



Option List

2/24/2025

Customer:		Bid Number:	1125
Representative	Ebben, Blake	Job Number:	
Organization:	Ten-8 Fire & Safety	Number of Units:	
Requirements Manager:		Bid Date:	
Description:	FSA Spec - Pumper - Level 2 Custom 4-Door Chassis - Enf	Stock Number:	
Body:	Pumper, Medium, Aluminum, 2nd Gen	Price Level:	51 (Current: 51)
Chassis:	Enforcer Chassis	Lane:	

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	0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	1
7	0533347		Pumper/Pumper with Aerial Device Fire Apparatus	1
8	0588611		Vehicle Certification, Pumper	1
9	0661778		Agency, Apparatus Certification, Pumper/Tanker, U.L.	1
10	0816495		Certification, Vehicle Inspection Program, NFPA 1900	1
11	0536644		Customer Service Website	1
12	0620357		Consortium, Florida Sheriff's	1
13	0537375		Unit of Measure, US Gallons	1
14	0030006		Bid Bond Not Requested	1
15	0816569		Performance Bond, Not Requested, PPI Terms	1
16	0000007		Approval Drawing	1
17	0002928		Electrical Diagrams	1
18	0649754		Enforcer Chassis	1
19	0000110		Wheelbase	1
			Wheelbase - 184.50	
20	0000070		GVW Rating	1
			GVW rating - 47,000 lbs	
21	0729280		Frame Rails, 13.38 x 3.50 x .375, Enforcer	1
22	0020018		Frame Liner Not Req'd	1
23	0637911		Axle, Front, Dana, D-2000F, 20,000 lb Saber FR/Enforcer	1
24	0637913		Suspension, Front, Standens, Taper Leaf, 20,000 lb, Saber FR/Enforcer	1
25	0000321		Shock Absorbers on Front Axle, Monroe Magnum 65, Saber/Enforcer	1
26	0000322		Oil Seals, Front Axle	1
27	0582936		Tires, Front, Goodyear, G289 WHA, 315/80R22.50, 20 ply	1
28	0789277		Wheels, Front, Accuride, 22.50" x 9.00", Steel, Hub Pilot, 315/80R, 5.25" Inset	1
29	0640711		Axle, Rear, Dana S26-190, 27,000 lb Saber/Enforcer	1
30	0544253		Top Speed of Vehicle, 68 MPH /109 KPH	1
31	0565380		Suspen, Rear, Single Slipper Spring, 27,000 lb, Saber/Enforcer	1
32	0000485		Oil Seals, Rear Axle	1
33	0782552		Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Single	1
34	0654797		Wheels, Rear, Accuride, 22.50" x 9.00", Steel, Hub Pilot, Single	1
35	0568081		Tire Balancing, Counteract Beads	1
36	0620570		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	1
			Qty, Tire Pressure Ind - 6	
37	0002045		Mud Flap, Front and Rear, Pierce Logo	1
38	0818775		Chocks, Wheel, Pumper, Provided by Fire Department, NFPA/ULC 2024	1
39	0544690		Mounting Brackets, Chocks, Provided by Fire Department	1
40	0820509		ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/ULC	1
41	0690932		Brakes, Bendix, ADB-22X, 17" Disc, Front	1
42	0627930		Brakes, Bendix, Cam, Rear, 16.50 x 8.63"	1
43	0735527		Air Compressor, Brake, Wabco 26.8 CI, Paccar	1
44	0644232		Brake Reservoirs, 4,272 Cubic Inch Minimum Capacity, Saber FR/Enforcer	1
			Paint Color, Air Tanks - Frame color	
45	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
46	0000790		Brake Lines, Nylon	1

Line	Option	Type	Option Description	Qty
47	0000854		Air Inlet, w/Disconnect Coupling	1
			Location, Air Coupling(s) - a) DS Step Well, Forward	
			Qty, Air Coupling (s) - 1	
48	0808515		Engine, Paccar MX, 510HP, 1850 lb-ftW/OBD, EPA 2027, Saber FR/Enforcer	1
49	0811409		Not Required, Engine Contingency Adjustment	1
50	0001244		High Idle w/Electronic Engine, Custom	1
51	0735687		Engine Brake, Fully Integrated, Paccar MX13 Engine	1
			Switch, Engine Brake - MX13	
52	0552334		Clutch, Fan, Air Actuated, Horton Drive Master	1
53	0640477		Air Intake, Metal Screen, Saber FR/Enforcer	1
54	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)	
55	0788765		Radiator, Saber FR/Enforcer	1
56	0001090		Cooling Hoses, Rubber	1
57	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
58	0001129		Lines, Fuel	1
59	0889521		DEF Tank, 7.3 Gallon, LS Fill, Under Cab, Paccar, Lift Up Fill Dr, Spring, ENF	1
			Door, Material & Finish, DEF Tank - Polished Stainless	
60	0552777		Fuel Pump for Repriming	1
61	0552712		Not Required, Shutoff Valve, Fuel Line	1
62	0891206		Cooler, Engine Fuel, Paccar MX13	1
63	0690880		No Selection Required From This Category	1
64	0887546		Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	1
65	0625331		Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	1
66	0684459		Transmission Oil Cooler, Modine, External	1
67	0001375		Driveline, Spicer 1810	1
68	0734212		Steering, Dual Gear, TRW TAS-65, w/tilt, Paccar Pump w/ Cooler, Enf, Paccar	1
69	0509229		Steering Wheel, 2 Spoke	1
70	0559647		Pierce Logo on Horn Button	1
71	0012245		Bumper, 19" Extended, Polished S/S, Saber FR/Enforcer	1
72	0640196		Tray, Hose, Center, 19" Bumper, Inside Air Horns	1
			Grating, Bumper extension - Grating, Rubber	
			Capacity, Bumper Tray - 19) 100' of 1.75"	
73	0633479		Hose Restraint, Bumper Tray, Velcro Straps, Pair	1
			Qty, Pair - 01	
74	0614646		No Lift & Tow Package, Imp/Vel, AXT, SFR/Enf	1
75	0002270		Tow Hooks, Chrome	1
76	0625650		Cab, Enforcer, 7000	1
77	0747442		Engine Tunnel, X12, MX13, Spray Insulation, Enforcer	1
78	0887601		Cab Insulation, Enforcer/Saber FR	1
79	0633594		Rear Wall, Interior, Adjustable Seating	1
80	0632103		Rear Wall, Exterior, Cab, Saber FR/Enforcer	1
			Material, Exterior Rear Wall - Painted	
81	0639727		Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer	1
82	0695930		Grille, Bright Finished, Front of Cab, Enforcer	1
83	0647932		Not Required, Trim, S/S Band, Across Cab Face, AXT/Saber/Enforcer	1
84	0087357		Molding, Chrome on Side of Cab	1
85	0569263		Mirrors, Retractable, West Coast Style, Remote, w/Remote Convex	1
86	0648171		Door, Half-Height, Saber FR/Enforcer 4-Door Cab, Level Roof	1
			Key Model, Cab Doors - 751	
			Cab, Exterior Door Handle, Finish - 4-Door, Chrome/Black	
87	0655543		Door Panel, Brushed Stainless Steel, Saber/Enforcer 4-Door Cab	1
88	0528958		Not Required, Controls, Electric Window, AXT, Quantum, Saber, Enforcer	1
89	0638310		Steps, 4-Door Cab, Saber FR/Enforcer	1
			Step Well Material - Painted	
90	0770194		Handrail, Exterior, Knurled, Alum, 4-Door Cab	1
91	0892638		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	1
			Color, Trim - Chrome Housing	
92	0040475		Crowns, Front Fender, Rubber	1

Line	Option	Type	Option Description	Qty
93	0042105		No Windows, Side of Crew Cab	1
94	0722796		Dash, Poly, Saber FR/Enforcer	1
95	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	
96	0753903		Cab Interior, Paint Color, Saber FR/Enforcer	1
			Color, Cab Interior Paint - a) gray	
97	0052100		Floor, Rubber Padded, Cab & Crew Cab, Saber/Enforcer	1
98	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 - Formed Plastic	
99	0639675		Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf	1
			Sun Visor Retention - No Retention	
100	0634328		Grab Handles, Driver and Officer Door Posts, Saber FR/Enforcer	1
101	0002526		Light, Engine Compt, All Custom Chassis	1
102	0631830		Fluid Check Access, Saber FR/Enforcer, Arrow XT	1
			Latch, Door, Storage - Lift and Turn Latch, Flush	
103	0583039		Not Required, Side Roll and Frontal Impact Protection	1
104	0622617		Seating Capacity, 6 Belted Seats	1
105	0721178		Seat, Driver, Bostrom, Sierra, Air Ride, High Back, Sgl Retract, PRIMARY,SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
106	0721212		Seat, Officer, Bostrom 350, Fixed, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
107	0620420		Radio Compartment, Below Non-Air Ride Seat, Saber FR/Enforcer	1
			Latch, Door, Storage - Lift and Turn Latch, Flush	
108	0722506		Seat, Rr Fcng C/C, LS Otbrd, Bostrom Tanker 350, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
109	0102783		Not Required, Seat, Rr Facing C/C, Center	1
110	0721246		Seat, Rr Fcng C/C, RS Otbrd, Bostrom Tanker 350, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
111	0108189		Not Required, Seat, Forward Facing C/C, LS Outboard	1
112	0820985		Seat, Fwd Fcng C/C, Ctr, (2) Bostrom 350, SCBA, PRIMARY, SFR/Enf	1
			Bostrom, Zip Clean Cover - (0) None	
113	0108190		Not Required, Seat, Forward Facing C/C, RS Outboard	1
114	0722505		Upholstery, Seats In Cab, All G/B Dura-Wear Plus, Bostrom Sierra/300/350, CARE	1
115	0065740		Bracket, Air Bottle, Zico, ULLH, Load & Lock, In Cab Seats	5
			Qty, - 05	
116	0636545		Seat Belt, Single Retractor, Saber FR/Enforcer	1
			Seat Belt Color - Red	
117	0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	1
118	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	
119	0813183		Not Required, Enhanced Software for Cab and Crew Cab Dome Lts	1
120	0816997		Portable Hand Light, Provided by Fire Dept, NFPA/ULC 2024	1
121	0644187		Cab Instruments, Black Gauges, Black Bezels, Saber FR/Enforcer	1
			Emergency Switching - Individual Switches	
122	0002544		Air Restriction Indicator - Pierce Chassis	1
123	0543751		Light, Do Not Move Apparatus	1
			Alarm, Do Not Move Truck - Steady Alarm	
124	0637359		Not Required, Door Open Indicator w/Do Not Move Truck Light, Enf/Saber FR	1
125	0632738		Switching, Cab Instrument Lower Console & Overhead, Rocker, Enforcer	1
126	0802940		Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer	1
			Location, Wiper Control - Standard Location	
127	0763646		Vehicle Information Center, LCD On Gauge Cluster Only, Sab/Enf	1
			System Of Measurement - US Customary	
128	0816633		Collision Mitigation, HAAS Alert (R2V), HA7	1
			Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	

Line	Option	Type	Option Description	Qty
129	0610240		Vehicle Data Recorder w/Seat Belt Monitor	1
130	0808099		Camera, Pierce, 7" HD, R, Camera, AHD	1
			Color - 1) black	
			Location, Camera Monitor - Driver Side Dash	
131	0814831		Not Required, Camera Switcher	1
132	0624241		Electrical Power/Signal Protection & Control, Enforcer	1
133	0831839		Not Required, Prognostics, Electrical System	1
134	0624256		Electrical System, Enforcer Hard Wired	1
135	0079166		Batteries, (4) Stryten/Exide Grp 31, 950 CCA ea, Threaded Stud	1
136	0008621		Battery System, Single Start, All Custom Chassis	1
137	0002698		Battery Compartment, Saber/Enforcer	1
138	0814194		Receptacle, Battery Charging, 12VDC 20 Amp	1
139	0814956		Location, Cab, Receptacle, Cab Step Area, LS	1
140	0814971		Not Required, Location Ind/Remote	1
141	0647729		Alternator, 320 amp, Delco Remy 40SI	1
142	0644176		Load Manager, Integrated In Electrical System, Saber FR/Enforcer	1
143	0648596		Headlights, Rectangular Halogen, AXT/Dash CF/Saber/Enforcer	1
144	0804651		Light, Directional, WIn M62T* LED, Above Headlights, Sab/Enf	1
			Color, Lens, LED's - Match	
			Color, Trim - Chrome Trim	
			Flash Pattern, Directional Lts - Steady On (Arrow)	
145	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
146	0647802		Lights, Clearance/Marker/ID, Front, P25 LED 5 Lts, Saber FR/Enforcer	1
147	0647899		Lights, Directional/Marker, Cab Front Side, Weldon 9186-8580-29 LED, Sab/Enf	1
148	0627282		Lights, Clearance/Marker/ID, Rear, FRP LED Bar & P25 LED 4Lts	1
149	0540516		Lights, Tail, Truck-Lite 4.00" Round Grommet Mount, LED lights	1
150	0075904		Lights, Backup, Truck-Lite Model 40044	1
151	0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt	1
			Color, Trim - Chrome Housing	
152	0589905		Alarm, Back-up Warning, PRECO 1040	1
153	0687604		Lights, Perimeter Cab, Truck-Lite 6060C LED 4Dr, Grommet Mt	1
154	0617866		Lights, Perimeter Pump House, Truck-Lite 6060C LED 2lts	1
155	0683575		Lights, Perimeter Body, Truck-Lite 6060C LED 2ts, Rear Step	1
			Control, Perimeter Lts - Parking Brake Applied	
156	0814230		Not Required, Enhanced Software for Perimeter Lts	1
157	0556360		Lights, Step, P25 LED 4lts, Pump Pnl Sw	1
158	0689891		Lights, Deck, WIn (2) PFBP12C LED Rear Flood Lights	1
			Switch, Scene Lt Cntrl - h)switch at rear	
159	0645877		Lights, Hose Bed, Sides, Dual LED Light Strips	1
			Control, Hose Bed Lts - Cup Switch At Rear	
160	0645681		Lights, Not Required, Rear Work, Deck Lights At Rear	1
161	0709438		Lights, Walk Surf, FRP Flood, LED	1
162	0060115		Pumper, Medium, Aluminum, 2nd Gen	1
163	0554271		Body Skirt Height, 20"	1
164	0028245		Tank, Water, 750 Gallon, Poly, Med	1
165	0003405		Overflow, 4.00" Water Tank, Poly	1
166	0028107		Not Required, Foam Cell Modification	1
167	0633066		Sleeve, Through Tank	1
			Qty, Sleeve - 1	
			Water Tank Sleeve - Plumbing/Hydraulic Diameter - 3" Plumbing	
168	0553729		Not Required, Restraint, Water Tank, Heavy Duty	1
169	0003429		Not Required, Direct Tank Fill	1
170	0003424		Not Required, Dump Valve	1
171	0048710		Not Required, Jet Assist	1
172	0030007		Not Required, Dump Valve Chute	1
173	0514778		Not Required, Switch, Tank Dump Master	1
174	0126633		Hose Bed, Aluminum, Pumper	1
175	0723545		Unpainted/Dual Action Finished Aluminum Hose Bed, 2G Pumper/Tankers	1
176	0627877		Hose Bed Capacity, 1000' of 5.00", 1000' of 3.00"	1
177	0003488		Divider, Hose Bed, Unpainted	1
			Qty, Hosebed Dividers - 1	

Line	Option	Type	Option Description	Qty
178	0806306		Straps, Top of Hose Bed	1
179	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	
180	0013512		Running Boards, 12.75" Deep	1
181	0689621		Tailboard, 16" Deep	1
182	0818176		Wall, Rear, Smooth Aluminum/Body Material, 16" Inset	1
			Material, Rear Wall Inboard Facing Surfaces - Aluminum Diamondplate	
183	0889713		Tow Eyes, 2G Pumper	1
184	0590926		Hose Restraint, Running Board, Velcro Straps	1
			Location, Hose Tray, Running Board - Right Side	
			Qty, Tray, Hose - 1	
185	0014110		Tray, Hose, Running Board, 100' of 1.50" Hose	1
			Location, Hose Tray, Running Board - c) RH side	
			Qty, Tray, Hose - 1	
186	0895820		Construction, Compt, Alum, 2G Pumper	1
187	0083686		LS 152" Rollup, Full Height & Depth Front & Rear	1
188	0063658		RS 152" Rollup, Full Height Front & Rear, FDLER	1
189	0692733		Doors, Rollup, Gortite, Side Compartments	6
			Qty, Door Accessory - 06	
			Color, Roll-up Door, Gortite - Satin finish	
			Latch, Roll-up Door, Gortite - Non-Locking Liftbar	
190	0083703		Compt, Rear, Rollup, 58.00" FF, 25.88" D	1
191	0692746		Door, Gortite, Rollup, Rear Compartment	1
			Color, Roll-up Door, Gortite - Satin finish	
			Latch, Roll-up Door, Gortite - Non-Locking Liftbar	
192	0554995		No Body Modification Required	1
193	0819044		Lights, Compt, Pierce LED, Single Light Strip, NFPA 2024 Minimum	7
			Qty, - 07	
			Location, Compartment Lights - All Body Compts	
194	0687146		Shelf Tracks, Painted	7
			Qty, Shelf Track - 07	
			Location, Shelf Track - LS1, LS2, LS3, RS1, RS2, RS3 and B1	
195	0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	13
			Qty, Shelf - 13	
			Material Finish, Shelf - Painted - Spatter Gray	
			Location, Shelves/Trays, Predefined - RS1-Lower Third, RS2-Lower Third, RS3-Lower Third, RS3-Upper Third, RS2-Upper Third, RS1-Upper Third, B1-Lower Third, LS1-Lower Third, LS2-Lower Third, LS3-Lower Third, LS3-Upper Third, LS2-Upper Third and LS1-Upper Third	
196	0539177		Rub Rail, Aluminum Extruded, Side and Rear Body, Xtra Space (.50")	1
197	0784809		Fender Crowns, Rear, Rubber, w/Removable Liner	1
			Material Finish, Fender Liner - Painted Aluminum Lower Body	
198	0519849		Not Required, Hose, Hard Suction	1
199	0626229		Handrails, Side Pump Panels, Per Print	1
200	0004126		Handrails, Beavertail, Standard	1
201	0004146		Handrail, Rear, Below Hose Bed, Full Width	1
202	0657522		Compt, Air Bottle, Triple, Fender Panel	2
			Qty, Air Bottle Comp - 2	
			Door Finish, Fender Compt - Polished	
			Location, Fender Compt - Triple - RS Fwd and Triple - RS Rear	
			Latch, Air Bottle Compt - Southco C2 Chrome Raised	
			Insert, Air Bottle Compt - Rubber Matting	
203	0004225		Ladder, 24' Duo-Safety 900A 2-Section	1
204	0004230		Ladder, 14' Duo-Safety 775A Roof	1
205	0049958		Ladders Btwn Tank & S.Sht, RS, Extended Rear, Enclosed, RPH	1
			Door, Material & Finish, Ladder Storage - smooth aluminum	
			Latch, Door Ladder Storage - D-Handle latch	
			Hinge Location - Left Side	
206	0733387		Ladder, 10' Duo-Safety Folding 585A	1
207	0733796		Trough, Folding Ladder, Ladder Storage Btwn Tank & S.Sht	1
			Location, Left Side, Right Side - Right Side	

Line	Option	Type	Option Description	Qty
208	0789530		Pike Pole, 10' DUO Safety, Fiberglass	2
			Qty, Pike Poles - 2	
			Location - pike pole storage in ladder compartment	
209	0549137		Not Required, Pike Pole, 6'	1
210	0004361		Tubes, Alum, Pike Pole Storage	2
			Qty, Pike Pole Tubes - 02	
			Location, Pike Pole Tube - Ladder Storage	
211	0024388		No Steps Required, Front Of Body	1
212	0592994		Steps, Folding, Rear of Body, w/LED, Trident	1
			Coating, Step - black	
213	0007545		Pump House, Side Control, 45", Control Zone	1
214	0037731		Pump House Structure, Raised, Included with Ladder Storage	1
215	0797005		Pump, Waterous, CX, 1500 GPM, Single Stage, Midship Split Shaft	1
216	0004482		Seal, Mechanical, Waterous	1
217	0816447		Trans, Pump, Waterous C22 Series	1
218	0635600		Pumping Mode, Stationary Only	1
219	0605126		Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	1
220	0003148		Transmission Lock-up, EVS	1
221	0004547		Auxiliary Cooling System	1
222	0014486		Not Required, Transfer Valve, Single Stage Pump	1
223	0746508		Valve(s), Relief Intake, Trident Air Max, Control Location	1
			Qty - 1	
			Pressure Setting - 125 psig	
			Intake Relief Valve Control - Behind Right Side Pump Panel	
224	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 - NOT BE an additional alarm provided	
225	0072153		Primer, Trident, Air Prime, Air Operated	1
226	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
227	0602512		Plumbing, Stainless Steel and Hose, Single Stage Pump, Control Zone	1
228	0089437		Plumbing Without Foam System	1
229	0004645		Inlets, 6.00" - 1250 GPM or Larger Pump	1
230	0014650		Pump Suction Tube(s), Short, All	1
231	0820184		Cap, Main Pump Inlet, Provided by Fire Department, NFPA/ULC 2024	1
232	0084610		Valves, Akron 8000 series- All	1
233	0016158		Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	1
			Qty, Inlets - 1	
234	0004700		Control, Inlet, at Valve	1
235	0004660		Inlet (1), Left Side, 2.50"	1
236	0029147		Not Required, Inlet, Right Side	1
237	0092569		No Rear Inlet (Large Dia) Requested	1
238	0064116		No Rear Inlet Actuation Required	1
239	0092696		Not Required, Cap, Rear Inlet	1
240	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
241	0092568		No Rear Auxiliary Inlet Requested	1
242	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
243	0029043		Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing	1
244	0004905		Outlet, Tank Fill, 1.50"	1
245	0062133		Control, Outlets, Manual, Pierce HW if applicable	1
246	0004940		Outlet, Left Side, 2.50"	2
			Qty, Discharges - 02	
247	0065091		Elbow, Left Side Outlets, 30 Degree, 2.50" FNST x 2.50" MNST, VLH	1
248	0092570		Not Required, Outlets, Left Side Additional	1
249	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
250	0004945		Outlet, Right Side, 2.50"	1
			Qty, Discharges - 01	
251	0759762		Elbow, Right Side Outlets, 30 Degree, 3.00" FNST x 2.50" MNST, VLH	1
252	0092571		Not Required, Outlets, Right Side Additional	1
253	0089584		Not Required, Elbow, Right Side Outlets, Additional	1

Line	Option	Type	Option Description	Qty
254	0816626		Outlet, Large Diameter, Right Side, Elkhart Valve	1
			Outlet, Large Diameter, Plumbing - 4.00"	
			Outlet, Large Diameter, NST Adapter - 4.00" MNST	
			Outlet, Large Diameter, Valve Actuation - Pierce large handwheel	
255	0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	1
			Qty, - 01	
256	0649939		Outlet, Front, 1.50" w/2" Plumbing	1
			Fitting, Outlet - 1.50" NST with 90 degree swivel	
			Drain, Front Outlet - Automatic	
			Location, Front, Single - in center bumper tray	
257	0004995		Outlet, Rear, 2.50"	1
			Qty, Discharges - 01	
			Location, Outlet - b) left side	
258	0040286		Elbow, Rear Outlets, 30 Degree, 2.50" FNST x 2.50" MNST, VLH	1
259	0092574		Not Required, Outlet, Rear, Additional	1
260	0085695		Not Required, Elbow, Rear Outlets, Large, Additional	1
261	0092573		Not Required, Outlet, Hose Bed/Running Board Tray	1
262	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
263	0723042		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	1
264	0820280		Outlet, 3.00" Deluge Riser	1
265	0770359		No Monitor Requested, Customer/Dealer Furnished and Installed	1
			Fill in Blank - Monitor to be provided by the customer	
266	0029304		No Nozzle Req'd	1
267	0005070		Deluge Mount, NPT	1
268	0723726		Speedlay Module Not Required	1
269	0722432		Hose Restraint Not Required, No Speedlay Module	1
270	0723395		Speedlays, Not Required	1
271	0723394		Speedlays, Not Required	1
272	0029167		Crosslays Sngl Sheet Unpainted, (2+) 1.50", Std. Cap	2
			Qty, Crosslays - 2	
273	0029196		Not Required, 2.50" Crosslay	1
274	0591145		Hose Restraint, Crosslay/Deadlay, Top/Ends, Elastic Netting	2
			Qty, - 02	
275	0029260		Not Required, Speedlays	1
276	0750536		Hose Restr, Spdly, Not Required, No Spdly	1
277	0044333		Not Required, Foam System	1
278	0012126		Not Required, CAF Compressor	1
279	0552517		Not Required, Refill, Foam Tank	1
280	0042573		Not Required, Foam System Demonstration	1
281	0045465		Not Required, Foam Tanks	1
282	0091110		Not Required, Foam Tank Drain	1
283	0091079		Not Required, Foam Tank #2	1
284	0091112		Not Required, Foam Tank #2 Drain	1
285	0746444		Approval Dwg, Color And Label Tags Only	1
286	0032479		Pump Panel Configuration, Control Zone	1
287	0629252		Material, Pump Panels, Side Control Black Vinyl	1
			Material Finish, Pump Panel, Side Control - Black Vinyl	
			Material, Pump Panel, Side Control - Aluminum	
288	0721765		Panel, Pump Access - Right Side Only, Side Control	1
			Latch, Pump Panel Access, Side Mount - Swell Latch, Black	
289	0005945		Light, Pump Compt	1
290	0586438		Gauges, (5), Engine - Pump Panel, IAT Pressure Controller	1
291	0005601		Throttle, Engine, Incl'd w/Press Controller	1
292	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	1
293	0549333		Indicators, Engine, Included with Pressure Controller	1
294	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
295	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
296	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
297	0062586		Gauge, Water Level, Class 1, Pierce Std	1
298	0006774		Not Required, Foam Level Gauge	1
299	0593161		Light Shield, S/S LED	1
300	0606694		Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	1

Line	Option	Type	Option Description	Qty
301	0606833		Location, Air Horns, Bumper, Each Side, Inside Frame (Pos #3 & #5)	1
302	0016065		Control, Air Horn, Horn Ring, PS Chrome Push Button	1
303	0525667		Siren, Wln 295SLSA1, 100 or 200 Watt	1
304	0510206		Location, Elect Siren, Recessed Overhead In Console	1
			Location, Elec Siren - Overhead, DS Center Sw Pnl	
305	0076156		Control, Elec Siren, Head Only	1
306	0601304		Speaker, (2) Wln, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	1
			Connection, Speaker - siren head	
307	0601558		Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame, Inbrd (Pos 2/6)	1
308	0748282		Control Mech Siren, Ft Sw LS	1
309	0746353		Not Required, Warning Lights Intensity	1
310	0651462		Lightbar, Wln, Justice, LED, 4-R, 4-RC LED, Clear Lens	1
311	0737406		Lights, Front Zone, Wln M6** LED, Color Features, Above Headlts 2lts	1
			Color, Lens, LED's - c)clear	
			Color, Lt DS Front - Red	
			Color, Lt PS Front - Red	
			Color, Trim - Chrome Trim	
312	0653937		Flasher, Headlight Alternating	1
			Headlt flash deactivation - a)w/high beam	
313	0643834		Lights, Side Zone Lower, Wln M4*C Frnt & M6* C Rear 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	
314	0759142		Lights, Rear Zn Lwr, Wln M6*,	1
			Color, Lens, LED's - Clear	
			Color, Lt DS Rear - Left Red	
			Color, Lt PS Rear - Right Red	
315	0088745		Light, Rear Zone Up, Wln L31HRFN LED Beacon, Red LED	1
			Color, Dome, Rear Warning - j) both domes clear	
316	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
317	0006615		Mtg, Rear Warn Lts, Compt Top	1
318	0519934		Not Required, Brand, Hydraulic Tool System	1
319	0649753		Not Required, PTO Driven Hydraulic Tool System	1
320	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
321	0816508		NFPA Required Loose Equipment, Pumper, NFPA/ULC 2024, Provided by Fire Dept	1
322	0816941		Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024	1
323	0027023		No Strainer Required	1
324	0816939		Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	1
325	0816937		Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	1
326	0816998		Axe, Flathead, Provided by Fire Department	1
327	0817000		Axe, Pickhead, Provided by Fire Department	1
328	0741569		Paint Process / Environmental Requirements, Appleton	1
329	0709567		Paint, Single Color, Enforcer	1
			Paint Color, Cab - #90 Red	
330	0709845		Paint, Single Color, Body	1
			Paint, Body - Match Cab	
331	0646897		Paint Chassis Frame Assy, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Standard Black	
332	0693798		Paint, Front Wheels	1
			Paint, Wheels - Black #101	
333	0693793		Paint, Rear Wheels, Single Axle	1
			Paint, Wheels - Black #101	
334	0733739		Paint, Axle Hubs	1
			Paint, Axle Hub - Black #101	
335	0007230		Compartment, Painted, Spatter Gray	1
336	0544111		Reflective Band, 10"	1
			Color, Reflect Band - A - a) white	
337	0007356		Reflective across Cab Face	1
338	0536954		Stripe, Chevron, Rear, Diamond Grade, Pumper	1
			Color, Rear Chevron DG - fluorescent yellow green	

Line	Option	Type	Option Description	Qty
339	0669643		Stripe, Reflective, Inside Aluminum Rub Rail Color, Reflect Band - A - a) white Qty, - 04	4
340	0065687		Stripe, Reflective, Cab Doors Interior Color, Reflective - a) white	1
341	0027286		Not Required, Lettering Specs	1
342	0007472		[Lettering not Requested]	1
343	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom Qty, - 02	2
344	0624037		Manual, Chassis Service, (1) Hard Copy, One (1) USB Flash Drive, Custom	1
345	0772060		Manual, Chassis Operation, (1) Hard Copy, (1) USB Flash Drive, Custom	1
346	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
347	0735523		Warranty, Engine, Paccar MX13, 5 Year, WA0386	1
348	0684952		Warranty, Steering Gear, TRW Ross TAS, 1 Year WA0202	1
349	0596017		Warranty, Frame, 50 Year, Custom Chassis, WA0013	1
350	0610471		Warranty, Axle, Eaton/Dana, 5 Year/100,000 Mile, Parts and Labor	1
351	0610485		Warranty, Axle, Eaton/Dana, 5 Year/100,000 Mile, Parts and Labor	1
352	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
353	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
354	0744240		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
355	0695416		Warranty, Pierce Camera System, WA0188	1
356	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
357	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
358	0685945		Warranty, Transmission Cooler, WA0216	1
359	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
360	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
361	0693127		Warranty, Gortite, Roll-up Door, 6 Year, WA0190	1
362	0734463		Warranty, Pump, Waterous, 7 Year Parts, WA0382	1
363	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
364	0641372		Warranty, Foam System, Not Available	1
365	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
366	0593921		Not Required, Warranty, No Lettering	1
367	0819254		Certification, Vehicle Stability, CD0196	1
368	0808565		Certification, Engine Installation, Enf, Paccar MX, 2027	1
369	0686786		Certification, Power Steering, CD0098	1
370	0892691		Certification, Cab Integrity, Saber FR/Enforcer, CD0189	1
371	0631973		Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	1
372	0631978		Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	1
373	0556828		Certification, Electric Window, Not Available	1
374	0631977		Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	1
375	0735949		Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	1
376	0545073		Amp Draw Report, NFPA Current Edition	1
377	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
378	0799248		Appleton/Florida BTO	1
379	0000018		PUMPER, 2ND GEN	1
380	0000012		PIERCE CHASSIS	1
381	0735525		PACCAR MX13 ENGINE	1
382	0046396		EVS 4000 Series TRANSMISSION	1
383	0020011		WATEROUS PUMP	1
384	0020009		POLY TANK	1
385	0028047		NO FOAM SYSTEM	1
386	0020006		SIDE CONTROL	1
387	0020007		AKRON VALVES	1
388	0020015		ABS SYSTEM	1
389	0658751		PUMPER BASE	1

Proposal for

Prepared by **Ten-8 Fire & Safety**



PERFORM. LIKE NO OTHER.™

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, approve, 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.

AFTERMARKET SUPPORT WEBSITE

Pierceparts.com will provide Pierce authorized dealer access to comprehensive information pertaining to the maintenance and service of their customer's apparatus. This tool will provide the Pierce authorized dealer the ability to service and support their customers to the best of their ability with factory support at their fingertips.

Pierceparts.com is also accessible to the end user through the guest login. Limited access is available and vehicle specific parts information accessible by entering a specific VIN number. All end users should see their local authorized Pierce dealer for additional support and service.

The website will consist of the following screens at the dealer level:

My Fleet Screen

The My Fleet screen will provide access to truck detail information on the major components of the vehicle, warranty information, available vehicle photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc.

Parts Screens

The Parts screens will provide parts look-up capability of Pierce Manufacturing sourced items, with the aid of digital photographs, part drawings and assembly drawings. The parts search application will permit the searching of parts by item description or function group (major system category). The parts application will provide the ability to submit electronically a parts order, parts quote, or parts return request directly to Pierce Manufacturing for processing.

Warranty Screen

The Warranty screens will provide dealers the ability to submit electronically warranty claims directly to Pierce Manufacturing for reimbursement.

My Reports Screens

The My Reports screens will provide access to multiple dealer reports to allow the dealership to maintain communication with the customer on the status of orders, claims, and phone contacts.

Technical Support Screens

The Technical Support screens will provide access to all currently published Operation and Maintenance and Service Publications. Access to Pierce Manufacturing Service Bulletins and Work Instructions, containing information on current service topics and recommendations will be provided.

Training

The Training screens will provide access to upcoming training classes offered by Pierce Manufacturing along with interactive electronic learning modules (Operators Guides) covering the operation of major vehicle components will be provided. Access to training manuals used in Pierce Manufacturing training classes will be provided.

About Pierce

Access to customer service articles, corporate news, quarterly newsletters, and key contacts within the Customer Service Department will be provided. The current Customer Service Policy and Procedure Manual, detailing the operation of the Customer Service group will also be accessible.

BID BOND NOT REQUESTED

A bid bond will not be included. If requested, the following will apply:

All bidders will provide a bid bond as security for the bid in the form of a 5 percent bid bond to accompany their bid. 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.

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 the 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.

The seller will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.

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 184.50.

GVW RATING

The gross vehicle weight rating will be 47,000 lbs.

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 have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

FRONT AXLE

The front axle will be a reverse "I" beam type with inclined king pins. It will be a Dana axle, Model D-2000F, with a rated capacity of 20,000 lb.

FRONT SUSPENSION

The front springs will be a Standens, three (3)-leaf, taper leaf design, 54.00" long x 4.00" wide, with a ground rating of 20,000 lb.

The two (2) top leaves will wrap the forward spring hanger pin. The top leaf will also wrap the rear spring hanger pin. Both the front and rear eyes will be Berlin style wraps that will place the eyes in the horizontal plane within the main leaf. This will reduce bending stress from acceleration and braking.

A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.

SHOCK ABSORBERS

To provide a smoother ride, the front axle will be furnished with heavy-duty telescoping shock absorbers.

FRONT OIL SEALS

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

FRONT TIRES

Front tires will be Goodyear® 315/80R22.50 radials, 20 ply G289 WHA tread, rated for 20,400 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Accuride® 22.50" x 9.00" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.

REAR AXLE

The rear axle will be a Dana, Model S26-190, with a capacity of 27,000 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

The rear suspension will be Standens, semi-elliptical, 3.00" wide x 52.50" long, 12-leaf pack with a ground rating of 27,000 lb. The spring hangers will be castings.

The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger.

A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.

REAR OIL SEALS

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

REAR TIRES

Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.

The tires will be mounted on Accuride® 22.50" x 9.00" steel disc type 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 RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

MUD FLAPS

Mud flaps with a Pierce logo will be installed behind the front and rear wheels.

WHEEL CHOCKS PROVIDED BY FIRE DEPARTMENT

NFPA 1900, 2024 edition, section 8.15.1 and CAN/ULC S515:2024 edition, section 5.2 requires wheel chocks mounted in a readily accessible location. Each wheel chock will hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 10 percent grade for the length of the apparatus with the transmission in neutral and the parking brake released.

The wheel chocks are not on the apparatus as manufactured. The fire department will provide and install these wheel chocks.

Wheel Chock Brackets Provided by Fire Department

The wheel chock brackets are not on the apparatus as manufactured. The fire department will provide and install the wheel chock brackets.

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 Bendix®.

Front brakes will be Model ADB22X™, disc type with automatic pad wear adjustment and 17.00" rotors for improved stopping distance.

The rear brakes will be Bendix™ 16.50" x 8.63" cam operated with automatic slack adjusters.

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor will be a Wabco single piston compressor with a 26.8 CI displacement.

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 same as frame color.

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

One (1) air inlet with 3D series male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located forward in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will

discharge into the "wet" tank of the brake system. A mating female fitting will also be provided with the loose equipment.

ENGINE

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

Make:	Paccar
Model:	MX
Power:	510 hp at 1600rpm
Torque:	1850 lb-ft at 1000rpm
Governed Speed:	1900 rpm
Emissions Certification:	EPA 2027
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	13.7L
Starter:	DP60
Fuel Filters:	Dual cartridge style with check valve, water separator, and water in fuel sensor

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.

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

The compression release brake option is a fully integrated MX engine braking system. It utilizes the turbocharger and back pressure valve, but adds in a hydraulically operated compression brake to increase overall retarding power.

To maximize the effectiveness of the compression brake the MX engine brake system works in conjunction with the turbocharger and back pressure valve.

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

CLUTCH FAN

A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged 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, or Goodyear, rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing.

Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will expand and contract according to coolant system temperature thereby keeping 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 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

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

A fill inlet will be located on the left hand side of the body and is 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 installed from tank top to just below fuel fill inlet.

The fuel 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 7.3 gallon diesel exhaust fluid (DEF) tank will be provided and mounted under the cab on the driver's side.

A fill inlet will be provided on the driver's side of the cab. The lift up door will be spring loaded and be polished stainless steel.

AUXILIARY FUEL PUMP

An auxiliary electric fuel pump will be added to the fuel line for priming the engine. A switch located on the cab instrument panel will be provided to operate the pump.

FUEL COOLER

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

TRANSMISSION

An Allison 6th generation, Model EVS 4000P, 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 left side and top of converter housing (positions 8 o'clock and 1 o'clock).

A transmission temperature gauge with an amber light and buzzer will be installed on the cab instrument panel.

TRANSMISSION SHIFTER

A six (6)-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	3.51 to 1.00
2nd	1.91 to 1.00
3rd	1.43 to 1.00
4th	1.00 to 1.00
5th	0.75 to 1.00
6th	0.64 to 1.00
R	4.80 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® 1810 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 Paccar 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.

BUMPER

A one (1)-piece, ten (1) gauge, 304-2B type polished stainless steel bumper, a minimum of 10.00" high, will be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength.

The bumper will be extended 19.00" from front face of cab.

Gravel Pan

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

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 100' 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.

Center Hose Tray Restraint

There will be one (1) pair of hose tray restraint straps located over the center mounted tray.

The restraints will be a pair of 2.00" wide black nylon straps with Velcro® fasteners provided. The strap(s) will be used to secure the hose in the tray.

TOW HOOKS

Two (2) chromed steel tow hooks will be installed under the bumper and attached to the front frame members. The tow hooks 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 hooks will not be used for lifting of the apparatus.

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 overall height (from the cab roof to the ground) of approximately 99.00". 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 54.50" 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 painted job color.

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.

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.

SIDE OF CAB MOLDING

Chrome molding will be provided on both sides of cab.

MIRRORS

A Retractable Aerodynamic, Model 613295, dual vision, motorized, west coast style mirror with chrome finish will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be adjustable with a remote control within reach of the driver.

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 63.37" 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 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.

MANUAL CAB DOOR WINDOWS

All cab entry doors will contain a conventional roll down window.

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 a grip pattern punched into bright aluminum treadplate material 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 painted.

CAB EXTERIOR HANDRAILS

A 1.25" diameter slip-resistant, knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.

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

Rubber fender crowns will be provided around the cab wheel openings.

Crowns will be black.

CAB DASH

The driver side dash, switch panel located to the right of the driver, and center console will be an easily removable high impact resistant polymer cover.

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

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.

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 gray, vinyl texture paint.

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

CAB FLOOR

The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

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 formed plastic cover.

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.

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 HANDLES

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 grab handles 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.

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 HO Bostrom Tanker 350, SCBA seat will be provided in the cab for the officer.

The seat will be provided with 15.00" deep cushion and one piece flip up headrest. To ensure safe operation, the seat will be equipped with a sensor in the seat cushion and belt receptacle that will activate an alarm indicating the seat is occupied but not buckled.

The seat back will be an SCBA back style with a 95 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 LEFT SIDE OUTBOARD SEAT

One (1) rear facing, Bostrom Tanker 350 SCBA seat will be provided in the left side outboard position in crew cab.

The seat will be provided with 15.00" deep cushion and one piece flip up headrest. To ensure safe operation, the seat will be equipped with a sensor in the seat cushion and belt receptacle that will activate an alarm indicating the seat is occupied but not buckled.

The seat back will be an SCBA back style with a 95 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 RIGHT SIDE OUTBOARD SEAT

One (1) rear facing, Bostrom Tanker 350 SCBA seat will be provided in the right side outboard position in crew cab.

The seat will be provided with 15.00" deep cushion and one piece flip up headrest. To ensure safe operation, the seat will be equipped with a sensor in the seat cushion and belt receptacle that will activate an alarm indicating the seat is occupied but not buckled.

The seat back will be an SCBA back style with a 95 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 SEAT

There will be two (2) forward facing, HO Bostrom Tanker 350, SCBA seats will be provided at the center position in the crew cab.

The seats will be provided with 15.00" deep cushion and one piece flip up headrest. To ensure safe operation, the seats will be equipped with a sensor in the seat cushion and belt receptacle that will activate an alarm indicating the seat is occupied but not buckled.

The seat backs will be an SCBA back style with a 95 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 seats 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 gray/black Dura-Wear Plus, waterproof fabric.

AIR BOTTLE HOLDERS

All SCBA type seats in the cab will have a Ziamatic, Model ULLH, SCBA holder bracket. This bracket will be compliant with the current edition of applicable NFPA standards and will include a back plate, two (2) seats, a footplate and the Model LLS (Load & Lock) strap to hold the bottle in the bracket. The bracket seats will be a "one size fits all" style seat and will accommodate SCBA cylinders from the high pressure 30-minute to the high pressure 60-minute. Seats will be adjustable up and down by unbolting, relocating, and re-bolting in the desired position.

SEAT BELTS

All cab and tiller cab (if applicable) seating positions will have red seat belts. The seat belts will be furnished with a single automatic retractor. 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 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 seat 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 STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

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.

In order to ensure exceptional illumination, each white LED dome light will provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.

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 steady tone 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.

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.

VEHICLE CAMERA SYSTEM

There will be a color vehicle camera system provided with the following:

- One (1) Analog High Definition (AHD) black camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.

The camera image will be displayed on a 7.00" High Definition (HD) display located in view of the driver on the dash. The display will include manual camera activation capability and audio from the active camera.

The following components will be included:

- One (1) HD700136DC, display
- One (1) 1080p AHD rear camera
- All necessary cables

Camera Switcher

A camera switcher is not required.

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 Stryten/Exide®, Model 31S950X5W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

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 and be stored in well ventilated compartments located under the cab and bolted directly to the chassis frame. The battery boxes will have reinforced sides. The battery compartments will be constructed of 0.188" steel plate and be 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, 2/0 gauge, color coded battery cables will be provided. 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 CHARGING RECEPTACLE

A 12 VDC battery charging receptacle will be provided.

The battery charger receptacle will be located on the left side of the cab, in the cab step area.

ALTERNATOR

A Delco Remy®, Model 40SI, 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 regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGEMENT

An electronic load management (ELM) system that monitors the vehicle's 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 four (4) rectangular halogen lights mounted in the front quad style, chrome housings on each side of the cab grille:

- The outside light on each side will contain a halogen low and high beam module.
- The inside light on each side will contain a halogen high beam module only.

FRONT DIRECTIONALS

The front directional lights will be Whelen®, Model M62T*, 4.31" high x 6.75" wide x 1.37" deep directional lights with amber LEDs. The lens color(s) to be the same as the LEDs. The directional lights will be provided with chrome trim and located above the headlights.

The flash pattern of the directional lights will be Steady On (Arrow).

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 five (5) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

- 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.

FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS

There will be two (2) Weldon, Model 9186-8580-29, amber LED lights installed front of the cab door, one (1) on each side of the cab.

The lights will activate as marker lights with the headlight switch and 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 lights will be Truck-Lite®, 4.00" round LED lamp kits. Each lamp kit will include a lamp, a rubber grommet and a connector plug.

The following light kits will be provided:

- Two (2) Truck-Lite, Model 44002R, red stop/tail light assemblies.
- Two (2) Truck-Lite, Model 44001Y, amber directional light assemblies.

The lights will be mounted on the rear face of the rear fender compartment.

Two (2) Truck-Lite, Model 40044, 4.00" sealed backup lamp kits will be provided. Each lamp kit will include a Truck-Lite 40204 lamp, 40700 rubber grommet and a 94992 connector plug.

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.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There will be four (4) Truck-Lite, Model 6060C, white LED lights with grommets provided, one (1) for each cab and crew cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) Truck-Lite, Model 6060C, white LED lights with grommets provided under the pump panel running boards, one (1) each side.

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

BODY PERIMETER SCENE LIGHTS

There will be two (2) Truck-Lite, Model 6060C, white LED lights with grommets provided under 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.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

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

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

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.

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 .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 .50" polypropylene. It will be recessed .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 (.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, .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.

HOSE BED

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

Upper and rear edges of side panels will have a double break for rigidity, a split tube finish will not be acceptable.

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.

The hose bed interior walls will be unpainted and dual action finished.

The hose bed will accommodate 1000 feet of 5.00" hose and 1000 feet of 3.00" hose.

HOSE BED DIVIDER

One (1) hosebed divider 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 HOSE RESTRAINT

The hose in the hose bed will be restrained by two (2) black nylon Velcro® straps at the top of the hose bed. Each strap will be permanently attached to a footman loop on one side and will loop through the footman loop on the opposite side then fasten to itself with hook and loop fabric. One (1) strap will be approximately one third of the distance from the front of the hose bed and one (1) strap will be approximately one third of the distance from the rear of the hose bed.

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.

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 16.00" deep.

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 center rear wall will be inset 16" from the body bulkhead rear walls.

Any inboard facing surfaces below the height of the hosebed will be aluminum diamondplate.

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.

RUNNING BOARD HOSE RESTRAINT

A pair of 2.00" wide black nylon straps with Velcro fasteners will be provided for each hose tray to secure the hose during travel. One (1) hose tray will be located in the right side running board.

HOSE TRAY

One (1) hose tray will be recessed in the right hand side running board.

Capacity of the tray will be 100' of 1.50" 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 65.13" high x 25.88" deep. 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 31.38" high x 25.88" 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 66.13" high x 25.88" deep. 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 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.

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be six (6) compartment doors installed on the side compartments. The doors will be double faced aluminum construction, an anodized satin finish and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Doors will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

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 60.88" high x 25.88" 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 51.13" 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

There will be a rear rollup door. The door will be double faced aluminum construction, an anodized satin finish and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Door will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surface will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

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.

COMPARTMENT LIGHTING

There will be seven (7) compartment(s) with a single Pierce LED compartment light strip. Each light strip will be centered vertically along the door framing. There will be one (1) light per compartment. The single light strip will be in all body compartment(s).

Any remaining compartment without a light strip 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 13 shelves with a capacity of 500 lb provided.

The shelf construction will consist of .188" aluminum painted spatter gray 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 in the lower third, in RS2 in the lower third, in RS3 in the lower third, in RS3 in the upper third, in RS2 in the upper third, in RS1 in the upper third, in B1 in the lower third, in LS1 in the lower third, in LS2 in the lower third, in LS3 in the lower third, in LS3 in the upper third, in LS2 in the upper third and in LS1 in the upper third.

RUB RAIL

Bottom edge of the side compartments and rear rails 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.

The rub rails will be spaced out far enough to protect the lift bars on the rollup doors.

BODY FENDER CROWNS

Black rubber fender crowns will be provided around the rear wheel openings.

BODY FENDER LINER

A aluminum painted to match the lower body color 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.

HANDRAIL

One (1) full width horizontal knurled aluminum handrail will be provided below the hose bed at the rear of the apparatus.

AIR BOTTLE STORAGE (TRIPLE)

A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided 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.

AIR BOTTLE COMPARTMENT STRAP

A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.

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 STORAGE

The ladders will be stored between the water tank and the right side compartments.

The ladders will extend into the pump compartment just to the rear of the water pump discharges.

The ladder storage area will be enclosed as practical by means of sheet metal to protect the ladders from road dirt. The ladders that extend into the pump house will also be enclosed. A black rubber boot will be provided to enclose the ladders in the gap between the pump house and the body.

Each ladder will be stored vertically in a separate stainless steel storage trough. Each stainless steel trough will be lined with Dura-Surf nylon slides.

If the apparatus does not have a flush rear wall, an aluminum enclosure will be provided at the rear of the body to properly contain the ladders. This enclosure will extend to the rear of the side body compartments.

The enclosure will also include a vertically hinged smooth aluminum door with a D-handle latch to access the ladders. The door will be hinged on the left side.

FOLDING LADDER

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

FOLDING LADDER STORAGE

There will be storage designated right side for folding ladders stored between the side sheet in a stainless steel trough in the ladder storage compartment.

10' PIKE POLE

Two (2) pike poles 10' long Duo Safety with a fiberglass handle, will be provided.

PIKE POLE STORAGE

Aluminum tubing will be used for the storage of two (2) pike poles and will be located in ladder storage compartment. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.

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.

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 PANELS

All pump controls and gauges will be located at the left 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 side will be removable with lift and turn type fasteners.

Trim rings will be installed around all inlets and outlets.

The trim rings for the side discharge outlets will be color coded and labeled to correspond with the discharge identification tag.

PUMP

Fire pump will be a Waterous CX, 1500 gpm, single (1) stage centrifugal type. The pump will be an end suction, pedestal mount, single inlet type.

Pump will be the class "A" type.

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

- 100 percent of rated capacity at 150 psi net pump pressure.
- 70 percent of rated capacity at 200 psi net pump pressure.
- 50 percent of rated capacity at 250 psi net pump pressure.

Pump body will be close-grained gray iron, bronze fitted.

Impeller shaft will be stainless steel, accurately ground to size. It will be supported by oil or grease lubricated, anti-friction ball bearings for rigid precise support.

Bearings will be protected from water and sediment by suitable stuffing boxes, slinger rings, and oil seals. No special or sleeve type bearings will be used.

Pump will be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.

The mechanical seal will consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring will press against a highly polished stainless steel stationary ring that is sealed within the pump body.

In addition, a throttling ring will be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance will not deteriorate, nor will the pump lose prime, while drafting if the seal fails during pump operation.

Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.

PUMP TRANSMISSION

The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By using a chain rather than gears, 50 percent of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work.

Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.

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. A manual back-up shift control will also be located on the left side pump panel.

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 that 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.

INTAKE RELIEF VALVE

One (1) Trident Air Max intake relief valve(s) will be installed on the suction side of the pump preset at 125 psig.

The relief valve will have a working range of 50 psi to 350 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.

One (1) adjustable air regulator and pressure indicating gauge will be located on a common bezel behind the right side pump panel with a stainless steel access door to control the intake valve(s).

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 NOT 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.

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, flexible polypropylene tubing 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 of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 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.

MAIN PUMP INLET CAP PROVIDED BY FIRE DEPARTMENT

NFPA 1900, 2024 edition, section 13.6.8 and CAN/ULC S515:2024 edition, section 5.2, requires all intakes to be provided with caps or closures capable of withstanding a hydrostatic gauge pressure of 500 psi (3400 kPa).

The caps are not on the apparatus as manufactured. The fire department will provide both caps for the main pump inlets.

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 one (1) inlet 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.

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 discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.

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, 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.

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 3.00" discharge outlets, located on the right side pump panel, will be furnished with a 3.00" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow.

The elbow will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

LARGE DIAMETER DISCHARGE OUTLET

There will be an Elkhart 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 operators 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) 1.50" discharge outlet piped to the front of the apparatus and located in the center bumper tray.

Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball 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 1.50" 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, left side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.

REAR OUTLET ELBOWS

The 2.50" discharge outlets, located at the rear of the apparatus, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (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.

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 rigidly braced and installed securely so no movement develops when the line is charged. The riser will be gated and controlled at the pump operator's panel.

Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 13.7.5.3.

MONITOR

A customer/dealer supplied and installed make and model Monitor to be provided by the customer monitor will be properly installed on the deluge riser.

The deluge riser will have male National Pipe Threads for mounting the monitor.

CROSSLAY HOSE BEDS

Two (2) crosslays with 1.50" outlets will be provided. Each bed to be capable of carrying 200' of 1.75" double jacketed hose and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.

Outlets to be equipped with a 1.50" 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.

Vertical scuffplates constructed of stainless steel will be provided at the front and rear ends of the bed on each side of vehicle.

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.

FOAM SYSTEM

A foam system will not be required on this apparatus.

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 aluminum with a black vinyl finish. A polished aluminum trim molding will be provided around each 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

A pump compartment light will be provided inside the right side pump enclosure and accessible through a door on the pump panel.

A 0.125" weep hole will be provided in each light lens, preventing moisture retention.

PUMP PANEL GAUGES AND CONTROLS

The following will be provided on the pump and gauge panels in a neat and orderly fashion. These gauges will be in addition to what is provided with the pressure controller.

- Engine Oil Pressure Gauge: With visual and audible warning
- Engine Water Temperature Gauge: With visual and audible warning
- Tachometer: Electric

- Master Pump Drain Control
- Voltmeter
- Fuel

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.

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.

WATER LEVEL GAUGE

There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

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.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

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, inside of the frame rails.

Air Horn Control

The air horns will be actuated by a chrome push button located on the officer's side of the engine tunnel 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 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that 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 SA315P, black nylon composite, 100-watt, speakers with through bumper mounting brackets and polished stainless steel grille provided. Each speaker will be connected to the siren amplifier.

The speakers will be recessed in each side of the front bumper, just outside of the frame rails.

- Left side foot switch.

CAB ROOF LIGHTBAR

There will be one (1) 56.00" Whelen, Model Justice LED lightbar mounted on the cab roof.

This lightbar will include the following:

- Four (4) red flashing forward facing LED modules.
- Two (2) red flashing front corner LED modules.
- Two (2) red flashing rear corner LED modules.

The lens color will be clear.

There will be one (1) switch, located in the cab on the switch panel, to control this lightbar.

FRONT ZONE LOWER LIGHTS

There will be two (2) Whelen®, Model M6**, 4.62" high x 6.75" long x 1.38" deep flashing LED warning lights with chrome trim, installed on the cab face above the headlights.

- The driver's side front warning light to be red
- The passenger's side front warning light to be red
- The color of the lenses will be clear

There will be a switch in the cab on the switch panel to control both lights.

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®, flashing LED warning lights with chrome trim installed per the following:

- Two (2) Model M4*C, 3.38" high x 5.50" wide lights located one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) Model M6*C, 4.31" high x 6.75" wide lights located one (1) each side above rear wheels. The side rear lights to be red.

All four (4) lights will include a clear lens.

There will be a switch in the cab on the switch panel to control the lights.

REAR ZONE LOWER LIGHTING

There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights with chrome trim located at the rear of the apparatus per the following:

- The left side rear warning light to include red LEDs
- The right side rear warning light to include red LEDs
- The warning light lens color(s) to be clear

There will be a switch in the cab on the switch panel to control the lights.

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 clear.

The rear warning lights will be mounted on top of the compartmentation with all wiring totally enclosed. The rear deck lights will be mounted on the beavertails as high as possible.

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 x 18 ft (3.7 m x 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 single cab paint color.

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.

FRONT WHEELS PAINT

All wheel surfaces, inside and outside, will be provided with paint black #101.

REAR WHEELS PAINT

All wheel surfaces, inside and outside, will be provided with paint black #101.

AXLE HUB PAINT

All axle hubs will be painted black #101.

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 BAND

A 10.00" white reflective band will be provided across the front of the vehicle and along the sides of the body.

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.

REFLECTIVE STRIPE INSIDE RUBRAILS

A reflective stripe will be provided inside the extruded aluminum rubrails. The reflective material will be white. There will be a quantity of four (4) rubrails striped.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the current edition of applicable NFPA standards.

FIRE APPARATUS PARTS MANUAL

There will be two (2) 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 two (2) chassis service manuals containing parts and service information on major components provided. There will be one (1) hard copy and one (1) USB flash drive copy 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 MANUALS

There will be one (1) hard copy and one (1) USB flash drive provided that will include all of the same information.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

ENGINE WARRANTY

A Paccar five (5) year limited engine warranty will be provided. A limited warranty certificate 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 WARRANTY

A Eaton **five (5)-year/100,000 mile** parts and labor warranty will be provided.

REAR AXLE WARRANTY

A Eaton **five (5)-year/100,000 mile** parts and labor 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

A Pierce fifty four (54) month warranty will be provided for the camera system.

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

A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A **six (6) year** limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included with this proposal.

PUMP WARRANTY

The Waterous pump will be provided with a seven (7) year material and workmanship limited warranty.

A copy of the warranty certificate will be 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.

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.

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.