Option List

2/15/2023

Customer:		**Bid Number:**	734
Representative	Ebben, Blake	**Job Number:**	
Organization:	Ten-8 Fire & Safety, LLC	**Number of Units:**	
Requirements Manager:		**Bid Date:**	
Description:	FSA Spec - Mobile Water Saber Dryside, Freightliner BX Ta	**Stock Number:**	
Body:	Tanker, 3000 Gallon, Tandem Rear Axle, Low Compts, BXT Program	**Price Level:**	44 (Current: 44)
Chassis:	Freightliner M2-106, 6x4 Tandem Rear Axle, BXT Tanker	**Lane:**	

Line	Option	Type	Option Description	Qty
1	0740755		Tanker, BXT, 3000 GAL, LOW Compts, 750 Gpm CX Pump, (SF-2210)	1
2	0010012		No Boiler Plates requested	1
3	0018257		Commercial chassis & Snorkel products	1
4	0584455		Manufacture Location, Bradenton, Florida	1
5	0584453		RFP Location: Bradenton, Florida	1
6	0588609		Vehicle Destination, US	1
7	0610783		Comply NFPA 1901 Changes Effect Jan 1, 2016, With Exceptions, Commercial Chassis	1
8	0545738		Mobile Water Supply Fire Apparatus, PMFD	1
9	0588617		Vehicle Certification, Tanker	1
10	0568412		Agency, Apparatus Certification, Pumper/Tanker, Third Party, PMFD	1
11	0620357		Consortium, Florida Sheriff's	1
12	0537375		Unit of Measure, US Gallons	1
13	0030006		Bid Bond Not Requested	1
14	0807703		Performance Bond, Not Requested	1
15	0057914		Reference Drawing	1
16	0589819		Electrical Diagrams, Commercial	1
17	0773989		Freightliner M2-106, 6x4 Tandem Rear Axle, BXT Tanker	1
18	0804178		Model Year 2025	1
19	0736169	SP	Use Chassis Spec (BXT3000) [Use w/2210.2220,2230]	1
20	0804111		Base Price, BXT Tanker, FLR M2-106, 6x4, Effective 07/01/2022	1
21	0773923		Wheelbase, 210", Tandem Axles (14K/40K GAWR), Freightliner BXT	1
22	0773918		GVW Rating, BXT, Tandem, 54,600#	1
23	0579898		Frame, Chassis, Freightliner, 120 KSI	1
24	0635545		Frame Liner not Req'd, Commercial Chassis, BX Program Only	1
25	0669872		Axle, Front, 14.7K,(w/14.6K Rating) with Rear Tandem Axle, Freightliner	1
26	0773976		Suspension, Front Spring, 14,600 lb, Commercial	1
27	0073051		Shock Absorbers, Front	1
28	0789186		Brakes, Cam Front, 16.50"x 5.00" Commercial	1
29	0585775		MichelinTires	1
30	0772238		Tires, Front, 12R22.50	1
31	0773847		Wheels, Polished Aluminum, 22.50" x 8.25"	1
32	0634373		Axle, Tandem Rear, 40K, Freightliner	1
33	0772020		S-Cam Style 16.50" x 7.00"	1
34	0544651		Top Speed of Vehicle, 60 MPH, Commercial Chassis	1
35	0773965		Suspension, Rear, Flat Spring, 40,000 lb, 52" Spacing, Commercial Tandem Axle Spacing - 52"	1
36	0772237		Tires, Rear, 11R22.50	1
37	0773815		Wheels, Polished Aluminum Outer w/ Steel Inner, 22.50" x 8.25"	1
38	0620569		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle Qty, Tire Pressure Ind - 10	1
39	0628495		Mud Flaps, without Logo, Front & Rear, BX	1
40	0602476		Chocks, Wheel, Mobile Water Supply, Provided by Fire Department, NFPA 2016	1
41	0544690		Mounting Brackets, Chocks, Provided by Fire Department	1
42	0773967		ABS, Anti-Lock Braking, w/Electronic Stability Pgm w/ATC, Commercial	1
43	0009547		Air Compressor, Brake, 18.7 CFM, Commercial	1
44	0773985		Air Dryer, Brake, w/Heater, Commercial	1
45	0641150		Air Inlet, w/Disconnect Coupling, Commercial Chassis, BX Program	1
46	0728954		Engine, Cummins L9, 360 hp, Freightliner	1
47	0755088		Engine Surcharge, Cummins/Freightliner	1

Line	Option	Type	Option Description	Qty
48	0001247		High Idle w/Electronic Engine, Commercial	1
49	0809318		Auxiliary Brake, Exhaust Brake , VGT Style, With Brake Lights, Freightliner PLUS	1
50	0779576		Fuel/Water Separator,Detroit,w/Hand Primer,H2O Sensor w/Preheater, M2-106/108SD	1
51	0773981		Air Intake, Engine, w/Ember Separator, OEM Installed, Commercial	1
52	0773636		Exhaust System, Horizontal, RH Step Mounted DPF/SCR, Commercial	1
53	0684987		Exhaust Modifications, Commercial Chassis, Horizontal Exhaust	1
54	0061579		Coolant Hoses, Gates Blue Stripe, FL M2	1
55	0773913		Fuel Tank, 50 Gallon, Left Side, Aluminum, Commercial	1
56	0773952		DEF Tank, Left Side Location, Commercial	1
57	0723716		Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	1
58	0552712		Not Required, Shutoff Valve, Fuel Line	1
59	0023745		Cooler, Chassis Fuel, Pierce Installed	1
60	0773950		Trans, Automatic, Allison 3000 EVS, w/(2) PTO Provsions, Commercial	1
61	0809304		Transmission, Shifter, Stalk, 5 Speed, Freightliner PLUS	1
62	0011475		Transmission Oil Cooler, Internal, Commercial	1
63	0733744		Driveline for PTO/Transfer Case or No Pump Installation - Commercial	1
64	0809305		Steering, Power, With Tilt/Telescope Column, Freightliner PLUS	1
65	0581718		Bumper, Non-extended, Chrome Plated Steel, Freightliner M2	1
66	0013220		Tow Hooks, Painted - Commercial Chassis	1
67	0582760		Cab, 2-door, Flat Roof, Freightliner M2-106/108SD/BX Program	1
68	0809311		Cab Interior, Freightliner PLUS	1
69	0809984		Grille, Chromed Plastic, Freightliner M2 PLUS	1
70	0641391		Mirrors, West Coast, 8" Convex, Heated, Remote, Bright, Less PS Downview, FLR	1
71	0616224		Steps, Cab, as Supplied by Freightliner (Stainless Steel)	1
72	0637490		Lights, Cab Access Steps, LED, 2 Door BX Product	1
73	0809640		Power Windows & Dr Locks, Electric, Freightliner PLUS	1
74	0070598		Daytime Running Lts, Commercial	1
75	0773943		Air Conditioning, Commercial	1
76	0759495		Ember Screen, for AC Filter, Air Intake, Pierce Provided, Commercial Chassis	1
77	0005940		Lights, Engine Compt, (2) Commercial Chassis	1
78	0660140		No Console Required	1
79	0726718		DECLINED - Side Roll Protection, Freightliner	1
80	0624102		Seating Capacity, Cab, 2-Door, Commercial	2
			Qty, - 02	
81	0582133		Seats, Cab, Air Driver w/Fixed Passenger, Non-SCBA, Freightliner	1
82	0073999		No Crew Cab Seats, 2-door cab	1
83	0597773		Seat Belt Web Length, NFPA Compliant, Commercial Chassis	1
84	0581771		Seat Belts, Orange, Freightliner	1
85	0602464		Helmet Storage, Provided by Fire Department, NFPA 2016	1
86	0602629		Portable Hand Lt, Provided by Fire Dept, Mobile Water Supply, NFPA 2016	1
87	0809312		Cab Instrumentation, Freightliner PLUS	1
88	0637502		Panel, Emergency Switch, BX/Wet Side Product	1
89	0641093		Light, Do not move apparatus, Commercial, BX Program	1
			Alarm, Do Not Move Truck - No Alarm	
90	0600094		Messages, Open Dr/DNMT, BX Product	1
91	0072620		Wiper control, intermittent feature Commercial	1
92	0637219		NO RADIO, AM/FM	1
93	0622928		Not Available, Vehicle Information Center, Multiplex System, Commercial Chassis	1
94	0734854		Collision Mitigation, Not Requested	1
95	0602046		Vehicle Data Recorder w/Seat Belt Monitor, Commercial, BX Program	1
96	0635217		Two-Way Radio Accommodation Package - BX Program Only	1
97	0622749		Weldon V-MUX, Electrical System, Freightliner Chassis, BX-Product	1
98	0810079		Electrical System, Freightliner PLUS, M2-106, BXT Tanker	1
99	0746524		Single Start, (2) Batteries, 2000 CCA Total, LH, Freightliner	1
100	0583981		Battery Relocation NOT REQUIRED	1
101	0897772		Battery Location as Provided by Chassis Manufacturer	1
102	0809314		Selector, Single Start Battery, Freightliner PLUS	1
103	0002729		Receptacle, Battery Charging, Pump Panel, Driver's Side	1
104	0012778		No Pick Required, Battery Charger Location	1
105	0530960		Not Required, Remote Battery Charger Indicator	1

Line	Option	Type	Option Description	Qty
106	0595797		Alternator, 275 amp, Delco Remy 40SI	1
107	0634181		Load Manager, Inc w/MUX Electrical System , BX Program	1
108	0773739		Cab Lighting, LED Marker Lights, Commercial	1
109	0750542		Light, Directional/Marker, Intermediate, Truck-Lite 60421Y LED 2lts	1
110	0627281		Lights,Clearance/Marker/ID, ear,FRP LED Bar & Truck-Lite 33050R LED 4Lts,BX/Wet	1
111	0805623		Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg, BXT	1
			Color, Lens, LED's - Match	
112	0806466		Lights, Backup, Wln M62BU, LED, For Tail Lt Housing	1
113	0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt	1
			Color, Trim - Chrome Housing	
114	0556842		Bezels, Wln, (2) M6 Chrome Pierce, For mtg (4) Wln M6 lights	1
115	0589905		Alarm, Back-up Warning, PRECO 1040	1
116	0687610		Lights, Perimeter Cab, Truck-Lite 6060C LED 2Dr, Grommet Mt	1
117	0617866		Lights, Perimeter Pump House, Truck-Lite 6060C LED 2lts	1
118	0772784		Lights, Perimeter Body, Truck-Lite 6060C LED 2ts, Rear Step, BXT	1
			Control, Perimeter Lts - Parking Brake Applied	
119	0637492		Lights, Step, LED, BX Products, Prk Brk	1
120	0899665		Lights, Rear Scene, Wln, PEL*C LED, 45 Deg Flange, Pair, BX	1
			Switch, Lt Control 1 DC,1 - a) DS Switch Panel	
121	0807618		Not Required, Deck Lights, Other Hose Bed & Rear Lighting, BXT	1
122	0807616		Light, LED, Hose Bed, BXT	1
			Control, Hose Bed Lts - Cup Switch At Rear	
123	0797313		Not Required, No Walking Surface, NFPA 2016	1
124	0804226		Tanker, 3000 Gallon, Tandem Rear Axle, Low Compts, BXT Program	1
125	0644903		Tank,Water,Poly, 3000 Gallon,Tandem BXT/Wet Side w/Low Compts	1
126	0641854		Foam Cell Provisions, BX Product	1
127	0641806		Restraint, Water Tank, BXT/Wet Side Tanker	1
128	0640174		Hose Bed Access Ladder, LS Rear, BXT/Wet Side Tanker	1
129	0027805		Overflow, 6" Poly, Tanker	1
130	0771525		NO Portable Tank Rack Is Req'd, BXT	1
131	0640188		Tank Fill, 2.50" Direct, Rear, Poly Tank, Right Side BXT/Wet Side Tanker	1
			Location, driver's/passenger's/center - Right	
			Adapter, Elbow - 2.5"NST	
132	0765960		No Additional Tank Fill Req'd, BXT/Wet Side	1
133	0587341		Dump,10" Newton, Rear, Manual, Mild Steel, BXT/Wet Side	1
134	0637709		Dump Chute, Rear, Newton 6012SW Swivel, Mild Steel, w\Telescopic Extension	1
135	0028740		No Left Side Dump Req'd	1
136	0028767		Not Required, Dump Valve Chute, Left Side	1
137	0028741		No Pass Side Tank Dump Req'd	1
138	0028759		Not Required, Dump Valve Chute, Right Side	1
139	0640180		Hose Bed, BXT/Wet Side Tanker, Tandem Axle	1
140	0610665		Divider, Hose Bed, .25" Unpainted, (1) Only, BXT	1
			Qty, Hosebed Dividers - 1	
141	0772809		Hose Restraint, Hose Bed, Velcro Strap on Top, 2" Heavy Nylon Web at Rear,BX/Wet	1
			Type of fastener - 2" cam buckle	
			Nylon Web Color - Black	
			Type of fastener, Rear - 2" cam buckle - bottom of hosebed	
142	0013512		Running Boards, 12.75" Deep	1
143	0081509		Tailboard, BXT/Wet Side Tanker	1
144	0681298		Wall, Rear, Material, Smooth Poly, BXT/Wet Side Tanker	1
145	0003540		Tow Eyes (2) (Tanker/Rescue)	1
146	0640162		Construction, BXT/Wet Side Tanker	1
147	0644898		LS Compartments,LOW Compts,Tandem BXT/Wet Side	1
148	0639756		Compt, (1) Hard Suction Hose, LS, Treadplate Door, BXT Tandem Axle Tanker	1
149	0644897		RS Compartments, Tandem Axle, BXT/Wet Side Tanker	1
150	0639755		Compt, (1) Hard Suction Hose, RS, Treadplate Rear Door, BXT Tandem Axle Tanker	1
151	0797161		Doors, Gortite, Roll-up, Side Compartments, BXT/Wet Side Tanker	4
			Qty, Door Accessory - 04	
			Color, Roll-up Door, Gortite - Satin finish	
			Latch, Roll-up Door, Gortite - Non-Locking Liftbar	

Line	Option	Type	Option Description	Qty
152	0640159		Lights, Compt, Pierce LED, NFPA Minimum, All Body Compts, BXT/Wet Side Tanker	4
			Qty, - 04	
			Qty, Lights, Pair - 3	
153	0772454		Shelf Tracks, Unpainted, BXT/Wet Side	4
			Qty, Shelf Track - 04	
			Location, Shelf Track - LS1, LS2, RS1 and RS2	
154	0772453		Shelves, Adjustable, 215 lb Cap,Full width/Full Depth,3/16",Painted,BXT/Wet(Low)	4
			Qty, Shelf - 04	
			Location, Shelves/Trays, Predefined - RS1-Centered, RS2-Centered, LS1-Centered and LS2-Centered	
155	0014015		Rub Rail, Not Required	1
156	0004027		Fender Crowns, Rear, S/S, Two Pair	1
157	0519849		Not Required, Hose, Hard Suction	1
158	0634228		Troughs, Hard Suction Hose, BXT/Wet Side	2
			Qty, - 02	
			Location, Hose Trough/Compartment - a) left side	
159	0639512		No Handrails Req'd @ Side Pump Panel, Use Cab Handrails	1
160	0797123		Compt, Air Bottle, Double, Between Tandems, S/S, BXT/Wet Side	2
			Qty, Air Bottle Comp - 2	
			Door Finish, Fender Compt - Polished	
			Latch, Air Bottle Compt - Flush Lift & Turn	
161	0044229		No Extension Ladder Req'd	1
162	0530069		Not Required, Ladder, Roof, Mobile Water Supply Vehicle	1
163	0557331		Not Required, Ladder Storage	1
164	0074248		Not Required, Folding Ladder	1
165	0784209		Not Required, Pike Pole, 6', Mobile Water Supply Vehicle	1
166	0064388		No Steps Front of Body	1
167	0014381		Not Required, Rear Step (No rear door)	1
168	0632311		Pump House, Side Control, 28", BXT Tanker	1
169	0035501		Pump House Structure, Std Height	1
170	0743764		Pump, Waterous, CXPA, 750 GPM, Single Stage, PTO - BX Products	1
171	0084489		Seal, Mechanical, Waterous, PTO	1
172	0074478		Trans, Pump, Waterous, "PA" Series, PTO	1
173	0748194		Pumping Mode, BXT Tankers	1
			Pumping Mode - Pump in Motion	
174	0535276		Pump Shift, PTO Pump	1
175	0581602		Transmission Lock-up, Not Req'd, PTO Pump	1
176	0004547		Auxiliary Cooling System	1
177	0014486		Not Required, Transfer Valve, Single Stage Pump	1
178	0637712		Valve, Relief Intake, BX Program	1
179	0564941		Controller, Pressure, FRC, Pump Boss, PBA200	1
180	0072153		Primer, Trident, Air Prime, Air Operated	1
181	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
182	0602487		Plumbing, Stainless Steel and Hose, Single Stage Pump, PMFD	1
183	0795135		Plumbing, Stainless Steel, w/Foam System	1
184	0743742		Inlets, 5.00" - 750 GPM Pump - BXT Tanker	1
185	0017541		Cap, Main Pump Inlet, Rocker Lug, NST, VLH	1
186	0084610		Valves, Akron 8000 series- All	1
187	0004685		Valve, Inlet(s) - Outside Panel	1
188	0004700		Control, Inlet, at Valve	1
189	0004660		Inlet (1), Left Side, 2.50"	1
190	0029147		Not Required, Inlet, Right Side	1
191	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
192	0807343		Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, PTO Pump, BXP/BXT	1
193	0027900		Tank Fill, 2.00"	1
194	0062133		Control, Outlets, Manual, Pierce HW if applicable	1
195	0632237		Outlet, Left Side, 2.50", BXT Tanker	1
			Qty, Discharges - 01	
196	0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
197	0092570		Not Required, Outlets, Left Side Additional	1
198	0035094		Not Required, Elbow, Left Side Outlets, Additional	1

Line	Option	Type	Option Description	Qty
199	0641830		Outlet, Right Side, 2.50", BX Program	1
			Qty, Discharges - 01	
200	0025091		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
201	0092571		Not Required, Outlets, Right Side Additional	1
202	0089584		Not Required, Elbow, Right Side Outlets, Additional	1
203	0750992		Outlet, RH, 4" w/ 3" Valve,Akron, BXT Tanker w/1000 or Greater GPM Pump	1
			Qty, Discharges - 01	
			Valve, Brand - Akron	
204	0649166		Elbow, Large Dia Outlet, 45 Deg, 4.00" FNST x 4.00" MNST, VLH Elbow w/Cap	1
205	0092572		Not Required, Outlet, Front	1
206	0092574		Not Required, Outlet, Rear, Additional	1
207	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
208	0723042		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	1
209	0029106		Not Required, Deluge Outlet	1
210	0029302		No Monitor Requested	1
211	0029107		No Deluge Mount	1
212	0644887		Hose Storage, Deadlay, Above Pump House, BXT Only	1
213	0640295		Crosslays, Sngl Sheet unpainted,1.50", Std. Cap, BXT Tanker	2
			Qty, Crosslays - 2	
214	0029196		Not Required, 2.50" Crosslay	1
215	0772813		Hose Restraint, Crosslay/Deadlay, Top and Ends, Elastic Netting, BX Product	3
			Qty, - 03	
216	0641849		Plumbing Setup for Foam System (Single Agent), BX Program	1
217	0012126		Not Required, CAF Compressor	1
218	0552517		Not Required, Refill, Foam Tank	1
219	0042573		Not Required, Foam System Demonstration	1
220	0641852		Provisions for Foam Cell, (30 Gallon) - BX Program	1
221	0091110		Not Required, Foam Tank Drain	1
222	0091079		Not Required, Foam Tank #2	1
223	0091112		Not Required, Foam Tank #2 Drain	1
224	0738072		Approval Dwg, Pump Panel(s), Not Required	1
225	0035570		Pump Panel Configuration, No Match Required	1
226	0629252		Material, Pump Panels, Side Control Black Vinyl	1
			Material Finish, Pump Panel, Side Control - Black Vinyl	
			Material, Pump Panel, Side Control - Aluminum	
227	0892828		Panel, Pump Access - Right Side Only, Side Control, BX	1
			Latch, Pump Panel Access, Side Mount - Swell Latch, Black	
228	0005945		Light, Pump Compt	1
229	0509305		Gauges, Engine - Pump Panel, Included with FRC Governor Control, PMFD	1
230	0005601		Throttle, Engine, Incl'd w/Press Controller	1
231	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	1
232	0549333		Indicators, Engine, Included with Pressure Controller	1
233	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
234	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
235	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
236	0062847		Gauge, Water Level, Class 1, Pierce Std.	1
237	0641761		Provision for Foam Level Gauge, BX Program	1
238	0593161		Light Shield, S/S LED	1
239	0887486		Air Horns, (2) Hadley, On Sides Of Engine Hood, BX	1
240	0791273		Location, Air Horn(s), Side of Engine Hood	1
241	0628112		Control, Air Horn, Horn Ring, PS Foot Sw, BXP	1
242	0773920		Siren, Wln 295SLSA1, 100 or 200 Watt, BX Product	1
243	0637494		Location, Electronic Siren, BX Product	1
244	0798644		Control, Elec Siren, Head Only, BX	1
245	0763386		Speaker, (1) Wln, SA315P, 100 watt, BX Program	1
			Qty, Speakers - 1	
			Connection, Speaker - siren head	
246	0779469		Location, Speaker, Non-Extended Front Bumper, Recessed, Center, BX Program	1
247	0746353		Not Required, Warning Lights Intensity	1
248	0643811		Lightbar, Wln, Justice, LED, 8-R, 2-W, BX Products, BX	1

Line	Option	Type	Option Description	Qty
249	0720730		Lights, Front Zone, Wln M6** LED, Lens Choice, Commercial, BX	1
			Flange Kit - w)with flange	
			Color, Lens, LED's - Colored	
			Color, Lt DS Front - Red	
			Color, Lt PS Front - Red	
250	0020909		ABS SYSTEMS, Commercial	1
251	0899479		Lights, Side Zone Lower, Wln M2* Frnt & M6* Rear LED,Lens Choice,2pr,BX/Wet Side	1
			Location, Lights Front Side - a)each side engine hood	
			Flange Kit - w)with flange	
			Location, Lights Rear Side - Rear Fender Panel	
			Color, Lens, LEDs - Clear	
			Color, Lt Side Front, DS - Red	
			Color, Lt Side Front, PS - Red	
			Color, Lt Side Rear PS - Red	
			Color, Lt Side Rear DS - Red	
252	0720717		Lights, Rear Zn Lwr, Wln M6*, Lens Choice,For Tail Light Housing, BXT/Wet Side	1
			Color, Lens, LED's - Clear	
			Color, Lt DS Rear - r) DS Rear Lt Red	
			Color, Lt PS Rear - r) PS Rear Lt Red	
253	0720722		Lights, Rear/Side Up Zone, Wln M6* LED, Lens Choice, 4lts, BX/Wet Side	1
			Flange Kit - w)with flange	
			Color, Lens, LED's - Clear	
			Color, Lt, Side Rear Upper DS - Side Rear Upper Red	
			Color, Lt, Side Rear Upper PS - Side Rear Upper Red	
			Color, Lt, Rear Upper DS - r) DS Rear Upper Red	
			Color, Lt, Rear Upper PS - r) PS Upper Rear Red	
254	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
255	0033096		Rear Warning Brackets Not Req'd	1
256	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
257	0602518		NFPA Required Loose Equipment,Mobile Water, NFPA 2016, Provided by Fire Dept	1
258	0602402		Soft Suction Hose, Provided by Fire Department, Mobile Water Supply	1
259	0027023		No Strainer Required	1
260	0602536		Extinguisher, Dry Chemical, Mobile Water Supply, NFPA 2016,Provided by Fire Dept	1
261	0602355		Extinguisher, 2.5 Gal. Press. Water, Mobile Water/Foam, Not Required	1
262	0784238		Axe, Flathead, Mobile Water Supply, Not Required by NFPA 2016 Classification	1
263	0007492		Not Required, Axes, Pickhead	1
264	0607712		Paint Process / Environmental Requirements, PMFD	1
265	0583882		Paint, 90 Red, Commercial Grade Chassis Finish, PMFD Commercial Chassis	1
			Paint Color, Commercial, Std - #90 Candy Apple Red	
266	0586561		Chassis Cab Paint, #90 Red, by Chassis Manufacturer, Standard	1
			Paint Color, Commercial, Std - #90 Candy Apple Red	
267	0583915		No Two-Tone Paint Req'd	1
268	0582663		Paint, Chassis Frame Assy, Black, by Commerical Chassis Manufacturer	1
269	0651185		Paint, Wheels, NOT REQUIRED - ALUMINUM WHEELS, Commercial	1
270	0651164		Wheels, Accent Stripe NOT REQUIRED	1
271	0007230		Compartment, Painted, Spatter Gray	1
272	0544111		Reflective Band, 10"	1
			Color, Reflect Band - A - a) white	
273	0007357		Reflective on Front Bumper	1
274	0623221		Stripe, Chevron, Rear, Reflexite, BX/Wet Side Tanker, Upper Section	1
			Color, Reflexite Band - B - L2 Fluorescent Lime	
275	0065780		Stripe, Reflective, Cab Drs Interior, Commercial Cabs, 2dr	1
			Color, Reflective - a) white	
276	0027286		Not Required, Lettering Specs	1
277	0007472		[Lettering not Requested]	1
278	0634098		Pricing Adjustment - Body - NOT REQUIRED - BX	1
279	0634097		Pricing Adjustment - Chassis - NOT REQUIRED - BX	1
280	0766245		Manual, Fire Apparatus Parts, USB, Body Parts Only, Commercial Product	1
281	0753001	SP	Manual on USB Flash Drive, Service, Qty. Commercial	2
			Qty, - 02	

Line	Option	Type	Option Description	Qty
282	0758230	SP	Manuals (2) and USB (1) , Commercial Chassis Operation	1
283	0080008		Warranty, Basic, 1 Year, Apparatus, Commercial Chassis, WA0008	1
284	0638262		Warranty, Basic Vehicle, 5 yrs/100,000 Miles, BX Product	1
285	0595282		Warranty, Cab Paint, As Provided By Chassis Manufacturer, Commercial	1
286	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
287	0021516		Warranty, 5-Year EVS Transmission, Standard Comm, WA0187	1
288	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
289	0693127		Warranty, Gortite, Roll-up Door, 6 Year, WA0190	1
290	0734463		Warranty, Pump, Waterous, 7 Year Parts, WA0382	1
291	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
292	0641372		Warranty, Foam System, Not Available	1
293	0639510		Warranty, Water Tank, Lifetime, ProPoly, Poly Tank	1
294	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
295	0593921		Not Required, Warranty, No Lettering	1
296	0683627		Certification, Vehicle Stability, CD0156	1
297	0544897		Certification, Cab Integrity, Freightliner, CD0022	1
298	0545073		Amp Draw Report, NFPA Current Edition	1
299	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
300	0000017		FLORIDA DIVISION BODY	1
301	0000015		FLORIDA DIVISION COMMERCIAL CHASSIS	1
302	0004713		ENGINE, OTHER	1
303	0046395		EVS 3000 Series TRANSMISSION	1
304	0020011		WATEROUS PUMP	1
305	0089358		DRY SIDE - TANK	1
306	0028047		NO FOAM SYSTEM	1
307	0020006		SIDE CONTROL	1
308	0020007		AKRON VALVES	1
309	0658751		PUMPER BASE	1

Proposal for

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

02/15/2023 - 734 - FSA Spec - Mobile Water Saber Dryside, Freightliner BX Tanker Dual

Your apparatus will be manufactured in Bradenton, Florida.

NFPA 2016 STANDARDS

This apparatus specification includes a commercial chassis that has not been certified to meet the requirements of NFPA 1901 by the chassis manufacturer. Although this chassis may comply with certain aspects of the standard, Pierce has not received certification from this chassis manufacturer that all criteria have been met. The body as built by the manufacturer must comply with the NFPA standards effective January of 2016.

Certification of slip resistance of all stepping, standing and walking surfaces must 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 the 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

The rated water pump will be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results, along with the pump manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horsepower curve, and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, the generator will be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

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% 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.

REFERENCE DRAWING

A drawing of the proposed apparatus will be provided for review. This drawing will indicate the major components such as the chassis make and model, body configuration and door style, location of the lights, siren, horns, compartments, major components, etc.

This drawing will not need to be signed and returned to the apparatus manufacturer and will not be part of the contract documents.

ELECTRICAL WIRING DIAGRAMS
Two (2) electrical wiring diagrams, prepared for the body as it interfaces with the commercial chassis, will be provided.

CHASSIS
The chassis will be a Freightliner, Model M2, 106MD Conventional Chassis, supplied with the following equipment:

WHEELBASE
The wheelbase of the vehicle will be 210.00".

GVW RATING
The gross vehicle weight rating will be 54,600 pounds.

FRAME
The frame rails will be formed from 120,000 psi yield, heat treated alloy steel. The frame rails will be E-coated prior to painting.

FRONT AXLE
Front axle will be an I beam type, made of forged steel. It will have a ground rating capacity of 14,600 lb.

FRONT SUSPENSION
- Spring mounted
- Capacity at Ground: 14,600 lb

Shock absorbers will be provided on the front axle.

FRONT BRAKES
The front brakes will be S-Cam, 16.50" x 5.00". The front brakes will be provided with automatic slack adjusters.

TIRE BRAND
The default brand of tire for the commercial chassis manufacturer for this apparatus is Michelin.

However, the commercial chassis manufacturer reserves the right to substitute brands and models of tire as may be available at the factory on the date of manufacture. They will provide the proper tread style and weight rating for the position in which the tire is installed.

Pierce Manufacturing and the chassis manufacturer are working to provide the brand of tire specified. However, due to shortages (and even model changes by the tire manufacturers), if the chassis manufacturer substitutes other tires, they will not be changed by Pierce.

TIRES, FRONT
Front tires will be 12R22.50, radial tires with a tread pattern suitable for the steering axle position. The maximum capacity of the tires will be 14,780 lbs. and a maximum top speed per the requirements described elsewhere in this proposal, up to 75 MPH.

WHEELS, FRONT
Wheels for the front axle will be 22.50" x 8.25" aluminum disc.

REAR AXLE
The rear axle will be a tandem axle assembly with a capacity of 40,000 lb.

An inter-axle differential, which divides torque evenly between axles, will be provided with an indicator light mounted on the cab instrument panel.

Rear axle brakes will be 16.50" x 7.00", S-Cam drum type brakes. Automatic slack adjusters will be provided.

REAR AXLE RATIO
A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 60 MPH.

SUSPENSION, REAR
Rear suspension will be a flat steel spring system. Ground rating of the suspension to be 40,000 lbs. Axles to have 52.00" spacing.

TIRES, REAR
Rear tires will be 11R22.50 radial tires with a traction tread pattern suitable for the drive axle position. The tires will meet or exceed the weight rating of the axle and/or suspension. Tires will be rated for a maximum top speed per the requirements described elsewhere in this proposal, up to 75 MPH

WHEELS, REAR
The rear wheels will be 22.50" x 8.25" disc. The outer wheel will be polished aluminum and the inner wheel will be steel.

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 10 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 will be installed behind the front and rear wheels. The mud flaps will be black.

WHEEL CHOCKS PROVIDED BY FIRE DEPARTMENT
NFPA 1901, 2016 edition, section 7.9.4 requires two (2) or more wheel chocks mounted in readily accessible locations, that together will hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade 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.

ANTI-LOCK BRAKE SYSTEM
The vehicle will be equipped with an anti-lock braking system. The ABS will provide anti-lock braking control on both the front and rear wheels. It will be a digitally controlled system that utilizes microprocessor technology to control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will 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.

The system will include Automatic Traction Control (ATC).

The system will include Electronic Stability Control (ESC). When instability is detected, the ESC system will automatically apply brakes to individual wheels (with no intervention from the driver) and may also reduce engine torque to help keep the vehicle on track.

AIR COMPRESSOR, BRAKE SYSTEM
The air compressor will have an output of 18.7 cubic feet per minute.

AIR DRYER
An air dryer with a heater will be provided. Other features of this air dryer include:

- Desiccant style filter

- In-line filtration system

- Automatic purge valve

AIR INLET
A single air inlet with 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 near the pump operator's position. 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 coupling will also be provided with the loose equipment.

ENGINE

- Model: Electronic Cummins L9
- Number of Cylinders: Six (6)
- Bore and Stroke: 4.49" x 5.69"
- Displacement: 543 cubic inches (8.9 Liter)
- Rated Brake Horsepower: 360 at 2200 rpm
- Peak Torque: 1150 at 1200 rpm
- Governed rpm: 2200
- VGT Turbocharger
- Fuel System: High pressure common rail (HPCR)

ENGINE ACCESSORIES

- Air Cleaner: Dry type, with restriction indicator in cab
- Fuel Filters: Dual, with check valve
- Governor: Limiting speed type
- Lube Oil Cooler
- Lube Oil Filter: Combination full flow/bypass
- Starting Motor: 12-volt
- Oil Fill and Level Gauge

RADIATOR

- Pressurized System, Tube and Fin
- Deaeration Tank
- Anti-Freeze Protection -34 Degrees Fahrenheit

HIGH IDLE

A high idle switch will be provided on the instrument panel inside the cab. Activating the switch will cause the vehicle to automatically maintain a preset engine rpm.

The high idle switch 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 be labeled "OK To Engage High Idle."

ENGINE EXHAUST BRAKE

An exhaust brake with an integral variable geometry turbo charger (VGT) shall be provided. The control shall be located on the right side steering column stalk. When the engine brake is engaged it shall activate the brake lights.

FUEL/WATER SEPARATOR

A Detroit fuel/water separator will be provided on the chassis. It will include a "water in fuel" sensor, hand primer and a 12-volt pre-heater.

AIR INTAKE, W/EMBER SEPARATOR

The air inlet will be equipped with a stainless steel mesh to separate water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

This will comply with NFPA 1901 and 1906 standards.

EXHAUST SYSTEM

The exhaust system will include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The DPF and SCR will be mounted horizontally outside of the frame rails in the right side front step area.

EXHAUST MODIFICATIONS

The exhaust will terminate with a horizontal tailpipe and diffuser ahead of the right side rear wheels.

A heat deflector shield will be provided where the tail pipe is routed under any side compartmentation.

All modifications will be approved by the chassis engine manufacturer and/or the chassis OEM. Exhaust treatment devices will not be altered.

COOLANT LINES

Gates Blue Stripe rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.

Hose clamps will be the 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 50 gallon fuel tank will be provided and mounted at the left-hand cab step. The tank will be constructed of aluminum.

DIESEL EXHAUST FLUID TANK

A diesel exhaust fluid (DEF) tank will be provided and mounted on the left side, below the cab.

The tank will be sized by the chassis manufacturer based on the engine provided. It will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

FUEL PRIMING PUMP

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

AUXILIARY FUEL COOLING SYSTEM

A supplementary fuel cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the chassis engine fuel. The heat exchanger will be a cylindrical type and will be a separate unit. The cooler will operate any time the pump is discharging water and will be plumbed to the master drain valve.

TRANSMISSION
An Allison, model 3000 EVS, electronic torque converting automatic transmission will be provided. To qualify for the EVS rating, the transmission will be filled with synthetic transmission fluid.

Two (2) PTO openings will be located on left and right side of the converter housing (positions 8 o'clock and 4 o'clock).

A transmission temperature gauge or warning light will be installed on cab instrument panel.

TRANSMISSION SHIFT CONTROL
A stalk mounted shift control will be mounted on the right of the steering column. Shift position indicator will be shown on the driver instrument cluster display in the dash.

The transmission will be a five (5)-speed.

TRANSMISSION COOLER
A transmission oil cooler will be provided in a tank of the radiator.

DRIVELINE
Drivelines will be a heavy duty metal tube equipped with universal joints properly sized for the application. A splined slip joint will be provided in each driveshaft.

STEERING
The steering system will be hydraulically driven.

The steering column will have an adjustable tilt and telescope feature and a left side stalk with controls for headlamp dimmer/flash functions, self-cancelling turn signals and wipers/washer, and a right side stalk for transmission shift functions and auxiliary brake controls. The steering wheel will have switches for the electric horn, cruise control, driver display screen navigation controls, and radio controls (if optioned). The cruise control will also provide engine RPM ramp functions when equipped with a PTO driven water pump.

BUMPER
A 14.00", three (3) piece, full width chrome plated steel bumper with collapsible boxed ends will be attached to the front of the chassis frame.

TOW HOOKS
Two (2) painted, forged steel tow hooks will be provided. 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
A 2-door flat-roof cab will be provided. The cab and doors will be of an aluminum construction.

Exterior Styling

Aerodynamic hood and windshield

Tinted Glass in all Windows

Fiberglass hood with mounted plastic grille

Single 63"x14" rear window

Interior

Leaf spring rear cab suspension

Black Vinyl mats

Forward roof mounted console

Two (2) dash-mounted cup holders, right-hand and left-hand

Dual Sun visors

Fresh Air Heater and Defroster

CAB INTERIOR - PROFESSIONAL TRIM

The cab upholstery will be a mix of gray and black vinyl and cloth.

The cab interior will include black driver and center instrument panels, two (2) lower dash cup holders, gray molded plastic door panels with brushed aluminum lower door kick plates.

HOOD, HEADLIGHTS, AND AIR INTAKE GRILLES - CHROMED

The hood grille will be a chromed high impact plastic with a horizontal rib design. The headlight bezels and air intake grilles will also have a chromed accent finish. The grille will tilt with the hood.

MIRRORS

West Coast style heated, remote operated mirrors constructed from a molded composite material with a bright finish will be provided. A heated 8.00" convex mirror will be included below the primary mirrors.

CAB ACCESS STEPS

The cab steps will be provided by the chassis manufacturer. The stepping surface will be constructed from polished stainless steel and have a punch formed slip resistant surface.

No modifications of any type will be provided by the apparatus manufacturer.

STEP LIGHTS

There will white LED step lights provided to meet NFPA step lighting requirements. Lights will be installed at each cab door step.

The lights will be activated when the adjacent door is opened.

ELECTRIC WINDOWS AND DOOR LOCKS

The cab doors will have electrically powered windows and locks. Controls for locks and widows will be located on each respective door panel, with driver door panel control for all locks and windows.The cab door windows and door locks will be electrically powered and controlled. All door lock and window switches will be located on the forward console in close proximity to the driver.

DAYTIME RUNNING LIGHTS

The chassis will be provided with daytime running lights.

AIR CONDITIONING

An air conditioner will be provided that is integral with heater and defroster system.

AIR CONDITIONING EMBER FILTER

An ember filter will be provided by the apparatus manufacturer to keep embers out of the HVAC filter element.

The air inlet will be equipped with a stainless steel mesh to separate water and burning embers from the HVAC air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

This will comply with NFPA 1901 and 1906 standards.

ENGINE COMPARTMENT LIGHTS

Two (2) engine compartment lights will be installed under the engine hood, of which the switches are an integral part.

SEATING CAPACITY

The seating capacity in the cab will be two (2).

SEATING

Seating inside the cab will consist of an air-ride driver seat and a fixed companion seat.

SEAT BELT WEB LENGTH

NFPA 14.1.3.2 and 14.1.3.3 requires effective seat belt web length for a Type 1 lap belt for pelvic restraint to be a minimum of 60 in., and a Type 2 pelvic and upper torso restraint-style seat belt assembly to be a minimum of 110 in.

Per Fire Department specification of a commercial chassis, this apparatus will have seat belts of the required length. These belts will provide sufficient length for large firefighters in bunker gear. This apparatus will be compliant to NFPA standards effective at time of contract execution.

SEAT BELTS

All seating positions in the cab and crew cab will have highly visible (orange) seat belts.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 14.1.7.4.1 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.

PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 7.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.

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

CAB INSTRUMENTS

- Premium Instrument Cluster with 5" TFT Color Display Shows Trip Information, Fault Codes, Safety Information and Warnings

- Engine Temperature Gauge and Warning Buzzer

- Engine Oil Pressure Gauge and Warning Buzzer

- Speedometer with Odometer

- Engine Tachometer

- Virtual Engine and Trip Hour meters

- Fuel Level Gauge

- Virtual DEF Level Gauge and Warning Lamp

- Virtual Voltmeter: Low Voltage Red Warning Light and Audible Alarm

- Air Brake Dual Needle Pressure Gauge

- Virtual Air Restriction Indicator

- Dash Switch for Exhaust Regeneration Inhibit

- Virtual Control for Regeneration Request in Cluster

- Dash Switches to the right of the driver for:

    - Hazard Flasher

- Dome Light(s)
- Footwell Lights

- Headlamp/Marker Light Dash Rotary Switch

- Digital Alarm Clock

- Virtual Panel Lamp Dimmer Control

- Outside Temperature Display

- Circuit Breakers: For Overload Protection of Electric Circuits

- Ignition Switch: Non-Removable Key

- Transfer Case Activation, HI/LO, and PTO (when applicable) Switches will Be Located in the Dash Panel to the Right of the Driver.

- Automatic Traction Control (ATC) with On/Off switch on the Dash to the Right of the Driver (except on AWD trucks). ATC will Be Inactive on All-Wheel Drive Apparatus When the Front Drive Axle is Engaged

EMERGENCY SWITCH PANEL

An emergency switch panel will be provided in the cab. The switch panel will be located within reach of the driver. All NFPA required emergency lights will be controlled from the master emergency switch. References within this proposal to a "switch in the cab" for zone specific options will mean the emergency master switch.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light (located in the driving compartment) will be illuminated automatically per the current edition of NFPA. 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 not activate any alarm when the parking brake is released.

DO NOT MOVE TRUCK MESSAGES

A message will be displayed on the VMUX display in view of the driver whenever any of the following conditions exist:

- CAB DOOR OPEN (Any Cab Door Open with ignition on)
- LH COMPARTMENT OPEN (Any Left Hand Compartment Door Open)
- RH COMPARTMENT OPEN (Any Right Hand Compartment Door Open)
- REAR DOOR OPEN (Any Rear Compartment Door Open)
- TANK RACK DOWN (Tank Rack Not Stowed)
- LH LIGHT POLE RAISED (Left Hand Pole Light Raised)
- RH LIGHT POLE RAISED (Right Hand Pole Light Raised)

A warning message will also be displayed for any other device that is opened, extended or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved.

WIPER CONTROL

Wiper control will include an intermittent feature and windshield washer controls.

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
- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to six (6) 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

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.

TWO-WAY RADIO ACCOMMODATION PACKAGE

One set of 12 volt wire leads will be provided for the future installation of a two-way radio. These leads will consist of one (1) 30-amp battery direct circuit, one (1) 10-amp battery switched circuit and one (1) ground circuit. These leads will be 6' long and terminate behind the cab dash with heat shrink caps.

One (1) NMO mobile radio antenna mount with RG-58A/U stranded coaxial cable will be provided. The antenna mount will be installed through the cab roof, and the coaxial cable will be routed behind the cab dash. All wiring will be neatly coiled and clearly marked.

A weatherproof cap for the antenna mount will also be installed.

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer 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. Rope caulk is not acceptable. 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 require 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 emergency light switches will be mounted on a separate panel installed in the cab. A master warning light switch and individual switches to be provided to allow pre-selection of emergency lights. The light switches will be "rocker" type with an internal indicator light to show when switch is energized. All switches will be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches will be done by either printing or etching on the switch panel. The switches and identification will be illuminated.

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

A single starting battery system will be provided consisting of two (2) 12 volt, maintenance-free batteries. The battery system will have a total of 2000 CCA.

Jump Start Connections

Positive and negative posts for jump starting will be provided by the chassis manufacturer. They will be frame mounted and located under the hood.

BATTERY LOCATION

The batteries will be installed in the standard location as provided by the chassis manufacturer. This location is typically under the cab on the left side of the truck.

MASTER BATTERY SWITCH

A master battery switch, to activate the battery system, will be provided inside the cab within easy reach of the driver.

The master battery disconnect switch will be wired between the starter solenoid and the remainder of the electrical loads on the apparatus. A progressive low voltage disconnect at 12.3 volts for designated chassis circuits will be provided.

A green "battery on" indicator light, visible from the driver's position, will be provided.

BATTERY CHARGING RECEPTACLE

The battery charging receptacle location will be on the left side pump panel.

ALTERNATOR

The alternator will be a Delco Remy 40SI, 275 amp, quadramount, with remote battery voltage senser.

ELECTRONIC LOAD MANAGEMENT

Included with the apparatus manufacturer's electrical system will be a programmable load management system.

This system will monitor the vehicle's 12-volt electrical system, and automatically reduce the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

EXTERIOR LIGHTING

Exterior lighting will meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at this time.

Five (5) LED clearance/marker lights will be installed across the leading edge of the cab.

INTERMEDIATE LIGHT

There will be two (2) Truck-Lite®, Model 60421Y, amber LED lights furnished, one (1) each side, horizontally in the rear fender panel. The light will double as a turn signal and marker light.

A stainless steel trim will be included with this installation.

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) Truck-Lite®, Model 33050R, 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) Truck-Lite, Model 33050R, LED lights installed on the side of the apparatus used as marker lights located 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

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.

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

Per FMVSS 108 and CMVSS 108 requirements.

REAR FMVSS LIGHTING

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

- Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs.
- Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs.

The lights will be provided with lens color(s) to be the same as the LEDs.

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

LICENSE PLATE BRACKET

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

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

LIGHTING BEZEL

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

BACK-UP ALARM

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 two (2) Truck-Lite, Model 6060C, white LED lights with grommets provided, one (1) for each 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
White LED, step lights will be provided to meet the NFPA step lighting requirement. Lights will be provided on each side, on the front compartment face and at the rear to illuminate the tailboard.

These step lights will be actuated with the parking brake.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

REAR SCENE LIGHT(S) - PAIR
There will be one (1) pair of Whelen, Model PEL*C, 2.25" high x 7.88" wide x 1.63" deep LED scene light(s) with 45 degree chrome housing installed at the rear of the apparatus.

There will be one (1) light each side on the rear of the apparatus.

A control for the lights selected above will be the following: a switch at the driver's side switch panel.

These pair(s) of light(s) may be load managed when the parking brake is applied.

HOSEBED LIGHTING
White 12 volt DC LED lighting will be installed to provide the NFPA required lighting for the hose bed. The lights will be controlled by a cup switch at the rear of the apparatus no more than 72.00" from the ground .

WATER TANK
The tank will have a minimum capacity of 3000 U.S. gallons. The tank will be of a specified configuration and designed to be completely independent of the compartment and/or fender modules. When placed on the chassis, the tank will meet or exceed all federal DOT regulations regarding weight distribution, axle loading and horizontal and vertical center of gravity locations. The tank manufacturer will mark the tank with the manufacturers name, date of manufacture, and serial number. The tank manufacturer will furnish notice that indicates proof of warranty.

The tank will be constructed using a virgin polypropylene sheet with a minimum thickness of .50". This material will be a high impact copolymer (HIC), non-corrosive, stress relieved thermoplastic, UV stabilized for maximum protection.

All joints and seams will be nitrogen welded and tested for maximum strength and integrity. All swash partitions will interlock and be welded to each other as well as to the walls of the tank.

The tank will incorporate a manual fill tower with a 6.00" combination vent/overflow pipe. The fill tower will be constructed of polypropylene and will be large enough to provide filling by means of a conventional 2.50" hose nozzle. The tower will be located near the center of the tank to minimize water surge during vehicle operation. The tower will have a removable polypropylene screen and a

polypropylene hinged cover. The vent/overflow pipe will run through the tank and exit through the floor of the tank behind the rear axle.

The sides of the tank will be painted to match the remainder of the unit.

The tank and hose bed (if provided) will be removable as a unit and will be a separate component from the body compartmentation.

WATER TANK RESTRAINT

A heavy-duty water tank restraint will be provided to keep the water tank in position.

TOP OF TANK, ACCESS LADDER

An access ladder constructed of aluminum tubing will provided for access to the hosebed and/or tank dome. The ladder will have a flexible mount attached to the tailboard. The ladder will be located on the left side of the truck at the rear.

TANK OVERFLOW/VENT

A 6.00" tube will be installed through the shell of the tank. This tube will function as an overflow to discharge water to the ground once the tank is filled to capacity. It will also function as a vent to allow air to enter the tank when water is being dumped or pumped from the tank.

The tube will be positioned to drain at the bottom of the truck near the center, behind the rear axle.

REAR TANK FILL

A 2.50" gated external tank fill will be installed and properly labeled at the rear of the water tank, located on theright side.

Piping, for the fill, will be routed through the rear wall of the tank and include a flow deflector to break up the stream of water entering the water tank.

A 2.50" full flow ball valve with 2.50" piping and a 2.50" (F)NST chrome swivel will be located at the inlet.

A 2.50" chrome plated 30 degree elbow and plug with VLH automatic pressure relieving thread technology will be provided for the tank fill.

REAR TANK DUMP VALVE

One (1) 10.00" Newton Quick Dump will be installed at the rear of the tank. The valve will be operated manually by a lever control located on top of the valve.

A 180 degree, Newton 6012SW swivel dump chute will be provided.

The chute will include a Newton 4036 telescopic extension to allow the chute to extend past the body side for dumping.

The water tank design will include additional support for this chute.

HOSE BED
Hose bed side sheets, constructed from smooth polypropylene will be provided around the perimeter of the top of the tank. These side sheets will be painted to match the body.

Polypropylene hose bed grating will be installed on a top section of the water tank. This area can be utilized for hose or equipment storage. The area not covered by grating will have a traction material applied to provide a safe walking surface.

HOSE BED DIVIDER
One (1) hosebed divider will be furnished for separating hose.

Each divider will be constructed of a .25" brushed aluminum sheet. Flat surfaces will be sanded for uniform appearance, or constructed of brushed aluminum.

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 a black nylon Velcro® strap at the top of the hosebed. At the rear of the hose bed, 2.00" black nylon webbing with a 1.50" x 4.00" box pattern will attach at the top rear outside corners with 2.00" cam buckle fasteners. The webbing will have straps connected with 2.00" cam buckle fasteners located at the rear body sheet below the hose bed.

RUNNING BOARDS
Running boards will be fabricated of .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 .50" away from the pump panel.

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

TAILBOARD
A tailboard approximately 16.00" deep and covered with bright aluminum treadplate will be provided at the rear of the truck.

TOW EYES
There will be a total of two (2) painted tow eyes provided and mounted directly to the chassis frame rails at the rear of the apparatus. The inner and outer edges of the tow eyes will have a radius.

COMPARTMENTATION
Body and compartments will be fabricated of .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.

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

Drip protection will be provided above the doors.

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

BODY SUPPORT SYSTEM

Due to the loading requirements of this tanker, 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.

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.

LEFT SIDE COMPARTMENTATION

A roll-up door compartment in the lower area, ahead of the rear wheels will be provided. The interior dimensions will be 54.00" wide x 27.00" high x 24.50" deep. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of the compartment will be 51.75" wide x 32.00" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

A roll-up door compartment in the lower area, behind the rear wheels will be provided. The interior dimensions of this compartment will be 22.00" wide x 27.75" high x 24.50" deep. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 19.75" wide x 22.50" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

HARD SUCTION HOSE COMPARTMENT

A hard suction hose storage compartment will be provided as an integral part of the left side body compartments.

The hose storage compartment will be fabricated of the same material as the body compartment and will be fully enclosed. It will be approximately 135.00" long and have a 9.00" x 9.00" clear door opening

Access to the compartment will be through a vertically hinged aluminum treadplate door at the rear.

RIGHT SIDE COMPARTMENTATION

A roll-up door compartment in the lower area, ahead of the rear wheels will be provided. The interior dimensions will be 54.00" wide x 27.00" high x 24.50" deep. The depth of the compartment will be

calculated with the compartment door closed. The clear door opening of the compartment will be 51.75" wide x 32.00" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

A roll-up door compartment in the lower area, behind the rear wheels will be provided. The interior dimensions of this compartment will be 22.00" wide x 27.75" high x 24.50" deep. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 19.75" wide x 22.50" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

HARD SUCTION HOSE COMPARTMENT

A hard suction hose storage compartment will be provided as an integral part of the right side body compartments.

The hose storage compartment will be fabricated of the same material as the body compartment and will be fully enclosed. It will be approximately 135.00" long and have a 9.00" x 9.00" clear door opening

Access to the compartment will be through a vertically hinged aluminum treadplate door at the rear.

ROLLUP DOOR, SIDE COMPARTMENTS

There will be four (4) 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.

COMPARTMENT LIGHTING

There will be four (4) compartments with LED compartment light strips. There will be three (3) pairs of lights required - one pair in each forward compartment and a single light in each rear compartment.

Each strip will be centered vertically along the door framing. All body compartments with roll-up doors will have these strip lights.

Any remaining compartments will include 6.00" diameter Truck-Lite, Model: 79384 light in each enclosed compartment. 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 four (4) sets of tracks for mounting shelf(s) in LS1, LS2, RS1 and RS2 . These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be unpainted with a natural finish.

ADJUSTABLE SHELVES

There will be four (4) shelves with a capacity of 215 lb provided. The shelf construction will consist of .18" aluminum with 2.00" sides. Each shelf will be painted to match the compartment interior. 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 will be in RS1 centered between the floor and the ceiling, in RS2 centered between the floor and the ceiling, in LS1 centered between the floor and ceiling and in LS2 centered between the floor and ceiling .

BODY FENDER CROWNS

Stainless steel fender crowns will be provided around the rear wheel openings.

A rubber welting will be provided between the body and the crown to seal the seam and restrict moisture from entering.

HARD SUCTION HOSE

Hard suction hose will not be required.

HOSE TROUGHS

A total of two (2) trough(s) for hard suction hose will be installed on the on the left side of the tank.

Troughs will be constructed of unpainted aluminum and will have a nylon retaining strap at the rear. A Nylatron or similar material will be provided on the bottom of the trough to aid in the removal and reinstallation of the hose.

Hose troughs will be adjustable up and down.

AIR BOTTLE STORAGE (DOUBLE)

A quantity of two (2) air bottle compartments, 15.25" wide x 7.75" tall x 26.00" deep, constructed from stainless steel will be provided. There will be one (1) compartment located on each side of the body between the tandem axles.

A polished stainless steel door with a chrome plated flush lift & turn 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.

AIR BOTTLE COMPARTMENT STRAP

Straps will be provided in the air bottle compartment(s) to help contain the air bottles. The straps will wrap around the neck of each bottle and attach to the wall of the compartment.

6 FT PIKE POLE, NOT REQUIRED BY NFPA 2016

NFPA 1901, 2016 edition, Section 7.9.4 does not require a pike pole to be provided under the miscellaneous equipment.

PUMP COMPARTMENT

The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. It 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.

PUMP CONTROL PANELS (SIDE CONTROL)

All pump controls and gauges will be located at the left side of the apparatus and properly marked.

The pump panel on the right side will be removable with lift and turn type fasteners. The left side will be fastened with screws.

The control panels will be 28.00" wide.

The gauge and control panels will be two (2) separate panels for ease of maintenance.

Polished stainless steel trim collars will be installed around all inlets and outlets.

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.

All line pressure gauges will be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags will be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels will be done with a threaded peg cast on the back side of the bezel or screws.

PUMP

Pump will be a Waterous CXPA, 750 gpm, single (1) stage, power take off (PTO) driven, midship mounted centrifugal type.

Pump will be the class "A" type.

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

- 100% of rated capacity at 150 psi net pump pressure.

-70% of rated capacity at 200 psi net pump pressure.

-50% of rated capacity at 250 psi net pump pressure.

Pump casting will be a two (2) piece, vertically split design and will be constructed of high tensile, close grain gray iron.

Impeller shaft will be stainless steel, heat treated, accurately ground to size, and polished under the shaft seal. It will be supported by oil lubricated ball bearings.

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

MECHANICAL SEAL ON PUMP

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

Pump transmission will be made of light weight aluminum casing. Power transfer to pump will be through a pressure lubricated, Morse HY-VO drive chain.

Drive shafts will be a minimum of 1.50" diameter hardened and ground alloy steel. All shafts will be ball bearing supported. The case will be designed as to eliminate the need for water cooling.

The water pump will be driven by a ten (10)-bolt hot shift PTO will be located on the left side of the chassis transmission.

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. Interlock system will be designed to allow the truck to be in motion while pumping.

Pump discharge pressure will be displayed through the V-MUX display in the cab during pump in motion operations.

PUMP SHIFT

A pump shift will be provided within easy reach of the driver for engagement of the PTO driven pump. The shift will include the indicator lights as mandated by NFPA. The pump shift control will be illuminated to meet NFPA requirements.

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

An intake relief valve will be installed on the suction side of the pump preset at 125 psig.

Relief valve will have a working range of 50 psig to 350 psig.

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.

PRESSURE CONTROLLER

A Fire Research Pump Boss Model PBA200 pressure governor will be provided.

A pressure transducer will be installed in the water discharge manifold on the pump.

The display panel will be located at the pump operator's panel.

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 NFPA 1901.

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.

FOAM SYSTEM PLUMBING

All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.

MAIN PUMP INLETS

A 5.00" 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.

MAIN PUMP INLET CAP

The main pump inlets will have National Standard Threads with a rocker lug chrome plated cap.

The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

VALVES

All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a **ten (10) year** warranty.

Inlet valve location will be outside 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 heavy duty 4.00" piping and a quarter turn 3.00" valve with the control remotely located at the operator's panel. 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 2.00" combination tank refill and pump bypass 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 One (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE DISCHARGE OUTLETS

There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a (M) 2.50" National Standard hose thread adapter.

RIGHT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

LARGE DIAMETER DISCHARGE OUTLET

There will be One (1) discharge outlet with a 3.00" valve on the right side of the apparatus, terminating with a (M) 4.00" National Standard hose thread adapter. The outlet will be controlled by a slow-close valve located at the operator's panel

LARGE DIAMETER OUTLET ELBOWS

The 4.00" outlet will be furnished with a 4.00" (F) National Standard hose thread x 4.00" (M) National Standard hose thread adapter with a cap and cable.

The elbow will be the 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.

DEADLAY HOSE BED

One (1) hose bed, without plumbing will be provided above the pump area. It will have a minimum capacity of 200' of 2.50" double jacketed hose.

Deadlay bed flooring will consist of removable perforated brushed aluminum.

CROSSLAY HOSE BED

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" id. 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 DA finish.

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 three (3) 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.

PLUMBING SYSTEM SET-UP

The apparatus main plumbing system will be designed to accommodate the installation of a single agent, direct injection foam system.

The plumbing will be designed to allow the foam system to be added without unnecessary rework.

Space will be reserved on the pump panel for the foam system controls.

FOAM TANK - PROVISIONS ONLY

The water tank will be designed and constructed to accommodate an integral polypropylene foam tank.

PUMP PANEL CONFIGURATION

The pump panel configuration will be neat and orderly.

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 .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 panels in the FRC IN Control Pressure Governor system

- Engine Oil Pressure Gauge: LED bar graph display

- Engine Water Temperature Gauge: LED bar graph display

- Tachometer: over 1/2" high LED digits

- Voltmeter: LED bar graph display

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 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

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

- 100% = Green

- 75% = Yellow

- 50% = Yellow

- 25% = 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.

FUTURE FOAM LEVEL GAUGE
Space on the pump panel will be dedicated for the future addition of a foam system and foam level gauge.

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 air horns will be provided and located one (1) each side of the engine. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent the loss of air, in the air brake system.

Air Horn(s) Location
The air horn(s) location will be on the side of the engine hood.

AIR HORN CONTROL
The air horns will be actuated by a foot switch on the officer's side 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.

Siren head will be located in the cab within reach of the driver.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER
There will be one (1) speaker provided. Each speaker will be a Whelen model SA315P black nylon composite, 100-watt, with mounting brackets. Each speaker will be connected to the siren amplifier.

The speaker(s) will be recessed in the center of the front bumper.

LIGHTBAR, CAB ROOF

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

This lightbar will include the following:

Four (4) red flashing CON3 LED modules facing forward.

Two (2) white flashing CON3 LED modules facing forward.

Two (2) red flashing LIN6 LED modules one (1) in each front corner.

Two (2) red flashing LIN6 LED modules, one (1) in each rear corner.

All lenses will be clear.

To meet NFPA requirements, all white warning lights will be when the parking brake is applied.

FRONT WARNING LIGHT

There will be two (2) Whelen, Model M6** LED flashing lights provided at the front of the truck.

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 warning light lens colors to be the same as the LEDs.

The lights will be mounted with with a flange.

The lights will be activated by a switch on the cab instrument panel.

SIDE ZONE LOWER LIGHTING

There will be four (4) Whelen®, flashing LED warning lights with with a flange installed per the following:

- Two (2) Model M2*, 2.50" high x 4.00" wide lights one (1) each side on the engine hood under 62.00".
- The driver's side, side front light to include red warning LEDs .
- The passenger's side, side front light to include red warning LEDs .
- Two (2) Model M6*, 4.31" high x 6.75" wide lights one (1) each side on the rear fender panel.
- The driver's side, side rear light to include red warning LEDs .
- The passenger's side, side rear light to include red warning LEDs .
- The lenses will be lens color(s) to be clear .

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

REAR ZONE LOWER LIGHTING

Two (2) Whelen, Model M6* LED flashing warning lights will be located at the rear of the apparatus.

The driver's side rear light to be red.

The passenger's side rear light to be red.

Both lights will include lens color(s) to be clear .

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

WARNING LIGHTS (REAR AND SIDE UPPER ZONES)

Four (4) Whelen, model M6* LED flashing warning lights will be provided at the rear of the apparatus with with a flange .

The side rear upper light(s) on the driver's side to be red.

The rear upper light(s) on the driver's side to be red.

The rear upper light(s) on the passenger's side to be red.

The side rear upper light(s) on the passenger's side to be red.

These lights will include lens color(s) to be clear .

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

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 REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 7.9.3.1, 7.9.3.2, and 7.9.4 will be provided by the fire department.

- 200 ft (60 m) of 2.50" (65 mm) or larger fire hose.
- 100 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose (if equipped with a fire pump).
- One (1) handline nozzle, 95 gpm (360 L/min) minimum (if equipped with a fire pump).
- One (1) first aid kit.
- Two (2) combination spanner wrenches.
- One (1) hydrant wrench.
- One (1) double female adapter, sized to fit 2.50" (65 mm) or larger fire hose.
- One (1) double male adapter, sized to fit 2.50" (65 mm) or larger fire hose.
- One (1) rubber mallet, for use on suction hose connections (if equipped with a fire pump).
- 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 at the shoulders, two at the sides, and one 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.
- One (1) automatic external defibrillator (AED).
- If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6 (if equipped with pump).
- If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.
- If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 7.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose.

Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 7.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, section 7.7.3.1 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

AXE, FLATHEAD, NOT REQUIRED BY NFPA 2016

NFPA 1901, 2016 edition, Section 7.9.4 does not require a flathead axe to be provided under the miscellaneous equipment.

PAINT PROCESS

The exterior custom cab and/or body painting procedure will consist of a seven (7) step finishing process. A commercial chassis paint process will follow similar processes as determined by the chassis manufacturer. The following procedure will be used by Pierce:

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. A final pure water rinse will be applied to all metal surfaces.
3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective base coat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a critical aesthetic finish. The surfacer primer will be 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 base coat 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 top coated.
6. Base coat Paint - Two coats of a high performance, two component high solids polyurethane base coat will be applied. The Base coat will be applied to a thickness that will achieve the proper color match. The Base coat 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 base coat color. The clear coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style 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.

Our specifications are written to define cyclic corrosion testing, physical strengths, durability and minimum appearance requirements must be met in order for an exterior paint finish to be considered acceptable as a quality finish.

Each batch of base coat color will be checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again 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 are 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 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.

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 will be 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. Pierce will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with the state EPA rules and regulations.

PAINT

The chassis will be painted by the chassis manufacturer, and will remain the commercial grade finish as provided. The body will be painted the matching color by Pierce.

To ensure a good color match between the body and chassis, Pierce has a mutually pre-approved paint color program with the chassis manufacturer. The apparatus will be painted Pierce #90 candy apple red .

COMMERCIAL CHASSIS PAINT

The chassis will be painted by the chassis manufacturer. It will remain the color and commercial quality finish as provided. The primary color will be Pierce #90 candy apple red .

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be painted black by the chassis manufacturer. It will remain the commercial grade finish as provided.

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.

REFLECTIVE VINYL ON FRONT BUMPER
There will be a reflective vinyl band provided across the front bumper.

REAR CHEVRON STRIPING
There will be alternating chevron striping located on the upper rear-facing vertical surface of the apparatus. The surface above the body / tank seam in the rear sheet metal will be covered.

The colors will be red and L2 fluorescent yellow green .

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, CAB DOORS
white reflective striping will be provided on the interior of each cab door.

This striping will total a minimum of 96.00 square inches and will meet the NFPA 1901 requirement.

MANUAL, BODY PARTS ONLY
A custom parts manual for the Pierce® installed parts only will be provided in USB flash drive format with the completed unit.

The manual 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

The manual will be specifically written for the body model being purchased. It will not be a generic manual for a multitude of different bodies.

SERVICE PARTS INTERNET SITE

The service parts information included in this manual 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.

MANUALS, SERVICE

A USB flash drive format service manual supplement containing parts and service information on Pierce® installed components will be provided with the completed unit.

A quantity of two (2) is requested.

The manual will be specifically written for the unit being purchased. It will not be a generic manual for a multitude of different units.

MANUALS AND USB, CHASSIS OPERATION

Two (2) hard copy manuals and One (1) USB media drive for chassis operation (manufacturers standard) shall be provided with the completed unit.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

Each new piece of apparatus will be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty will cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate will be submitted with the bid package.

CHASSIS WARRANTY

The chassis manufacturer will provide a **five (5) year or 100,000 mile warranty.**

PAINT WARRANTY

The commercial chassis manufacturer's paint warranty will apply to the paint on the chassis only.

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 to be provided by Allison Transmission and not apparatus builder.

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 submitted with the bid package (no exception).

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

LIFETIME MATERIAL AND WORKMANSHIP

A Pro Poly poly water tank limited warranty 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 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

CAB INTEGRITY

The cab has been tested to and passed the following standards:

- ECE Regulation No.29

- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.

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:
        - Applicable NFPA 1901 or 1906 (Current Edition).
    - The minimum continuous load of each component that is specified per:
        - Applicable NFPA 1901 or 1906 (Current Edition).
    - 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 applicable NFPA 1901 or 1906 (Current Edition).