
397	0088745		Light, Rear Zone Up, Wln L31HRFN LED Beacon, Red LED	1
			Color, Dome, Rear Warning - b)both domes red	
398	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
399	0016621		Mtg, Rear Warn Lts, LS Compt Top, RS S/S Low Mt	1
400	0791493		Light, Traffic Directing, Wln TAM65 36" Long LED	1
			Activation, Traffic Dir L - Control Head Only	
401	0529861		Location, TDL, Surface Mounted Over Rear Door with Treadplate Box	1
402	0529654		Location, Traf Dir Lt Controller, Heavy Duty Swivel Bracket Centered	1
403	0519934		Not Required, Brand, Hydraulic Tool System	1
404	0649753		Not Required, PTO Driven Hydraulic Tool System	1
405	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
406	0816508		NFPA Required Loose Equipment, Pumper, NFPA/ULC 2024, Provided by Fire Dept	1
407	0816941		Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024	1
408	0027023		No Strainer Required	1
409	0816939		Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	1
410	0816937		Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	1
411	0816998		Axe, Flathead, Provided by Fire Department	1
412	0817000		Axe, Pickhead, Provided by Fire Department	1
413	0741569		Paint Process / Environmental Requirements, Appleton	1
414	0709567		Paint, Single Color, Enforcer	1
			Paint Color, Cab - #90 Red	
415	0709845		Paint, Single Color, Body	1
			Paint, Body - Match Lower Cab	
416	0646897		Paint Chassis Frame Assy, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Standard Black	
417	0693797		No Paint Required, Aluminum Front Wheels	1
418	0693792		No Paint Required, Aluminum Rear Wheels	1
419	0733739		Paint, Axle Hubs	1
			Paint, Axle Hub - Primary Job Color	
420	0007230		Compartment, Painted, Spatter Gray	1
421	0544189		Reflective Band, 1"- 8"- 1"	1
			Color, Reflect Band - A - i) gold	
			Color, Reflect Band - B - l) white	
			Color, Reflect Band - C - ze) gold	
422	0007356		Reflective across Cab Face	1
423	0536954		Stripe, Chevron, Rear, Diamond Grade, Pumper	1
			Color, Rear Chevron DG - fluorescent yellow green	
424	0509398		Stripe, Reflective, Chevron, Cab and Crew Cab Doors Interior	1
			Color, Reflect Band - B - n) ruby red	

Line	Option	Type	Option Description	Qty
424			Size, Chevron Striping - 04 Color, Reflect Chev - A - g) yellow	
425	0545446		Lettering Specifications, Gold Effect Printing	1
426	0686428		Lettering, Gold Leaf, 3.00", (41-60) Outline, Lettering - Outline and Shade	1
427	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom Qty, - 01	1
428	0772037		Manual, Chassis Service, USB Flash Drive, Custom Qty, - 01	1
429	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
430	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
431	0696698		Warranty, Engine, Cummins, 5 Year, WA0181	1
432	0684952		Warranty, Steering Gear, TRW Ross TAS, 1 Year WA0202	1
433	0596017		Warranty, Frame, 50 Year, Custom Chassis, WA0013	1
434	0811389		Warranty, Axle, Steertek, 2 Year WA0398	1
435	0733306		Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	1
436	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
437	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
438	0744240		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
439	0744215		Warranty, FRC, Camera System	1
440	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
441	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
442	0685945		Warranty, Transmission Cooler, WA0216	1
443	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
444	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
445	0693126		Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	1
446	0892410		Warranty, Pump, Hale, 5 Year Parts, 2 Year Labor, WA0388	1
447	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
448	0641372		Warranty, Foam System, Not Available	1
449	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
450	0595412		Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	1
451	0819254		Certification, Vehicle Stability, CD0196	1
452	0808582		Certification, Engine Installation, Saber FR/Enf, Cummins X10, 2027	1
453	0686786		Certification, Power Steering, CD0098	1
454	0892691		Certification, Cab Integrity, Saber FR/Enforcer, CD0189	1
455	0631973		Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	1
456	0631978		Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	1
457	0631974		Certification, Electric Window Durability, Saber FR/Enforcer, CD0133	1
458	0631977		Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	1
459	0735949		Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	1
460	0545073		Amp Draw Report, NFPA Current Edition	1
461	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
462	0799248		Appleton/Florida BTO	1
463	0000018		PUMPER, 2ND GEN	1
464	0000012		PIERCE CHASSIS	1
465	0004713		ENGINE, OTHER	1
466	0046395		EVS 3000 Series TRANSMISSION	1
467	0020012		HALE PUMP	1
468	0020009		POLY TANK	1
469	0028047		NO FOAM SYSTEM	1
470	0020006		SIDE CONTROL	1
471	0020007		AKRON VALVES	1
472	0020015		ABS SYSTEM	1
473	0658751		PUMPER BASE	1

Proposal for **COLUMBUS DIVISION OF FIRE**

Prepared by **Atlantic Emergency Solutions, Inc**

03/14/2025

CONTENTS

SINGLE SOURCE MANUFACTURER

Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2024 STANDARDS

This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

NFPA COMPLIANCY

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".

PUMP TEST

Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, Underwriters Laboratory (UL) will test, approved, and certify the generator. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and have the sample certified that the air quality meets the requirements of NFPA 1989, *Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection.*

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA 1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

A placard will be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.

BID BOND

A bid bond as security for the bid in the form of a 10 percent bid bond will be provided with the proposal. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language which assures that the bidder/principal will give a bond or bonds, as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.

PERFORMANCE BOND NOT REQUESTED

A performance bond will not be included. If requested at a later date, one will be provided to you for an additional cost and the following will apply:

The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A

and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Bumper to Bumper warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed three (3) years from the date of such satisfactory acceptance and delivery, or the actual Bumper to Bumper warranty period, whichever is shorter.

Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible.

APPROVAL DRAWING

A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.

ENFORCER CHASSIS

The Pierce Enforcer™ is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis will be the manufacturer's first line tilt cab.

WHEELBASE

The wheelbase of the vehicle will be 187.50.

GVW RATING

The gross vehicle weight rating will be 42000.

FRAME

The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will be heat-treated steel measuring 10.25" x 3.50" x 0.375".

Each rail will have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.

FRONT AXLE
The front axle will be a reverse "I" beam type with inclined king pins. It will be a Hendrickson SteerTek™ axle, with a rated capacity of 20,000 lb.

FRONT SUSPENSION
The front springs will be a Hendrickson, Steertek™ NXT, taper leaf design, with a ground rating of 20,000 lb.

SHOCK ABSORBERS
Hendrickson Steertek shock absorbers will be provided on the front axle.

FRONT OIL SEALS
Oil seals with viewing window will be provided on the front axle.

FRONT TIRES
Front tires will be Goodyear 385/65R22.5 radials, 18 ply Armor Max MSA tread, rated for 20,050 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.

REAR AXLE
The rear axle will be a Meritor™, Model RS-24-160, with a capacity of 24,000 lb.

TOP SPEED OF VEHICLE
A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph / 109 kph.

REAR SUSPENSION
Rear suspension will be a Hendrickson FMX 242 EX, air ride with a ground rating of 24,000 lb. The suspension will have the following features:

- Heavy-duty shock absorbers to protect air springs from overextension
- Heavy-duty torque rods and bushings
- Premium, heavy-duty rubber bushings require no lubrication
- Integrated stabilizer design results in greater stability
- Low spring rate air springs for excellent ride quality
- Dual height control valves to maintain level vehicle from side to side

REAR OIL SEALS
Oil seals will be provided on the rear axle(s).

REAR TIRES
The rear tires will be four (4) Goodyear Armor Max MSD, 12R22.50 radials, load range H, rated for 27,120 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE
All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.

TIRE PRESSURE MANAGEMENT
There will be a Quick Pressure QP-000080 tire alert pressure monitoring will be provided that will monitor each tire's pressure. A chrome plated brass sensor will be provided on the valve stem of each tire for a total of six (6) tires.

The sight glass monitor will show full green, partial green/red or full red.

CHROME LUG NUT COVERS
Chrome lug nut covers will be supplied on front and rear wheels.

FRONT HUB COVERS
Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.

HUB COVERS (REAR)
Stainless steel baby moon covers will be provided over the rear axle hubs.

MUD FLAP
A mud flap will be installed behind the rear wheels of the apparatus. The mud flap will be plain and full-width.

MUD FLAPS
Mud flaps will be installed behind the front and rear wheels. The mud flaps will be black.

WHEEL CHOCKS
There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.

Wheel Chock Brackets
There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted below the left side rear compartment.

ELECTRONIC STABILITY CONTROL
A vehicle control system will be provided as an integral part of the ABS brake system from Meritor Wabco.

The system will monitor and update the lateral acceleration of the vehicle and compare it to a critical threshold where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event.

The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to bring the vehicle back to its intended direction.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any wheel begins to lockup, a signal will be sent to the control unit. This control unit will then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

AUTOMATIC TRACTION CONTROL

An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock that will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. An "off road traction" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.

BRAKES

The service brake system will be full air type by Meritor™.

Front brakes will be Model EX225 Disc Plus, disc type with automatic pad wear adjustment and 17.00" ventilated rotors for improved stopping distance.

The rear brakes will be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields will be provided.

BRAKE SYSTEM AIR COMPRESSOR

The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

BRAKE SYSTEM

The brake system will include:

- Brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system minimum capacity of 4,272 cubic inches

- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi
- A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)
- 1/4 turn drain valves on each air tank

The air tank will be primed and painted to meet a minimum 750 hour salt spray test.

The air tanks will be painted black #98.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

BRAKE SYSTEM AIR DRYER

The air dryer will be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100 watt heater.

BRAKE LINES

Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.

AIR INLET/OUTLET

One (1) air inlet/outletwill be installed with the male coupling DS Step well This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve.

A mating female fitting will be provided with the loose equipment.

The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

AIR HOSE

There will be one (1) 25' length(s) of air hose furnished with fittings.

An air chuck will be provided with the air hose. The air chuck will fit the valve stems that are provided on the tires.

ADDITIONAL AIR TANK

An additional air tank with 1454 cubic inch displacement will be provided to increase the capacity of the main air brake system. This tank will be plumbed into the rear half of the brake system.

The air tank will be primed and painted to meet a minimum 750 hour spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

The air tank(s) will be painted black #98.

The output flow of the engine air compressor will vary with engine rpm. Full compressor output will only be achieved at governed engine speed. Engine speed will be limited by generators, pumps and other PTO driven options.

U-BOLT GUARD OVER PARKING BRAKE KNOB

There will be one (1) U-bolt type protective guard(s) installed over the "Parking Brake" knob to prevent accidental activation of the brake. The guard will be located on the driver's side.

AUTOMATIC MOISTURE EJECTORS

Bendix, Model DV-2,moisture ejectors will be installed in the brake system.

Each moisture ejector will be equipped with a 12-volt heater, controlled by thermostat and ignition switch.

The moisture ejectors will be provided on all reservoirs.

MANUAL MOISTURE EJECTOR(S)

Three (3) manual moisture ejectors will be installed in the brake system.

The moisture ejector will be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible.

A loop will be provided at the moisture ejector, to allow for ease of pulling the drain.

Each moisture ejector will have a label directly under the ejector, stating air tank drain.

Air lines will be routed from the air tank to the moisture ejector.

The moisture ejector(s) will be provided on the Under LS3 Compartment reservoir(s).

PARKING BRAKE CONTROL VALVE LOCATION

The control valve for the parking brake will be Center lower switch console for driver and officer access.

COMPRESSION FITTINGS ONLY

Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable. Push lock fittings will not be acceptable for any pneumatic nylon tube plumbing.

ENGINE

The chassis will be powered by an electronically controlled engine as described below:

Make:	Cummins
Model:	X10
Power:	450 hp at 2100 rpm
Torque:	1250 lb-ft at 1400 rpm
Governed Speed:	2200 rpm

Emissions Level:	EPA 2027
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	606 cubic inches (9.9L)
Starter:	Delco 39MT™
Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.

The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

The engine will be filled with FA-4 10W30 oil as required by Cummins.

HIGH IDLE

A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

ENGINE BRAKE

A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

CLUTCH FAN

A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.

ENGINE AIR INTAKE

The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille.

A stainless steel metal screen will be installed at the inlet of the air intake system that will meet current edition of applicable NFPA standards.

The air cleaner and stainless steel screen will be easily accessible by tilting the cab.

EXHAUST SYSTEM

The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device. The exhaust system will include an aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipe between the turbo and the aftertreatment device to minimize the transfer of heat to the cab.

The exhaust will terminate horizontally ahead of the right side rear wheels and will extend 2.00" past the body rub rail. The exhaust pipes will be aluminized steel.

There will be an aluminized steel exhaust diffuser with a standard straight tip on the end provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

RADIATOR

The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes.

The radiator core will have a minimum front area of 1060 square inches.

Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator will be compatible with commercial antifreeze solutions.

The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES

Gates® silicone or a combination of silicone and rubber hoses will be used for the radiator and cab heater hoses installed by the chassis manufacturer.

The chassis manufacturer will also use Gates® brand hose on other heater and auxiliary coolant circuits. There will be some areas in which an appropriate Gates product is not available. In those instances a comparable silicone hose from another manufacturer will be used.

Rubber hoses will be used for the overhead defrost/heater system only in the drain tubes of the cab.

Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

FUEL TANK

A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of stainless steel. It will be equipped with swash partitions and a vent. The exterior of the tank will be painted to match lower body paint. To reduce the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

A 0.75" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only".

A 0.50" diameter vent will be provided running from top of tank to just below fuel fill inlet.

The tank will meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.

All fuel lines will be provided as recommended by the engine manufacturer.

DIESEL EXHAUST FLUID TANK

A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, polished stainless steel door on the driver side of the vehicle.

The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.

The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

FUEL PRIMING PUMP

A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.

FUEL COOLER
An air to fuel cooler will be installed in the engine fuel return line.

FUEL/WATER SEPARATOR
In addition to the standard fuel filters, a Racor 690R1210, 10 micron fuel/water separator with heater will be provided.

TRANSMISSION
An Allison 6th generation, Model EVS 3000P, electronic torque converting automatic transmission will be provided.

The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due.

Two (2) PTO openings will be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear.

A transmission temperature gauge with amber light and audible alarm will be installed on the cab dash.

TRANSMISSION SHIFTER
A five (5)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be:

1st	3.49 to 1.00
2nd	1.86 to 1.00
3rd	1.41 to 1.00
4th	1.00 to 1.00
5th	0.75 to 1.00
R	5.03 to 1.00

TRANSMISSION COOLER
A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.

DRIVELINE
Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1710 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.

STEERING
Dual steering gear, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and Vickers® V20NF hydraulic

pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL

The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 2-spoke design.

LOGO AND CUSTOMER DESIGNATION ON DASH

The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text will be: Columbus

The second row of text will be: Division OF

The third row of text will be: Fire

BUMPER

A one (1)-piece bumper manufactured from 0.25" formed steel with a 0.38" bend radius will be provided. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange, and will extend 19.00" from the face of the cab. The bumper will be 95.28" wide with 45 degree corners and side plates. The bumper will be metal finished and painted job color.

To provide adequate support strength, the bumper will be mounted directly to the front of the C channel frame. The frame will be a bolted modular extension frame constructed of 50,000 psi tensile steel.

Gravel Pan

A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and the cab face. The pan will be properly supported from the underside to prevent flexing and vibration.

CENTER HOSE TRAY

A hose tray, constructed of aluminum, will be placed in the center of the bumper extension.

The tray will have a capacity of 125' of 1.75" double jacket cotton-polyester hose.

Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.

COVER, CENTER HOSE TRAY

A bright aluminum treadplate cover will be provided over the center hose tray. The bright aluminum treadplate cover will be raised 1.50" above the gravel pan.

The bright aluminum treadplate cover will be attached with a stainless steel hinge.

Two (2) lift and turn latches will secure the bright aluminum treadplate cover in the closed position and a no stay arm device will hold the bright aluminum treadplate cover in the open position.

TOW EYES

Two (2) painted steel tow eyes will be installed under the bumper and attached to the front frame members. The tow eyes will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.

The inner and outer edges of the tow eyes will have a .25" radius.

The tow eyes will be painted Lower cab color.

FRONT BUMPER NOTCH

The front bumper will be notched for recessing of the Q2B siren. The notch will be designed so that the bumper is one continuous piece. The notch will be welded in place for strength with a continuous top and bottom flange. All welds will be metal finished for appearance. The siren will be located Driver's side of the bumper.

SIDE ZONE LIGHT MOUNTING

The front lower warning lights on each side will be recessed into the side of the bumper extension to protect the light from damage.

The recessed bracket will be made of painted smooth aluminum.

FRONT BUMPER UL-LX COATING

Protective black UL-LX® coating will be provided on the outside exterior of the top front bumper flange. It will not be sprayed on the underside of the flange.

The lining will be properly installed by an authorized UL-LX dealer.

CAB

The Enforcer cab will be designed specifically for the fire service and manufactured by the chassis builder.

The cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be a heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar will be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar will be constructed from 0.13" wall extrusions. The rear wall will be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.13" firewall plate, covered with a minimum 0.090" front skin thickness, and reinforced with a full width x 0.50" thick cross-cab support located just below the

windshield and fully welded to the engine tunnel. The cross-cab support will run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.

The cab floors will be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area will also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing will run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.

The cab will be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability.

The centerline of front axle to the rear of the cab will be 70.00" long.

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 109.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The floor to ceiling height inside the crew cab will be 64.50" in the center and outboard positions.

The crew cab floor will measure 46.00" from the rear wall to the back side of the rear facing seat risers.

The medium block engine tunnel, at the rearward highest point (knee level), will measure 61.50" to the rear wall. The big block engine tunnel will measure 51.50" to the rear wall.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The cab will be a full tilt cab style.

A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

CAB ROOF DRIP RAIL

For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be painted to match the cab roof, and bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

FENDER LINERS

Full circular inner fender liners in the wheel wells will be provided.

PANORAMIC WINDSHIELD

A one (1)-piece safety glass windshield will be provided with over 2,775 square inches of clear viewing area. The windshield will be full width and will provide the occupants with a panoramic view. The

windshield will consist of three (3) layers: outer light, middle safety laminate, and inner light. The outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with washer will be provided that meet FMVSS and SAE requirements.

The washer reservoir will be able to be filled without raising the cab.

ENGINE TUNNEL

Engine hood side walls will be constructed of 0.375" aluminum. The top will be constructed of 0.125" aluminum and will be tapered at the top to allow for more driver and passenger elbow room.

The engine hood will be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards.

The engine tunnel will be no higher than 17.00" off the crew cab floor.

INTERIOR CAB INSULATION

The cab will include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, a minimum of 1.00" insulation in the crew cab floor, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

INTERIOR CREW CAB REAR WALL ADJUSTABLE SEATING (PATENT PENDING)

The interior rear wall of the crew cab will have mounting holes every 2.75" to allow for adjustability of the forward facing crew cab seating along the rear wall. Seats will be adjustable with use of simple hand tools allowing departments flexibility of their seating arrangement should their department needs change.

CAB REAR WALL EXTERIOR COVERING

The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

CAB LIFT

A hydraulic cab lift system will be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.

Hydraulic pump will have a manual override for backup in the event of electrical failure.

Lift controls will be located on the right side pump panel or front area of the body in a convenient location.

The cab will be capable of tilting 43 degrees to accommodate engine maintenance and removal.

The cab will be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system will be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms will return to the normally closed and locked position.

The hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.

For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.

Cab Lift Interlock

The cab lift system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

LOCKDOWN INDICATOR

The "Do Not Move Truck" light and alarm will activate when the cab is not fully engaged into the lockdown latches.

GRILLE

A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, will be provided on the front center of the cab.

SCUFFPLATES

There will be four (4)polished stainless steel scuffplate(s) provided behind the handrail(s) behind each cab handrail.

MIRRORS

There will be a Lang Mekra 300 series, Aero West Coast style, heated and remote control mirror mounted on each of the cab doors. Each mirror will have a bright chrome finish. The mirrors reflective surface dimension will be 8.00" wide x 15.00" high. The mirror housing will have a dual point mount and will be of an aerodynamic design.

A 6.60" wide x 8.50" high chrome convex mirror will be mounted below the main mirror.

The controls for the flat mirrors will be within reach of the driver.

FRONT CROSS VIEW MIRROR

An 8.00" diameter round convex mirror will be provided over the officer's side front corner of the cab. The mirror will provide the driver with a view of the front bumper and the area several feet in front of the truck.

The mirror housing, tubing, clamps, and hardware will be constructed of corrosion resistant stainless steel.

The mirror will be heated with the control inside the cab.

DOORS

To enhance entry and egress to the cab, the forward cab door openings will be a minimum of 37.50" wide x 63.37" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab door openings will be a minimum of 34.30" wide x 73.25" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins will be constructed from 0.090" aluminum.

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The finish of the door handle will be chrome/black. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.

Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome grab handle will be provided on the inside of each cab door for ease of entry.

A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.

The bottom cab step at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.

Door Panels

The inner cab door panels will be constructed out of brushed stainless steel.

ELECTRIC OPERATED CAB DOOR WINDOWS

All four (4) cab doors will be equipped with electric operated windows with one (1) flush mounted automotive style switch on each door. The driver's door will have four (4) switches, one (1) to control each door window.

Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second.

CAB STEPS

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with grip strut inserts to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 25.00" wide, and the crew cab steps will be 21.65" wide with a 10.00" minimum depth. The inside cab steps will not exceed 16.50" in height.

The vertical surfaces of the step well will be aluminum treadplate.

CAB EXTERIOR HANDRAILS

A Brey-Krause 24.00" long formed 1.13" diameter stainless steel grab handle will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. There will be a coat hook, P/N V-1030B-BS, provided on the bottom of each handrail.

STEP LIGHTS

There will be six (6) white LED step lights with chrome housing installed for cab and crew cab access steps.

- One (1) light for the left side cab access steps.
- Two (2) lights for the left side crew cab access steps.
- Two (2) lights for the right side crew cab access steps.
- One (1) light for the right side cab access step.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights will be activated when the battery switch is on and the adjacent door is opened.

FENDER CROWNS

Stainless steel fender crowns will be installed at the cab wheel openings.

HANDRAILS BELOW WINDSHIELD

A 10.00" long handrail will be mounted one (1) each side below the windshield, on the front of the cab. The handrails will be one (1) piece stainless steel.

CREW CAB WINDOWS

One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 18.70" wide x 23.75" high.

STORAGE COMPARTMENTS

Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment.

The compartments will be 16.50" wide x 25.50" high below the floor level and 14.00" wide x 12.50" high above the floor level x 15.00" deep.

There will be two (2) double pan doors painted to match the cab exterior with a non-locking D-Ring latch, one (1) on each side of the cab. A web strap for each exterior door will be used as a door stop. Each clear door opening will be 10.25" wide x 34.25" high.

The exterior of each compartment will be painted to match the cab interior color. The interior of each compartment will be D/A finished.

Compartment Lights

There will be two (2) white LED strip lights provided, one (1) each hinged side of compartment door openings. The lights will be controlled by an automatic door switch.

CAB DASH

The driver side dash, switch panel located to the right of the driver, and center console will be constructed of metal and painted fire smoke gray.

The officer side dash will be a flat top design with an upper beveled edge to provide easy maintenance and will be constructed out of aluminum and painted to match the cab interior.

The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster.

MOUNTING PLATE ON ENGINE TUNNEL

Equipment installation provisions will be installed on the engine tunnel.

A 0.188" smooth aluminum plate will be bolted to the top surface of the engine tunnel. The plate will follow the contour of the engine tunnel and will run the entire length of the engine tunnel. The plate will be spaced off the engine tunnel .25" to allow for wire routing below the plate.

The mounting surface will be painted to match the cab interior.

CAB INTERIOR

The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The engine tunnel will be painted aluminum to match the cab interior.

For durability and ease of maintenance, the cab interior side walls will be painted aluminum. The rear wall will be painted aluminum.

The headliner will be installed in both forward and rear cab sections. Headliner material will be vinyl. A sound barrier will be part of its composition. Material will be installed on an aluminum sheet and securely fastened to interior cab ceiling.

The forward portion of the cab headliner will permit easy access for service of electrical wiring or other maintenance needs.

All wiring will be placed in metal raceways.

CAB INTERIOR UPHOLSTERY
The cab interior upholstery will be 36 oz dark silver gray vinyl.

CAB INTERIOR PAINT
The cab interior metal surfaces, excluding the rear heater panels, will be painted black, vinyl texture paint.

The rear heater panels will be painted black, vinyl textured paint.

CAB FLOOR
The cab and crew cab flooring will be constructed with bright aluminum treadplate.

The horizontal treadplate surfaces of the crew cab floor only will be covered with black Safe-Stride® slip resistant material.

DEFROST/AIR CONDITIONING SYSTEM
A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.

Cab Defroster
A 54,000 BTU heater-defroster unit with 690 SCFM of air flow will be provided inside the cab. The heater-defrost will be installed in the forward portion of the cab ceiling. Air outlets will be strategically located in the cab header extrusion per the following:

- One (1) adjustable outlet directed towards the left side cab window.
- One (1) adjustable outlet directed towards the right side cab window.
- Six (6) fixed outlets directed at the windshield.

The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

Cab/Crew Auxiliary Heater
There will be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat riser with a dual scroll blower. An aluminum plenum incorporated into the cab structure to be used to transfer heat to the forward positions.

Air Conditioning
A condenser will be a 59,644 BTU output that meets and exceeds the performance specification will be mounted on the radiator.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab. The rear plenum will be covered with a metal cover painted to match the cab interior.

The evaporator unit will have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.

Adjustable air outlets will be strategically located on the forward plenum cover per the following:

- Four (4) outlets directed towards the seating position on the left side of the cab.
- Four (4) outlets directed towards the seating position on the right side of the cab.

Adjustable air outlets will be strategically located on the rear plenum cover per the following:

- Minimum of five (5) outlets directed towards crew cab area.

A high efficiency particulate air (HEPA) filter will be included for the system. Access to the filter cover will be secured with four (4) screws.

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

Climate Control

An automotive style controller will be provided to control the heat and air conditioning system within the cab. The controller will have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.

The system will control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.

The AC system will be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob will engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.

The system controller will be located within panel position #12.

Gravity Drain Tubes

Two (2) condensate drain tubes will be provided for the air conditioning evaporator. The drip pan will have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps will be provided.

WINDOW DEFROST FANS

Two (2) window defrost fans will be mounted on the ceiling of the cab, one (1) on each side of the cab.

SUN VISORS

Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be no retention bracket provided to help secure each sun visor in the stowed position.

GRAB HANDLE

A black rubber covered grab handle will be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The officer's side grab handle will be mounted on the lower portion of the door post. The grab handle will be securely mounted to the post area between the door and windshield.

ENGINE COMPARTMENT LIGHT

An engine compartment light will be installed under the engine tunnel, of which the switch is an integral part. Light will have a 0.125" diameter hole in its lens to prevent moisture retention.

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.

MAP BOX

A map box, open from top, will be installed To be determined. The dimensions of the box will be 18.00" long x 12.00" wide x 8.00" deep. The box will be divided along the length dimension, centered. The map box will be constructed of 0.125" aluminum and painted to match the cab interior.

SEATING CAPACITY

The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be six (6).

DRIVER SEAT

A H.O. Bostrom, Sierra, air suspension high back seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the horizontal position (5.50" travel). To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 45 degrees forward.

The seat will include no additional zip clean covers.

The seat will be furnished with a 3-point, shoulder type seat belt.

OFFICER SEAT

A H.O. Bostrom, Tanker 450, SCBA fixed seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders.

Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include no additional zip clean covers.

The seat will be furnished with a 3-point, shoulder type seat belt.

RADIO COMPARTMENT

A radio compartment will be provided under the officer's seat.

The inside compartment dimensions will be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.

A drop-down door with one (1) flush lift and turn latch will be provided for access.

The compartment will be constructed of smooth aluminum and painted to match the cab interior.

REAR FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) rear facing, HO Bostrom Tanker 450 SCBA seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include no additional zip clean covers.

The seat will be furnished with a 3-point, shoulder type seat belt.

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) rear facing, HO Bostrom Tanker 450 SCBA seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include no additional zip clean covers.

The seat will be furnished with a 3-point, shoulder type seat belt.

FORWARD FACING CENTER SEATS

There will be two (2) forward facing, HO Bostrom Tanker 450 SCBA seats provided at the center position in the crew cab. The seats will be spaced an additional 5.50" apart to provide more room for each occupant. For optimal comfort, the seats will be provided with 17.00" deep cushions.

The seat backs will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include no additional zip clean covers.

The seats will be furnished with a 3-point, shoulder type seat belt.

SEAT UPHOLSTERY

All seat upholstery will be leather grain black vinyl resistant to oil, grease and mildew. The cab and tiller cab (if applicable) will have six (6) seating positions.

AIR BOTTLE HOLDERS

All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.

There will be a quantity of five (5) SCBA brackets.

SEAT EMBROIDERY

The seats in the cab and crew cab will be provided with custom embroidery. The Fire Department will determine what the embroidery will be by providing pictures at the time of order.

The custom logo will be provided in place of the standard OEM logo.

The embroidery will be provided on six (6) seats.

ACCESS DOORS

An access door will be provided on both sides of the forward facing seat riser in crew cab. Doors will be constructed out of same material as seat riser with one (1) 1/4 turn flush latch on each door.

SEAT BELTS

All cab and tiller cab (if applicable) seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts will include height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

The 3-point shoulder type belts will also include the ReadyReach® D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

Any flip up seats will include a 3-point shoulder type belts only.

To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.

HELMET HOLDER

There will be a total of six (6) Zico, Model UHH-1, helmet holder bracket(s) provided in the cab. The brackets will provide secure storage and quick access to each helmet. The location of the helmet holder bracket(s) will be determined at the time of final inspection.

CAB DOME LIGHTS

There will be four (4) dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the door switches and the lens switch.

The color LED's will be controlled by the lens switch.

All dome lights on the apparatus will be illuminated per the current edition of applicable NFPA standards per seating position.

ADDITIONAL DOME LIGHTS

There will be one (1) dual LED dome light(s) with black bezel(s) mounted in the cab and/or crew cab located Centered in crew cab.

The color of the LED's will be red and white.

- The white LED(s) will be controlled by the door switches and the lens switch.
- The color LED(s) will be controlled by the lens switch.

All dome lights on the apparatus will be illuminated per the current edition of applicable NFPA standards per seating position.

The light(s) may be load managed when the parking brake is applied.

PORTABLE HAND LIGHTS PROVIDED BY FIRE DEPARTMENT

The hand lights are not on the apparatus as manufactured. The fire department will provide and mount these hand lights.

CAB INSTRUMENTATION

The cab instrument panel will include gauges, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will

be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

Gauges

The gauge panel will include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

- Voltmeter gauge (volts):
  - Low volts (11.8 VDC)
    - Amber telltale light on indicator light display with steady tone alarm
  - High volts (15.5 VDC)
    - Amber telltale light on indicator light display with steady tone alarm
- Engine Tachometer (RPM)
- Speedometer MPH (Major Scale), KM/H (Minor Scale)
- Fuel level gauge (Empty - Full in fractions):
  - Low fuel (1/8 full)
    - Amber indicator light in gauge dial with steady tone alarm
- Engine Oil pressure Gauge (PSI):
  - Low oil pressure to activate engine warning lights and alarms
    - Red indicator light in gauge dial with steady tone alarm
- Front Air Pressure Gauges (PSI):
  - Low air pressure to activate warning lights and alarm
    - Red indicator light in gauge dial with steady tone alarm
- Rear Air Pressure Gauges (PSI):
  - Low air pressure to activate warning lights and alarm
    - Red indicator light in gauge dial with steady tone alarm
- Transmission Oil Temperature Gauge (Fahrenheit):
  - High transmission oil temperature activates warning lights and alarm
    - Amber indicator light in gauge dial with steady tone alarm
- Engine Coolant Temperature Gauge (Fahrenheit):
  - High engine temperature activates an engine warning light and alarms
    - Red indicator light in gauge dial with steady tone alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
  - Low fluid (1/8 full)
    - Amber indicator light in gauge dial

Indicator Lamps

To promote safety, the following telltale indicator lamps will be located on the instrument panel in clear view of the driver. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

- Low coolant
- Trac cntl (traction control) (where applicable)

- Check engine
- Check trans (check transmission)
- Air rest (air restriction)
- DPF (engine diesel particulate filter regeneration)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- Regen inhibit (engine emissions regeneration inhibit) (where applicable)
- Side roll fault (where applicable)
- Front air bag fault (where applicable)
- Aux brake overheat (auxiliary brake overheat) (where applicable)
- The following red telltale lamps will be present:
- Ladder rack down
- Parking brake
- Stop engine
- The following green telltale lamps will be present:
- Left turn
- Right turn
- Battery on
- Ignition
- Aux brake (auxiliary brake engaged) (where applicable)
- The following blue telltale lamps will be present:
- High beam

Alarms

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning condition is active.

Indicator Lamp and Alarm Prove-Out

A system will be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms will perform prove-out for 3 to 5 seconds when the ignition switch is moved to the on position with the battery switch on.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches will have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking and headlights. The second switch position will activate the parking lights. The third switch will activate the headlights.

Panel back lighting intensity control switch: A three (3)-position momentary rocker switch will be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity.

Pressing the half or bottom half of the switch several times will allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will turn off and deactivate vehicle ignition. The second switch position will activate vehicle ignition and will perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position will temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position will terminate the alarm silence feature and reset function of cab alarm system.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

Hazard switch will be provided on the instrument panel or on the steering column.

Heater, defrost, and air conditioning control panel.

Turn signal arm: A self-canceling turn signal with high beam headlight controls.

Windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control.

Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

High idle engagement switch: A maintained rocker switch with integral indicator lamp will be provided. The switch will activate and deactivate the high idle function. The "OK To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"OK To Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

Emergency switching will be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.

An additional "Emergency Master" button will be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch

panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.

Diagnostic Panel

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

The diagnostic panel will include the following:

- ENGINE/TRANSMISSION/ABS J1939 Diagnostic Port
- ABS Diagnostic Switch and Indicator - The switch and amber indicator will allow access to diagnostic mode and display of standard ABS system fault blink codes that may be generated by the ABS system
- DPF REGEN (Diesel Particulate Filter Regeneration Switch) (where applicable) will be provided to request regeneration of the engine emission system. An amber indicator will be provided on top of the switch that will illuminate in a "CHECK ENGINE" condition
- REGEN INHIBIT (Diesel Particulate Filter Regeneration Inhibit Switch) (where applicable) will be provided that will request that regeneration be temporarily prevented. A green indicator will be provided on top of the Regen Inhibit switch that will illuminate when the Regen Inhibit feature is active. Regen Inhibit will be disabled upon cycling of the ignition switch to the off state.

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light (electronic) will be provided.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.

SWITCH PANELS

The built-in switch panels will be located in the lower console or overhead console of the cab. Switches will be rocker type with an indicator light, of which is an integral part of the switch.

WIPER CONTROL

Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls. The control will be located on the left side of the center instrument panel.

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be capable of carrying 15 amps.
- Power and ground will terminate on the officer's side of the engine tunnel.
- Termination will be with heat shrinkable butt splicing.
- Wires will be protected to meet the NFPA Automotive Fire Apparatus standard.

Battery direct loads cannot be Load Managed.

RADIO WITH CD PLAYER

There will be one (1) Sony, AM/FM/CD/ stereo radio, with front auxiliary input for use with Apple™, or other USB devices installed within reach of the officer.

There will be one (1) pair of 5.25" speakers in the cab.

There will be a roof-mounted rubber antenna located on the left side of the cab.

INFORMATION CENTER

There will be a LCD display integral to the cab gauge panel provided that will display the following information:

- Total distance
- Trip distance
- Total hours
- Trip hours
- PTO "A" hours
- PTO "B" hours

COLLISION MITIGATION

There will be a HAAS Alert®, Model HA7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degrees Celsius to 85 degrees Celsius.

The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.

While responding with emergency lights on, the HA7 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.

While on scene with emergency lights on, the HA7 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.

The HA7 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.

Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.

VEHICLE DATA RECORDER

There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Internal clock syncs the time and date when a laptop is connected

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm
- FAULT = Blue LED indicator illuminated

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

INTERCOM SYSTEM

There will be digital, single radio interface, intercom located Overhead, TBD in the cab. The front panel will have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices.

There will be one (1) radio listen only / transmit control with select, monitor, receive, and transmit indicators. There will be one (1) auxiliary audio input with select, and receive indicators.

Headset jacks will be provided for the driver, officer, and four (4) crew positions located at two (2) forward facing seats and two (2) rearward facing seats.

The following Firecom components will be provided:

- One (1) 5100D Intercom
- Six (6) HM-10 Interior headset jacks
- All necessary power and station cabling

RADIO / INTERCOM INTERFACE CABLE

The apparatus manufacturer will supply and install one (1) radio interface cable before delivery of the vehicle.

The radio equipment to be used by the customer will be:

- Motorola High Power, Model number Motorola APX8500.

OVER THE HEAD, INTERCOM ONLY HEADSET

There will be four (4) over head, intercom only headset(s) provided driver's side inboard rear facing seat, driver's side inboard forward facing seat, passenger's side inboard forward facing seat and passenger's side inboard rear facing seat.

Each Firecom, Model FH-52 headset will feature:

- Coiled cord with rugged angled plug
- Noise cancelling electric microphone
- Flex boom rotates for left or right dress
- Adjustable volume control
- ComLeather ear seals with 24 dB noise reduction
- Intercom Push To Talk button

OVER THE HEAD, RADIO TRANSMIT HEADSET

There will be two (2) over the head, radio transmit headset(s) provided driver's seat and officer seat.

Each Firecom, Model FH-51 headset will feature:

- Coiled cord with rugged angled plug
- Noise cancelling electric microphone
- Flex boom rotates for left or right dress
- Adjustable volume control
- ComLeather ear seals with 24dB noise reduction
- Radio Push To Transmit button. Mic is always live for intercom communication

HEADSET HANGERS

There will be six (6) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard forward facing seat, driver's side outboard rear facing seat, passenger's side outboard forward facing

seat and passenger's side outboard rear facing seat. The hanger(s) will meet the current edition of applicable NFPA and ULC standards for equipment mounting.

COMPLETE MDT INSTALLATION

There will be one (1) customer supplied Mobile Data Terminal (MDT), docking station, mounting bracket, power supply, antenna, GPS, modem, and all cabling sent to the apparatus manufacturers preferred installer to be installed Mounted on the instrument panel in front of the officer. Specific shipping requirements will be followed.

TWO WAY RADIO INSTALLATION

There will be one (1) customer supplied two way radio(s) sent to the apparatus manufacturers preferred radio installer to be installed - in pass side overhead switch panel #4. See photo for location of PTT per the shipping document.

No antenna mount or whip will be included in this option.

Specific radio shipping requirements will be followed.

RADIO ANTENNA MOUNT

There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed * on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the radio box. A weatherproof cap will be installed on the mount.

RADIO ANTENNA MOUNT

There will be one (1) standard antenna-mounting base(s), Model MATM, with 17 feet of coax cable and weatherproof cap provided for a two (2)-way radio installation. The standard mount will be located on the cab roof, just to the rear of the officer seat and the additional mount(s) will be located antenna opposite the standard antenna. The cable(s) will be routed cable routed to center instrument panel area for MDC .

VEHICLE CAMERA SYSTEM

There will be a FRC/Seon InView 360 HD™ degree surround view four (4) high definition camera system provided.

The system will have a built-in DVR with built in GPS and accelerometer to record all connected cameras. There will be an GPS antennas provided. There will be one (1) Secure Digital (SD) 32 GigaByte (GB) card provided.

There will be a WIFI antenna provided.

The camera images will be displayed on a 7" display in view of the driver located Driver's side dash. The left side of the screen will always show the 360-degree view

The right side of the screen will show:

- The rear camera when the transmission is in reverse
- The right side camera when the right turn signal is active
- The left side camera when the left turn signal is active

- the forward camera with no triggers active.

A green view button and red event button will be installed in reach of the driver on the dash, the view button will activate the camera image on the display when no triggers are present.

System calibration will be provided by an FRC/Seon third party vendor.

The following components will be included:

- One (1) SNB100-C00-MS0 7" Cab monitor kit
- All Necessary Cables

Camera Switcher
A camera switcher is not required.

KNOX BOX MOUNTING BRACKET
A Knox Box 60 degree mounting bracket, Model KLS-MB-60, will be provided. The bracket will be mounted to the key storage located *.

KNOX-BOX
There will be a Knox-Box® KeySecure® 6, Model KS-6K2, unit only provided. The system will allow all administration functions to be performed via WiFi or Ethernet cable utilizing KnoxConnect™, a cloud-based management system. The box will be installed Mounted on the tunnel, final location to be determined at post paint inspection.

ELECTRICAL POWER CONTROL SYSTEM
A compartment will be provided in or under the cab to house the vehicle's electrical power and signal circuit protection and control components. The power and signal protection and control compartment will contain circuit protection devices and power control devices. Power and signal protection and control components will be protected against corrosion, excessive heat, excessive vibration, physical damage and water spray.

Serviceable components will be readily accessible.

Circuit protection devices, which conform to SAE standard, will be utilized to protect each circuit. All circuit protection devices will be sized to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting) and conform to SAE J553 or J258. When required, automotive type fuses conforming to SAE J554, J1284, J1888 or J2077 will be utilized to protect electronic equipment.

Power control relays and solenoids will have a direct current (dc) rating of 125 percent of the maximum current for which the circuit is protected.

Visual status indicators will be supplied to identify control safety interlocks and vehicle status. In addition to visual status indicators, audible alarms designed to provide early warning of problems before they become critical will be used.

Voltage Monitor System
A voltage monitor system will be provided to indicate the status of each battery system connected to the vehicle's electrical load. The monitor system will provide visual and audio warning when the system voltage is below optimum levels.

Power and Ground Studs
Spare circuits will be provided in the primary distribution center for two-way radio equipment.

The spare circuits will consist of the following:

- One (1) 12-volt DC, 30 amp battery direct spare
- One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center

EMI/RFI Protection
The electrical system proposed will include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components will be used to ensure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.

The apparatus proposed will have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor will be able to demonstrate the EMI and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.

EMI/RFI susceptibility will be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. The electrical system will be designed for full compatibility with low level control signals and high powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI-RFI susceptibility.

ELECTRICAL
All 12-volt electrical equipment installed by Pierce Manufacturing will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also, a coil of wire will be

provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.

4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will have this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection.

Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

BATTERY SYSTEM

There will be four (4) 12 volt, Interstate, group 31 batteries that include the following features provided:

- 950 CCA (cold cranking amps)
- 170 reserve capacity
- High cycle
- Maintenance free
- Rating of 4750 CCA at 0 degrees Fahrenheit
- 195 minutes of reserve capacity
- Threaded stud

BATTERY SYSTEM

There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH

There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

BATTERY COMPARTMENTS

Batteries will be placed on non-corrosive mats. The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of painted 0.188" stainless steel plate and designed to accommodate

a maximum of three (3) group 31 batteries in each compartment. The battery hold-downs will be of a non-corrosive material. All bolts and nuts will be stainless steel.

Heavy-duty battery cables will be used to provide maximum power to the electrical system. Cables will be color-coded.

Battery terminal connections will be coated with anti-corrosion compound. Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers will be included on the battery compartments.

BATTERY CHARGER

There will be an IOTA, Model DLS 45, 45 amp battery charger provided.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

The battery charger will be located in the cab behind the driver seat.

The battery charger indicator will be located in the driver's step area.

KUSSMAUL AUTO EJECT FOR SHORELINE

There will be one (1) Kussmaul Model 091-55-15-120, 15 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus without the use of the generator.

The shoreline inlet(s) will include red weatherproof flip up cover(s).

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to charger.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency

The shoreline receptacle will be located on the driver side of cab, above wheel.

SHORELINE INLET POWERED

A green indicator light, remote mounted next to the shoreline inlet will be provided. The light will indicate when the shoreline inlet has been powered with 120 VAC.

BATTERY BOX COVER
A removable cover will be fabricated and installed over the battery box for protection. The cover will be made out of aluminum treadplate material.

ALTERNATOR
A Leece-Neville, Model 4962PA, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an integral, self diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

AM/FM RADIO SHUT OFF
The AM/FM radio will be interlocked to shut off whenever the emergency master switch is activated.

ELECTRONIC LOAD MANAGEMENT
An electronic load management (ELM) system that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

The ELM will monitor the vehicle's voltage while at the scene (parking brake applied). It will sequentially shut down individual electrical loads when the system voltage drops below a preset value. Two (2) separate electrical loads will be controlled by the load manager. The ELM will sequentially re-energize electrical loads as the system voltage recovers.

HEADLIGHTS
There will be a HiViz, P/N FT-4X6-4KIT, that includes four (4) 4.00" high x 6.00" long rectangular LED lights with parking lamp illumination around the outside of the lamps mounted in the front quad style, chrome housing on each side of the cab grille:

- The outside lamp on each side will contain P/N FT-4X6-HL with low beam LEDs.
- The inside lamp on each side will contain P/N FT-4X6-H with high beam LEDs.
- The lights will be controlled through the headlight switch.

DIRECTIONAL LIGHTS
There will be two (2) Whelen 600 series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be the same color as the LED's.

INTERMEDIATE LIGHT
There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

CAB CLEARANCE/MARKER/ID LIGHTS
There will be seven (7) amber LED lights provided per the following:

- Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.
- Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield as close to the outside of the apparatus as practical.
- Two (2) amber LED clearance lights will be installed, one (1) on each side of the cab as high and far forward as practical.

The lights will be installed without guards.

FRONT CAB SIDE CLEARANCE/MARKER LIGHTS

There will be two (2) Truck-Lite®, Model 19036Y, amber LED lights installed to the outside of the chrome wrap around bezel, one (1) on each side of the cab.

The lights will activate as additional directional lights with the corresponding directional circuit.

REAR CLEARANCE/MARKER/ID LIGHTING

There will be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There will be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There will be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

REAR FMVSS LIGHTING

The rear stop/tail and directional lighting included in the rear tail light housing will include the following:

- Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs
- Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern.
- The lens color(s) to be clear.

There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing.

LICENSE PLATE BRACKET

One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus.

One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

LIGHTING BEZEL

There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

BACK-UP ALARM

There will be an ECCO, Model SA917, electronic audible back-up alarm provided.

This alarm will be activated when the truck is shifted into reverse.

PERIMETER SCENE LIGHTS, CAB

There will be a Truck-lite, Model 44310C, 4.00", 12 volt DC white LED light, with Model 40700 grommet mount and Model 95948 pigtail provided for each cab door. Lighting will be designed to provide illumination on areas under the driver, officer, and crew cab riding area exits, which will be activated automatically when the exit doors are opened and by the same means as the body perimeter lights.

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.

If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the Amdor light will be installed.

The lights will be controlled by the same means as the body perimeter lights.

BODY PERIMETER SCENE LIGHTS

There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens, 20.00" long, white LED's, 12 volt DC lights provided at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights will be activated when the parking brake is applied.

STEP LIGHTS

Four (4) white LED step lights will be provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.

These step lights will be actuated with the pump panel light switch.

All steps on the apparatus will be illuminated per the current edition of applicable NFPA standards.

SIDE SCENE LIGHTS

There will be one (1) Whelen®, Model M9LZC, 6.50" high x 10.37" long x 1.37" deep light(s) white LEDs and chrome trim installed on the side of the apparatus, one (1) over the passengerer's side EMS access door.

The light(s) will be activated by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and when the cab or crew cab doors on the driver's side are open.

The light(s) may be load managed when the parking brake is applied.

SIDE SCENE LIGHTS

There will be one (1) Whelen®, Model M9LZC, 6.50" high x 10.37" long x 1.37" deep light(s) white LEDs and chrome trim installed on the side of the apparatus, one (1) over the driver's side EMS access door.

The light(s) will be activated by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and when the cab or crew cab doors on the driver's side are open.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be three (3) HiViz Model FT-MB-12-*, 2.56" high x 17.65" long x 3.31" deep 6,336 lumens 12 volt DC LED light(s) with with a combination of flood and spot optics provided on the cab roof located, one (1) under the driver's side lightbar, one (1) under the center lightbar and one (1) under the passenger's side lightbar matching the angle of the lightbars.

The painted parts of the light housing and brackets to be white.

The light(s) will be controlled by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel.

The light(s) may be load managed when the parking brake is applied.

12 VOLT DC SCENE LIGHTS

There will be two (2) Fire Research Model SPA***-Q15, 15,000 lumens 12 volt DC powered lights with white LEDs installed on the apparatus located on the cab, Behind DS Crew Cab Door High, Behind PS Crew Cab Door High.

The light(s) will be installed on fixed side mount(s).

The painted parts of this light assembly to be white with a chrome bezel.

The lights will be activated by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel.

The light(s) may be load managed when the parking brake is applied.

DECK LIGHTS

There will be two (2) Whelen, Model PFBP12C, 12 volt DC LED floodlights with swivel mount provided at the rear of the hose bed, one (1) each side.

The lights will be activated by a control from a switch at the rear of the truck.

HOSE BED LIGHTS

There will be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the hose bed area. Hose Bed lights will meet the photometric levels listed in the current edition of applicable NFPA standards for Hose Bed lighting requirements.

- Light strip(s) will be installed along the upper edge of the left side of the hose bed.
- Light strip(s) will be installed along the upper edge of the right side of the hose bed.

The lights will be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.

WALKING SURFACE LIGHT

There will be Model FRP, 4.00" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light(s) will be activated when the body step lights are on.

WATER TANK

Booster tank will have a capacity of 750 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.

The tank will be stepped in design to allow for a low hosebed.

Tank joints and seams will be nitrogen welded inside and out.

Tank will be baffled in accordance with the current edition of applicable NFPA standards.

Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions will be constructed of 0.38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions will interlock and will be welded to the tank bottom and sides.

Tank top will be constructed of 0.50" polypropylene. It will be recessed 0.38" and will be welded to the tank sides and the longitudinal partitions.

Tank top will be sufficiently supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (0.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank.

Sump will include a drain plug and the tank outlet.

Tank will be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing.

Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, 0.50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system will be approved by the tank manufacturer.

Fill tower will be constructed of 0.50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a 0.25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

SLEEVE PLUMBING THROUGH TANK

One (1) sleeve will be provided in the water tank for a 3.00" pipe to the rear.

WATER TANK RESTRAINT

A heavy-duty water tank restraint will be provided.

HOSE BED

The hose bed will be fabricated of 0.125"-5052 aluminum with a nominal 38,000 psi tensile strength.

The hose bed will be as low as practical.

Upper and rear edges of side panels will have a double break for rigidity.

The upper area at the rear of the hose bed will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.

Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.

A cross divider will be provided at the front of the hose bed before the tank transitions from the lower section to the upper section. The divider will run from the top of the side sheet down below the hose bed grating.

The hose bed interior walls will be painted to match the lower body color.

Hose bed will accommodate HB PC 200' - 1-3/4" HB PC 250' - 1-3/4" 1000' - 5" 500' - 3" HB PC - 500' 2-1/2".

HOSE BED DIVIDER

Four (4) hosebed dividers will be furnished for separating hose.

Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge.

Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.

Divider will be held in place by tightening bolts, at each end.

Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

HOSE BED COVER

A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down. A stationary bridgework support assembly will be provided at the rear to support the cover.

The cover will be reinforced so that it can support the weight of a man walking on the cover.

The cover is designed with the left cover opening first.

If access to the water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that the tank may be filled without raising cover doors.

Chrome grab handles and four (4) gas filled cylinders will be provided to assist in opening and closing the cover. A handrail is to be provided at the rear, in the center of the support, to assist in opening the cover.

The hose bed cover will be connected to the Do Not Move Truck indicator. The light will be activated if the cover is not in the stowed position and the parking brake is released.

HOSE BED RESTRAINT, REAR

The hose in the hose bed will be restrained by heavy duty 2.00" black nylon webbing with a 1.50" x 4.00" box pattern. The webbing will be installed at the rear of the hose bed with Velcro strap and footman loop at the top. At the bottom of the webbing, Velcro strap and footman loop will be provided.

A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.

RUNNING BOARDS

Running boards will be fabricated of 0.125" bright aluminum treadplate.

Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure.

Running boards will be 12.75" deep and spaced 0.50" away from the pump panel.

A splash guard will be provided above the running board treadplate.

TAILBOARD

The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.

The tailboard area will be 12.00" deep and full width of the body. The outboard sides of the tailboard will be angled at 45 degrees beginning at the point where the body meets the tailboard at the outboard edge angling rearward to the rear edge of the tailboard.

The exterior side will be flanged down and in for increased rigidity of tailboard structure.

REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL

The rear facing surfaces of the center rear wall will be smooth aluminum.

The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body.

The rear wall will be flush.

REAR TOW EYES

Two (2) tow eyes, which are an integral part of the body mounting substructure, will be installed below the rear of the truck.

The tow eyes will be of adequate strength to allow the truck to be pulled from the eyes.

REAR TOW BAR

One (1) tow bar will be installed under the tailboard.

The tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.

The tow bar design will have been tested and evaluated using finite element analysis techniques.

HOSE TRAY

Two (2) hose trays will be recessed one (1) in each side running board.

Capacity of the tray will be 20.00' of 5.00" soft suction hose.

Rubber matting will be installed on the floor of the tray to provide proper ventilation. Drain holes will be provided.

COMPARTMENTATION

Body and compartments will be fabricated of 0.125", 5052-H32 aluminum.

Side compartments will be an integral assembly with the rear fenders.

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

Side compartment flooring will be of the sweep out design with the floor higher than the compartment door lip.

The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again 0.75" to form an angle.

Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.

The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers will have the corners welded.

Side compartment covers will be separate from the compartment tops.

Front facing compartment walls will be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

Forward to the rear axle, the support system will include "L"-shaped support members bolted to the chassis frame rails. These welded support members will include vertical formed channels, horizontal structural channels, and support gussets. These parts extend from the chassis frame outward underneath the body.

Rearward to the rear axle, the body support system will include two rearward facing "L"-shaped support members bolted to the chassis frame rails. These support members will be connected to the two body supporting crossmembers forming a boxed foundation for the rear body support system.

Steel upper platform decks will be mounted on the top of these support members to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment.

All structural components of this system will be made from high strength 50K steel plate material or structural steel componentry. The steel frames as well as the steel vertical angles will be treated with an epoxy E-coat or equivalent to provide resistance to corrosion and chemicals as standard.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

Isolators will have a broad load range, proven viability in vehicular applications, be of a fail-safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a pattern which assimilates a three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

A design with body compartments hanging on the chassis in an unsupported fashion will not be acceptable.

AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards.

LOUVERS

Louvers will be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they will be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN

Body structural analysis will be fully tested. Proven engineering and test techniques such as finite element analysis, strain gauging, and model analysis will be performed with special attention given to fatigue, life and structural integrity of the body and substructure.

Body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
- Driving the vehicle at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.

- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of actual testing techniques will be made available upon request.

LEFT SIDE COMPARTMENTATION

The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

RIGHT SIDE COMPARTMENTATION

The right side compartmentation will consist of three lap door compartments.

A vertically hinged, single door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 46.13" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.63" wide x 41.38" high.

A horizontally hinged, drop-down door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 12.38" high x 12.00" deep. The clear door opening will be a minimum of 59.25" wide x 6.63" high.

A vertically hinged, double door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 47.13" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 43.50" wide x 42.38" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the doors will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

The vertically hinged doors will be furnished with a positive door holder.

The drop-down door will be furnished with two chain-style door holders with a plastic covering around the chain.

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be five (5) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors.

Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingression.

The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 nylon.

Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

REAR COMPARTMENTATION

A roll-up door compartment above the rear tailboard will be provided**.**

The interior dimensions of this compartment will be 40.00" wide x 33.63" high x 31.88" deep. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment will be calculated with the compartment door closed.

A louvered, removable access panel will be furnished on the back wall of the compartment.

The rear compartment will be open into the rear side compartments.

The clear door opening of this compartment will be a minimum of 33.25" wide x 23.88" high.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

ROLLUP REAR COMPARTMENT DOOR

The rear compartment will have a rollup door.

The door will be double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors.

The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingression.

The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 Nylon.

The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

BODY MODIFICATION FROM STANDARD

The following body modifications will be required for the installation of a single axle air ride suspension:

- Rear compartment will be approximately 12.50" shorter in depth.

- Special water tank mounting may be required (if applicable).

DOOR GUARD

There will be six (6) compartment doors that will include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed left side rearward compartment, left side over the wheel compartment, left side forward compartment, right side rearward compartment, right side forward compartment and rear compartment.

COMPARTMENT LIGHTING

There will be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment(s).

Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.

Opening the compartment door will automatically turn the compartment lighting on.

MOUNTING TRACKS

There will be seven (7) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS2, RS3 and B1. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be painted to match the compartment interior.

ADJUSTABLE SHELVES

There will be five (5) shelves with a capacity of 500 lb provided.

The shelf construction will consist of .188" aluminum with a dual action finish with 2.00" sides.

Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location(s) will be in RS1 centered between the floor and the ceiling, in LS2 centered between the floor and ceiling, in LS3 centered between the floor and ceiling, in LS1 centered between the floor and ceiling to left of the partition and in B1 centered between the floor and ceiling.

SLIDE-OUT ADJUSTABLE HEIGHT TRAY

There will be one (1) slide-out tray provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 250 lb in the extended position.

Each tray will be designed to be as wide and as deep as the compartment space will allow.

with a dual action finish

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray(s) will be located DS3.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be one (1) floor mounted slide-out tray(s) provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray will be constructed of aluminum with a dual action finish.

There will be two undermount-roller bearing type slides rated at 250 lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

The location(s) will be B1 and LS3.

DRAWER ASSEMBLY

A slide-out drawer assembly will be installed TBD.

The clear dimensions of the first drawer starting at the top will be 3.00" with a face plate that is 4.00" high x 21.00" deep. The clear dimensions of the second drawer will be 3.75" with a face plate that is 4.00" high x 21.00" deep. Each drawer will be the same width and not exceed 24.00".

The drawers will have a capacity of 250 pounds.

The drawers will be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing will be 24.00" deep, and completely enclose the drawer.

A full-length aluminum extruded rail will be provided at the top edge of each drawer. This rail will act as the latching mechanism as well as the handle for each drawer.

There will be a total of one (1) provided.

EQUIPMENT MOUNTING

Pac Trac equipment mounting system will be installed on the left side, right side, and rear walls of three (3) compartment(s), tbd.

VERTICAL COMPARTMENT PARTITION

Two (2) partitions will be provided.

The partition construction will consist of body material with a dual action finish. Each partition will be the full vertical height of the compartment.

The location(s) will be determined at a later date.

ELECTRIC HEATER

There will be one (1) RoadPro,12 volt DC, fan-forced ceramic heater provided RS3, right hand wall, high and behind roll up door.. The approximate specifications of the heater are as follows:

- 12 volts DC
- 300 watts
- 25.0 amps
- Adjustable fan
- Dimensions are 6.00" high x 7.00" wide x 5.00" deep

A power on/off switch will be provided tbd.

MATTING, COMPARTMENT SHELVING

Turtle Tile compartment matting will be provided in six (6) shelves. The locations are, Each Shlef.

The color of the Turtle Tile will be black.

MATTING, COMPARTMENT FLOOR

Turtle Tile compartment matting will be provided in seven (7) compartments on the compartment floor. The locations are, LS1, LS2, LS3 B1,RS1,RS2,RS3.

The Turtle Tile will be black and the leading edge of the matting will include the beveled edge. The beveled edge will be yellow.

one (1) aluminum hose storage box(es) will be provided. The box(es) will be Full width of compartment.

Vertical partition(s) will be provided to form hose storage slots within the box. The dimension of each slot will be (4) Slots to be determined on hose size.

The box(es) will be located B1.

one (1) aluminum hose storage box(es) will be provided. The box(es) will be 20 inches wide 12 inches tall.

Vertical partition(s) will be provided to form hose storage slots within the box. The dimension of each slot will be (2) slots for hose to be determined.

The box(es) will be located RS1.

RUB RAIL
Bottom edge of the side and rear of the body compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS
Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown and the fender sheet metal to prevent corrosion.

The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown.

BODY FENDER LINER
A aluminum painted black 101 fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.

HARD SUCTION HOSE
Hard suction hose will not be required.

HANDRAILS
The handrails will be 1.25" diameter knurled aluminum to provide a positive gripping surface.

Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

Handrails will be provided to meet current edition of applicable NFPA standards. The handrails will be installed as noted on the sales drawing.

HANDRAILS
One (1) vertical handrail will be located on each rear beavertail.

One (1) horizontal black rubber-covered aluminum handrail will be provided above the hose bed at the rear of the apparatus. The hose bed dividers shall be tied to the upper handrail or cross bar in order to provide sufficient reinforcement.

AIR BOTTLE STORAGE (DOUBLE)
A quantity of three (3) air bottle compartments, 15.25" wide x 7.75" tall x 26.00" deep, will be provided on the left side forward of the rear wheels, on the right side forward of the rear wheels and on the right side rearward of the rear wheels. A polished stainless steel door with a Southco raised trigger C2

chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

EXTENSION LADDER
There will be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.

ROOF LADDER
There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.

LADDER RACK
There will be a quantity of three (3) ground ladders mounted above the right side of body compartments in a Zico Quic-Lift electric ladder lowering system. The ladder rack mounts will be powered by two (2), 12-volt electric actuators.

The electric controls will be located at the pump panel or in such a manner to allow the operator full view of the area in which the ladders will be lowered.

The electric actuator control will have a master switch and be interlocked to prevent operation should a compartment door, in the travel area of the ladder bracket, be in the open position.

LADDER RACK INTERLOCK AND NOT STOWED INDICATOR LIGHT
An interlock will be provided to prevent operation of the ladder rack unless the apparatus parking brake has been activated.

A steady red indicator light will be located on the cab instrument panel and illuminated when the ladder rack is not in the stowed position. The light will be labeled "Ladder Rack". In addition, the "Do Not Move Apparatus" light located in the cab will be activated when the ladder rack is not in the stowed position.

LIGHTS, FLASHING, LADDER RACK
Flashing amber lights facing the front and rear will be provided on the ladder rack and activated whenever the rack is in the down position.

FOLDING LADDER
One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed.

FOLDING LADDER STORAGE
One (1) folding ladder will be stored on the Zico ladder rack in brackets.

PIKE POLE PROVIDED BY FIRE DEPARTMENT
The pike poles are not on the apparatus as manufactured. The fire department will provide and mount the pike poles.

There will be two (2) pike pole(s) provided. The pike pole(s) will be a Duo-Safety 10' pike pole.

6' PIKE POLE PROVIDED BY FIRE DEPARTMENT

The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike poles.

There will be two (2) 6' pike pole(s) provided. The pike pole(s) will be a Duo-Safety 6' pike pole.

FOLDING STEPS FRONT OF BODY

Folding steps will be provided full height on the left side body compartments to provide access to the cargo bed. Steps will be spaced evenly on the sales drawing. Actual quantity may vary due to pump panel interferences but will meet the NFPA required maximum stepping height.

The Trident steps will be bright finished, non-skid with a black tread coating on the stepping surface.

The step will incorporate an LED light to illuminate the stepping surface.

The steps can be used as a hand hold with two openings wide enough for a gloved hand.

REAR FOLDING STEPS

Bright finished, non-skid folding steps with a black tread coating on the stepping surface will be provided at the rear. Each step will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.

An 8.00" deep bright aluminum treadplate step will be provided at the rear of the body above the rear compartment with 45 degree corners.

PUMP COMPARTMENT

The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. The pump compartment will be constructed of the same material as the body compartmentation.

The pump compartment substructure will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly.

PUMP MOUNTING

Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.

LEFT SIDE PUMP CONTROL PANEL

All pump controls and gauges will be located at the left (driver's) side of the apparatus and properly identified.

Layout of the pump control panel will be ergonomically efficient and systematically organized.

The pump operator's control panel will be removable in two (2) main sections for ease of maintenance:

The upper section will contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels will be removable from the face of the pump panel for ease of maintenance. Below the sub panels will be located all valve controls and line pressure gauges.

The lower section of the panel will contain all inlets, outlets, and drains.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

IDENTIFICATION TAGS

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting will be removable from the face of the pump panel for ease of maintenance. The casting will be color coded to correspond with the discharge identification tag.

All remaining identification tags will be mounted on the pump panel in chrome plated bezels.

The pump panel on the right (passenger's) side will be removable with lift and turn type fasteners.

Trim rings will be installed around all inlets and outlets.

ELECTRIC GAUGE HEATER

An Innovative Controls (IC) 12v electric gauge heater controller and heat tape(s) will be provided for all of the individual pressure gauges, master pump gauges, the pump test port and the pressure governor pressure transducer(s) in the pump house area if so equipped.

CARGO AREA COMPARTMENT

An accessory storage compartment will be provided at the forward left side cargo area above the pump. This compartment will be constructed from aluminum treadplate. It will be made as large as practical with the remaining available space - depending on other equipment installed in the cargo area above the pump.

A bright aluminum treadplate door will be provided for access to the compartment. The door will be hinged to the inside of the cargo area, secured with recessed pawl latches. If the door opening is too large to be practical for a single door, then a double door of the same single pan construction will be provided.

MIDSHIP FIRE PUMP

Midship fire pump will be a Hale QTWO-150, 1500 gpm two (2) stage midship mounted centrifugal type.

Pump will be the class "A" type.

Pump will deliver the percentage of rated discharges at the pressures indicated 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.

Entire pump and both suction and discharge passages will be hydrostatically tested to a pressure of 600 psi (40.8 bar).

Pump will be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the current edition of applicable NFPA standards and will be free from objectionable pulsation and vibration.

Pump body and related parts will be of fine grain, alloy cast iron with a minimum tensile strength of 30,000 psi (2041.2 bar).

All moving parts in contact with water will be of high quality bronze or stainless steel.

Pump body will be horizontally split, on a single plane in two (2) sections, for easy removal of entire impeller assembly, including wear rings and bearings from beneath the pump, without disturbing pump piping or the mounting of the pump in the chassis.

Pump will have two (2) impellers and series-parallel, two (2) stage design.

Pump impeller will be hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground, and individually balanced. The vanes of the impeller intake eyes will be hand-ground and polished to a sharp edge. They will be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

Impeller clearance rings will be bronze and easily renewable without replacing impeller or pump volute body. They will be of the wrap-around double labyrinth design for maximum efficiency.

Pump shaft will be electric furnace heat-treated, corrosion resistant stainless steel. It will be super-finished under packing with galvanic corrosion (zinc separators in packing) protection for longer shaft life. Pump shaft will be sealed with double oil seal to keep road dirt and water out of drive unit.

Pump shaft will be rigidly supported by three (3) bearings for minimum deflection. A high lead bronze sleeve bearing will be located immediately adjacent to the impeller (on the side opposite of the drive unit). The sleeve bearing will be automatically oil lubricated and pressure balanced to exclude foreign

material. The remaining bearings will be heavy-duty, deep groove ball bearings in the gearbox and will be splash lubricated.

MECHANICAL SEAL ON PUMP

Only one (1) mechanical seal will be used on the suction (inboard) side of the pump. The mechanical seal will be 2.00" in diameter and will be spring loaded, maintenance-free, and self-adjusting.

The mechanical seal construction will be a carbon sealing ring, stainless steel coil spring, Viton® rubber boot, and a tungsten carbide seat with a Teflon backup seal.

PUMP TRANSMISSION

The drive unit will be cast and completely manufactured and tested at the Hale Products, Inc. factory. The pump drive unit will be of sufficient size to withstand up to 16,000 foot/ pounds of torque from the engine in both the road and pump operating conditions. The drive unit is will be designed with ample lubrication reserve to maintain the proper operating temperature.

The gearbox drive shafts will be of heat treated chrome nickel steel and 2.75" in diameter on both the input and output drive shafts. They will be designed to withstand the full torque of the engine in both road and pump operating conditions.

All gears, both drive and pump, will be of the highest quality, electric furnace, chrome nickel steel. Bores will be ground to size and teeth integrated, crown-shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design will be provided to eliminate all possible end thrust.

Pierce Manufacturing will select the pump ratio to provide the maximum performance with the engine and transmission selected. Three (3) green warning lights will be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two (2) lights will be located in the truck driving compartment and one (1) light on pump operator's panel adjacent to the throttle control.

PUMPING MODE

An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.

AIR PUMP SHIFT

Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab.

Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged and the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump".

The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

The pump shift control in the cab will be illuminated to meet NFPA requirements.

TRANSMISSION LOCK-UP

The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be a separate unit. It will be installed in the pump or engine compartment with the control located on the pump operator's control panel. The exchanger will be plumbed to the master drain valve.

TRANSFER VALVE

Transfer valve will be power operated and of the latest design.

Transfer valve will have a positive mechanical indicator to register the position of the transfer valve at all times.

Power transfer valve will have a manual override, and is not electrically operated.

INTAKE RELIEF VALVE - PUMP

One (1) Elkhart Style 40 relief valve(s) will be installed on the suction side of the pump preset at 180 psig.

The relief valve(s) will have a working range of 75 psi to 250 psi.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

The relief valve pressure control will be located behind the right side pump panel with a stainless steel access door.

PRESSURE CONTROLLER

A FRC Pump Boss 500 electronic pressure controller with one (1) 600 PSI transducer on the pump discharge will be provided. All readouts will be standard PSI.

When a single 300 psi or single 600 psi pressure transducer is selected the transducer is installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller.

When a dual 600 psi pressure transducer is selected the transducer are installed in the discharge side and intake side of the water pump. The discharge transducer continuously monitors pump pressure sending a signal to the electronic pressure controller. The intake transducer continuously monitors the pump intake sending a signal to the electronic pressure controller.

The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to RPM Setting mode.

In RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within engine operation capabilities).

In pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow.

A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed.

Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing.

Safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

An additional audible alarm will BE provided.

The pressure controller screen will be LCD. The LCD screen and LED intensity will be automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed.

The following information will be provided/displayed on the LCD screen:

- Engine RPM
- Check engine and stop engine warning indicators
- Engine oil pressure
- Engine coolant temperature
- Transmission Temp
- Battery voltage
- Operating mode (RPM or pressure)
- Pressure or RPM setting

On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs 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 water pump temperature
- Low engine oil pressure
- High engine coolant temperature
- No engine response (visual alarm only)

The pressure controller will store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu.

The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of applicable NFPA standards.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control will open the priming valve and start the pump primer.

THERMAL RELIEF VALVE

A Hale TRV120-L thermal protection device will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C).

The thermal protection device will include a red warning light and audible alarm. The warning light with a test switch will be mounted on the pump operator panel.

The discharge line will be 3/8 inch diameter tubing plumbed to ground.

PUMP MANUALS

There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines will be plumbed with either stainless steel pipe, hydraulic type hose or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be hydraulic or reinforced poly hose.

All piping, hose and fittings will have a minimum of a 700 PSI hydrodynamic pressure rating.

MAIN PUMP INLETS
A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

SHORT SUCTION TUBE(S)
The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.

INLET VALVE/DUMP
One (1) butterfly valve type Hale MIV 2.0 will be provided on the right side main pump inlet. The inlet valve will be a combination butterfly valve and pressure relief valve with a bleeder valve located near the inlet valve control. The pressure relief valve will have a range of 75 to 250 PSI and will be factory set to 125 PSIG. The valve, less relief valve, will be rated for 600 PSI of hydrostatic pressure and 26 inHg of vacuum. The valve will cycle from full open to full closed in ten (10) turns of the handwheel.

An indicator light will be provided to show when the valve is in the closed position.

The valve will be fully recessed behind the pump panel.

A chrome plated handwheel will be provided next to the inlet valve.

INLET VALVE/DUMP
One (1) butterfly valve type Hale MIV 2.0 will be provided on the left side main pump inlet. The inlet valve will be a combination butterfly valve and pressure relief valve with a bleeder valve located near the inlet vale control. The pressure relief valve will have a range of 75 to 250 PSI and will be factory set to 125 PSIG. The valve, less relief valve, will be rated for 600 PSI hydrostatic pressure and 26 inHg of vacuum. The valve will cycle from full open to full closed in approximately ten (10) to twelve (12) turns of the handwheel.

An indicator light will be provided to show when the valve is in the closed position.

The valve will be fully recessed behind the pump panel.

A chrome plated handwheel will be provided next to the inlet valve.

MAIN PUMP INLET CAP
The main pump inlets will have National Standard Threads with a long handle chrome cap.

The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

VALVES
All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a **ten (10) year** warranty.

The location of the valve for the two (2) inlets will be recessed behind the pump panel.

INLET CONTROL
The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

LEFT SIDE INLET
There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

RIGHT SIDE INLET
There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

ANODE, INLET
A pair of sacrificial zinc anodes will be provided in the water pump to protect the pump from corrosion. Two (2) will be placed in the inlet side of the pump and the other in the discharge side of the pump.

INLET BLEEDER VALVE
A 0.75" bleeder valve will be provided for each side gated inlet.

The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel.

The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage.

The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP
The booster tank will be connected to the intake side of the pump with stainless steel piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL
A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

DISCHARGE OUTLET CONTROLS
The control for Eight (8) discharge outlets will be handwheel control with indicators. The discharge outlets with handwheels will be all discharges.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter chrome plated handwheel with a dial position indicator built in to the center of the handwheel.

The remaining valves will incorporate a quarter-turn ball valve with the control located at the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS
There will be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

LEFT SIDE OUTLET ELBOWS
The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE DISCHARGE OUTLETS
There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE OUTLET ELBOWS
The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

LARGE DIAMETER DISCHARGE OUTLET
There will be an Akron 8800 4.00" flat ball valve with 4.00" plumbing terminating with a 4.00" MNST chrome adapter on the right side pump panel.

The valve will be controlled with a(n) Pierce large handwheel with indicator located at the pump operator's panel.

LARGE DIAMETER OUTLET ELBOWS
The 4.00" outlet(s) will be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.

FRONT DISCHARGE OUTLET
There will be one (1) 2.50" discharge outlet piped to the front of the apparatus and located on the top of the right side of the front bumper.

Plumbing will consist of 2.50" piping and flexible hose with a 2.50" full flow valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 2.50" NST with 90 degree stainless steel swivel.

There will be automatic drains provided at all low points of the piping.

REAR DISCHARGE OUTLET

There will be One (1) discharge outlet piped to the rear of the hose bed, right side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 3.00" piping along with a 3.00" full flow ball valve with a handwheel, controlled from the pump operator's panel. The One (1) discharge outlet will terminate with a 3.00" male National Standard hose thread adapter.

REAR OUTLET ELBOWS

The 3.00" discharge outlets, located at the rear of the apparatus, will be furnished with a 3.00" (F) National Standard hose thread x 3.00" (M) National Standard hose thread, chrome plated, 30 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

FRONT OF HOSE BED DISCHARGE OUTLET

There will be three (3) discharges located at the front of the hose bed, (2) 1.5" on the left side and (1) 2.50 on the right side.. Plumbing for the 2.50" outlet will consist of 2.50" piping with a 2.50" full-flow ball valve and plumbing to the 1.50" outlets will consist of 2.00" piping and 2.00" full-flow ball valves. All three (3) outlets will be controlled at the pump operator's panel. The discharges will terminate with a one (1) 2.50" and two (2) 1.50" (M) National Standard hose thread adapter.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with chain will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.

Chrome plated, rocker lug, plugs with chain will be furnished for all auxiliary inlets 1.00" thru 3.00" in size.

The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel.

The handles will be chrome plated and provide a visual indication of valve position.

The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage.

Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to.

The water discharged by the bleeders will be routed below the chassis frame rails.

DELUGE RISER

A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping will be installed securely so no movement develops when the line is charged. The riser will be gated and controlled with a handwheel control with position indicator at the pump operator panel.

TELESCOPIC PIPING

The deluge riser piping will include a 18.00" Elkhart Electrically Actuated Extender.

This extension will be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation.

A control will be mounted on the pump operators panel to actuate the Extender. The wiring will include a "Do not move vehicle" light inside the cab when the monitor is in the raised position.

DELUGE OUTLET SPECIAL INSTRUCTIONS

The deluge gun outlet will be located on the deluge outlet in the dunnage area..

MONITOR

An Elkhart Model 8500 "Vulcan" manually controlled monitor will be properly installed on the deluge riser.

This monitor will include the fixed base only.

The monitor will be painted to match the body.

The deluge riser will have male National Pipe Threads for mounting the Vulcan monitor.

CROSSLAY HOSE BEDS

One (1) crosslay with 2.50" outlets will be provided. Each bed to be capable of carrying 300' of 2.5" double stack and will be plumbed with 2.50" i.d. pipe and gated with a 2.50" quarter turn ball valve.

Outlets to be equipped with a 2.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay controls will be at the pump operator's panel.

The center crosslay dividers will be fabricated of 0.25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish. The remainder of the crosslay bed will be painted job color.

Polished stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) will also be equipped with a polished stainless steel scuffplate.

Crosslay bed flooring will consist of removable perforated brushed aluminum.

CROSSLAY/DEADLAY HOSE RESTRAINT

Elastic netting will be provided across the top and ends of two (2) crosslay/deadlay opening(s) to secure the hose during travel. The netting will be permanently attached at the top center of the crosslay/deadlay bed and removable on each end.

CROSSLAY COVER

A hinged aluminum treadplate cover will be installed over the crosslay hose beds. It will include a latch at each end of the cover to hold it securely in place, a chrome grab handle at each end for opening and closing the cover and a foam rubber gasket where the cover comes into contact to a painted surface.

A red vinyl cover permanently attached to the aluminum treadplate cover will be provided over each end of the crosslay hose beds. The cover will have bungee cords attached at each lower corner.

CROSSLAY 8.00" LOWER THAN STANDARD

The crosslays will be lowered 8.00" from standard.

LOWER CROSSLAY HEIGHT

To provide a lower working and access height, the crosslays will be installed 8.00" lower than the standard or typical location.

FOAM SYSTEM

A foam system will not be required on this apparatus.

The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made to match No Similar Pierce Truck similar Pierce job number.

PUMP OPERATOR'S PANEL DRAWING

A detailed drawing to scale of the pump operator's panel will be provided for the customer to review. The drawing will include all of the gauges, controls, switching, etc.., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved pump operator's panel drawing will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.

REMAINING PUMP PANEL(S)

Detailed drawing(s) to scale of the remaining pump panel(s) will be provided for the customer to review. The drawing(s) will include all of the gauges, controls, switching, etc.., located on the pump panel(s).

The customer will be allowed to make changes and/or mark-ups to these approval drawing(s). The fire apparatus manufacturer will make revisions (If needed) to the drawing(s) per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved pump panel drawing(s) will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.

COLOR CODED TAGS

A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents.

SPECIAL TEXT/VERBIAGE TAGS

A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.

PUMP PANEL CONFIGURATION

The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.

PUMP AND GAUGE PANEL

The pump and gauge panels will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided on both sides of the pump panel.

PUMP ACCESS

Right Side Panel

The right side upper pump panel will be removable.

Panel Fastener

The removable panels will be secured with black swell latch.

The left side pump panels will be attached with screws.

The right side lower pump panel (drain bank) will be attached with screws.

PUMP COMPARTMENT LIGHT

There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the pump compartment.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

Also provided at the pump panel will be the following:

- Master Pump Drain Control

THROTTLE READY GREEN INDICATOR LIGHT

There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.

OK TO PUMP INDICATOR LIGHT

There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.

AIR HORN BUTTON

An air horn control button will be provided at the pump operator's control panel. This button will be properly labeled and put within easy reach of the operator.

COMPRESSION FITTINGS

All of the pump panel gauges will have brass compression fittings installed in place of the push to connect fittings.

STAINLESS STEEL SPEAKER GRILLE

There will be one (1) polished stainless steel grille/s, for a radio speaker/s, provided and installed DS on the pump panel.

The grille will be constructed with automotive type louvers, so rain and road splash are deflected. The speaker size will be to be determined.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One (1) will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1 interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

FLOWMETERS

There will be four (4) Fire Research Insight, Model FPA400, combination digital flowmeter and pressure indicator kit installed for Three (3) Hosebed Discharges and (1) rear 2-1/2".

The module will have a digital LED display for flow with super bright digits more than 3/8" high. Flow rate will be displayed in GPM. The module will have an analog display for pressure with an expanded scale in the normal operating range for more accurate readings. The pressure indicator input and movement will be electronic. Pressure will be displayed in PSI.

An FRC X-FLC flow conditioner will be installed in the plumbing for better flow readings.

WATER LEVEL GAUGE

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

The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low water warnings will include flashing LEDs at 1/4 tank and down chasing LEDs when the tank is almost empty.

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

REMOTE LIGHT DRIVER

A Fire Research TankVision model WLA290-A00 remote light driver will be installed. The driver will provide four (4) separate outputs to control additional water level lights around the apparatus. The lights will show 1/4, 1/2, 3/4, and full tank. When power is applied the driver will run a test and cycle each remote light on and off. When the tank is less than 1/4 full the 1/4 tank light will blink.

ADDITIONAL WATER LEVEL GAUGE

There will be three (3) additional Fire Research MaxVision, model WLA280-A00, water tank remote indicator(s) provided and installed Behind crew cab doors, high and at rear body. The indicators will show the volume of water in the tank on 96 easy to see super bright Tri-color LEDs. The indicator case will be waterproof and manufactured of Polycarbonate material with an integrated lens.

The remote indicator will indicate the level as a single color:

- Red for 25 percent or less
- Amber for up to 50 percent volume
- Blue for up to 75 percent volume
- Green for up to 100 percent volume

When the level reaches 25 percent, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three (3) times.

The flash rate will be determined by the main water tank sensor.

It will have the program capability to adjust the brightness level for day time and night time viewing. The LEDs can also be programmed for different colors.

This module will be activated when the parking brake is applied.

LIGHT SHIELD

There will be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel.

- There will be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.
- One (1) pump panel light will come on when the pump is in ok to pump mode.

The switch panel will be lit when the parking brake is set. This is to afford the operator illumination when first approaching the control panel.

ADDITIONAL STEP/LIGHT SHIELD

There will be an additional aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the passenger's side pump panel.

- There will be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.

All step lights on the apparatus will be illuminated per the current edition of applicable NFPA standards.

ADDITIONAL STEP/LIGHT SHIELD

There will be an additional aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the driver's side pump panel.

- There will be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.

All step lights on the apparatus will be illuminated per the current edition of applicable NFPA standards.

AIR HORN SYSTEM

Two (2) Hadley®, eTone, chrome air horns will be recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.

Air Horn Location

The air horns will be located on each side of the bumper, towards the outside.

AIR HORN CONTROL

The air horns will be actuated by a push button located on officer side instrument panel and by the horn button in the steering wheel. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

ELECTRONIC SIREN

A Whelen, Model 295HFSA7 electronic siren and remote head with a removable unidirectional microphone will be installed.

The model to be used will be determined by the chassis and location of the siren remote head.

The siren will contain a remote siren head and a siren amplifier with a dual system build in to the amplifier.

The siren features will include:

- Six (6) function siren plus radio repeat and public address
- Will meet California Title 13 and SAE J1849 specifications.
- Model 295HFSA7 will operate two (2) 100 watt speakers
- Operates is dual or mono modes.
- External dip switch selectable modes of operation.
- Outputs 2 independent siren tones creating a "rich harmonic dual tone sound".

- "Hands Free" operation. Turn On/Off and access all three siren tones (wail, yelp, and Piercer) without taking hands from the steering wheel.
- PTT (push to talk) switch on microphone overrides all siren functions.
- Removable unidirectional microphone.
- Adjustable microphone volume.
- Adjustable preset radio repeat volume.
- Input polarity protection.
- Output short circuit protection.
- External mini spade-type fuse.
- Bi-polarity horn/ring control activation.
- Quick disconnect plug for ease of service or replacement.
- Five year HDP "Heavy Duty Professional" warranty on amp.

This siren to be active when the battery switch is on and the emergency master switch is on.

Electronic siren head will be recessed in the driver side center switch panel.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKERS

There will be two (2) Whelen, Model SP123BMC, 100-watt, flange mount speakers with a chrome plated ABS grille provided. Each speaker will be connected to the siren amplifier.

The speakers will be recessed in each side of the front bumper, inside of the frame rails.

AUXILIARY MECHANICAL SIREN

There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus.

The Q2B will be chrome finish.

The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on.

The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.

The mechanical siren will be mounted on the bumper deck plate. It will be mounted on the left side. A reinforcement plate will be furnished to support the siren.

MECHANICAL SIREN CONTROL

The mechanical siren will be activated by the following:

- Left side foot switch.

A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.

FRONT ZONE UPPER WARNING LIGHTS

There will be three (3) Whelen® Freedom IV 21.50" lightbars mounted on the cab roof.

The driver's side lightbar will be installed at a 30 degree angle from the front of the cab. This lightbar will include the following:

- One (1) red flashing LED module in the outside end position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside front position.
- One (1) white flashing LED module in the inside front position.
- One (1) red flashing LED module in the inside front corner position.

The center lightbar will be installed parallel to the front of the cab. This lightbar will include the following:

- One (1) red flashing LED module in the driver's side front corner position.
- One (1) red flashing LED module in the driver's side front position.
- One (1) red flashing LED module in the passenger's side front position.
- One (1) red flashing LED module in the passenger's side front corner position.

The passenger's side lightbar will be installed at a 30 degree angle from the front of the cab. This lightbar will include the following:

- One (1) red flashing LED module in the inside front corner position.
- One (1) white flashing LED module in the inside front position.
- One (1) red flashing LED module in the outside front position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside end position.

There will be clear lenses included on the lightbar.

There will be a switch in the cab on the switch panel to control the lightbars.

The white flashing LEDs will be disabled when the parking brake is applied.

The red flashing LED modules in the center lightbar and the red flashing LED module in front inside corners in the side lightbars may be load managed when the parking brake is applied.

FRONT ZONE LOWER LIGHTS

There will be four (4) Whelen®, lights installed on the cab face above the headlights in a common bezel matching the headlamps.

- One (1) Model 6RB**, 4.18" high x 6.56" long x 3.43" deep LED flashing light installed in the driver's side outside position. The driver's side front outside warning light to be red.
- One (1) Model M6**, 4.31" high x 6.75" long x 1.37" deep LED flashing light installed in the driver's side inside position. The driver's side front inside warning light to be red.
- One (1) Model M6**, 4.31" high x 6.75" long x 1.37" deep LED flashing light installed in the passenger's side inside position. The passenger's side front inside warning light to be red.
- One (1) Model 6RB**, 4.18" high x 6.56" long x 3.43" deep LED flashing light installed in the passenger's side outside position. The passenger's side front outside warning light to be red.

The lights will include lenses that are clear.

There will be a switch in the cab on the switch panel to control the lights.

The inside lights may be load managed if colored or disabled if white when the parking brake is applied.

HEADLIGHT FLASHER

The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING

There will be four (4) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red.
- The lights will include a clear lenses.

There will be a switch in the cab on the switch panel to control the lights.

SIDE WARNING LIGHTS

There will be four (4) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails LS1,LS3,RS1,RS3. The lights will only be mounted with the rubber gasket if clearance allows it.

The color of each light will be red LED with a clear lens.

Each light will be provided with a chrome plated ABS flange.

The light(s) will be activated with the side warning switch.

REAR ZONE LOWER LIGHTING

There will be two (2) Whelen®, Model M6*C, LED flashing warning lights located at the rear of the apparatus.

- The driver's side rear light to be red
- The passenger's side rear light to be red

Both lights will include a lens that is clear.

There will be a switch located in the cab on the switch panel to control the lights.

REAR WARNING LIGHTS

There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided at the rear of the apparatus, (1) each side of the rear body bulkhead.

The light(s) to include red flashing LEDs. The warning light lens color(s) to be clear.

These light(s) will be controlled with the emergency master.

The light(s) may be load managed when the parking brake is applied.

REAR/SIDE ZONE UPPER WARNING LIGHTS

There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons.

The color of the lights will be red LEDs with both domes red.

The left side rear warning light will be mounted on top of the compartmentation with all wiring totally enclosed. The clearance/marker light will be mounted to the side of the compartment ridge.

The right side rear warning light will be mounted on a low mount stainless steel bracket with all wiring totally enclosed. The brackets will also support the clearance/marker light.

The rear deck lights will be mounted on the beavertail flange to keep the overall height as low as possible.

TRAFFIC DIRECTING LIGHT

There will be one (1) Whelen® Model TAM65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen Model TACTL5 control head will be included with this installation.

The control head will be energized when the battery switch is on.

The with the control head only.

This traffic directing light will be surface mounted over the rear door, inside a treadplate box at the rear of the apparatus as high as practical.

The traffic directing light control head will be located within a heavy duty swivel bracket centered between the driver and passenger.

This swivel bracket will enable the driver access as well as the passenger.

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA LOOSE EQUIPMENT

NFPA Required Loose Equipment Provided by Fire Department

The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department:

- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.
- Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.

NFPA Loose Equipment That Should be Considered

The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered:

- 800 ft (60 m) of 2.50" (65 mm) or larger fire hose.
- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.
- One (1) handline nozzle, 200 gpm (750 L/min) minimum.
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum.
- One (1) smooth bore or combination nozzle with shutoff and with 2.50" (65 mm) inlet that flows a minimum of 250 gpm (950 L/min).
- Four (4) SCBA apparatus
- Four (4) SCBA spare cylinders
- One (1) first aid kit.
- Four (4) combination spanner wrenches.
- Two (2) hydrant wrenches.
- One (1) double female 2.50" (65 mm) adapter with national hose (NH) threads.
- One (1) double male 2.50" (65 mm) adapter with national hose (NH) threads.
- One (1) rubber mallet, for use on suction hose connections.
- Two (2) salvage covers each a minimum size of 12 ft × 18 ft (3.7 m × 5.5 m).
- One (1) automatic external defibrillator (AED).

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT PROCESS

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion.
3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the

exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient.
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be recycled to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.

CAB PAINT

The cab will be painted #90 red.

BODY PAINT

The body will be painted to match the lower section of the cab.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails

Components that are included with the chassis frame assembly that will be painted not e-coated (unless otherwise stated in a secondary option) are:

- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Steel fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

The E-coat process will meet the technical properties shown.

AXLE HUB PAINT

All axle hubs will be painted to match primary job color.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" gold stripe at the top with a 1.00" gap then a 8.00" white stripe with a 1.00" gap and a 1.00" gold stripe on the bottom.

The reflective band provided on the cab face will be at the headlight level.

REAR CHEVRON STRIPING

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered.

The colors will be red and fluorescent yellow green diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

INVERTED "V" CHEVRON STRIPING ON CAB AND CREW CAB DOORS

There will be alternating chevron striping located on the inside of each cab and crew cab door.

The striping will consist of the following colors:

The first color will be yellow

The second color will be ruby red

The size of the striping will be 4.00".

LETTERING

Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

FIRE APPARATUS PARTS MANUAL

There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.

The manual(s) will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in alphabetical order
- Instructions on how to locate parts

Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

Service Parts Internet Site

The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

CHASSIS SERVICE MANUALS

There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit.

The manual will contain the following sections:

- Job number

- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

CHASSIS OPERATION MANUAL

The chassis operation manual will be provided on one (1) USB flash drive.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

ENGINE WARRANTY

A Cummins **five (5) year** limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

STEERING GEAR WARRANTY

A TRW **one (1) year** limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The Pierce custom chassis frame only (does not include crossmembers) limited warranty certificate, WA0013, is included with this proposal.

FRONT AXLE TWO (2) YEAR 250,000 MILE

A 2 year 250,000 mile Hendrickson Steertek warranty will be provided.

SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle 5 year limited warranty will be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

CAMERA SYSTEM WARRANTY

Manufacturer's Guarantee will be (2) two years from the manufacture date code under normal use and service. Manufacturer will provide customer service, pre-sales applications assistance, and after-sales technical assistance. Manufacturer will provide technical assistance and support by means of a toll-free telephone number (1-800-645-0074) at no extra charge

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed $10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of **ten (10) years**. A **five (5) year** limited warranty will be provided on painted roll up doors.

The limited warranty certificate, WA0185, is included with this proposal.

PUMP WARRANTY

A Hale pump limited warranty certificate, WA0388, is included with this proposal.

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

The Pierce graphics fading and deterioration limited warranty limited warranty certificate, WA0168, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Side Impact

The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,098 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

Roof Crush
The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

Additional Roof Crush
The same cab will be subjected to a roof crush force of 110,000 lbs. (Four and a half times the load criteria of ECE 29)

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.

CAB DOOR DURABILITY CERTIFICATION
Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION
Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles.* The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION
Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH
Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH
Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

PERFORMANCE CERTIFICATIONS

Cab Air Conditioning

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
    - The nameplate rating of the alternator.
    - The alternator rating under the conditions specified per:
        - Current edition of applicable NFPA standards.
    - The minimum continuous load of each component that is specified per:
        - Current edition of applicable NFPA standards.
    - Additional loads that, when added to the minimum continuous load, determine the total connected load.
    - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the current edition of applicable NFPA standards.