

MAXI
FIRE TRUCK

Pierce[®]

Contender
BY MAXIMETAL

SCHEDULE A: FIRE APPARATUS SPECIFICATIONS

4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

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	SPECIFICATIONS
1.1	TECHNICAL REQUIREMENTS
1.1.1	This fire apparatus will conform to this specification, and to the most recent CAN/ULC-S515 standard. The vehicle will meet the NFPA 1901-2016 standard.
1.1.2	The fire apparatus will be ULC certified to NFPA standards. A pump test will be made by ULC at the apparatus manufacturer plant, and all costs incurred to perform this test will be covered by the bidder. A ULC certificate will be provided prior to delivery.
1.1.3	The vehicle will meet the Federal Motor Vehicles Safety Standards (FMVSS).
1.1.4	All components used to manufacture the vehicle will be brand new and of high quality. The choice of all elements or all parts will correspond to the best-recognized quality standards in the fire apparatus vehicle manufacturing industry. When a part number is specified, no substitute will be accepted.
1.1.5	The vehicle will be 348” in overall length and maximum 123” in overall height. Wheelbase will be 203”. (To be confirmed at engineering review)
1.2	DOCUMENTATION UPON DELIVERY
1.2.1	One (1) hard copy and two (2) digital copies of the instruction sheet to register to web portal for access to chassis driver’s, maintenance, parts, wiring, troubleshooting and workshop manuals.
1.2.2	One (1) digital copy of wiring, for the body. The diagram will be « As Built Wiring Diagrams ».
1.2.3	Two (2) digital copies of the ULC or NFPA documentation (USB flash drive).
1.2.4	One (1) copy of warranties, instruction and/or maintenance manuals of equipment will be included with the vehicle.
1.2.5	Two (2) digital copy of operation manuals for the truck, including operation of the pump, the foam system and a basic troubleshooting guide.
1.2.6	One (1) copy of FAMA Fire Apparatus Safety Guide



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SPECIFICATIONS	
2.1	COMMERCIAL CHASSIS
2.1.1	Freightliner M2-106 commercial chassis YEAR: 2022 or more recent TYPE: Crew cab, 4x4
2.1.2	The chassis will be designed for Canada & the US. The apparatus will be a pumper vehicle designed for emergency service use which will be equipped with a permanently mounted fire pump.
2.1.3	Terrain Duty Option # AA5-007 for 70/30 on road/off road
2.2	CAB
2.2.1	Aluminum cab, 4 doors
2.2.2	GVWR MINIMUM: 43,000 lbs.
2.3	VEHICLE DATA RECORDER
2.3.1	The chassis will have a Vehicle Data Recorder (VDR) system installed to meet NFPA 1901 requirements. The following data will be monitored: <ul style="list-style-type: none"> -Vehicle speed; -Acceleration; -Deceleration; -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;
2.4	ENGINE
2.4.1	Cummins L9 engine will offer a rating of 360 HP at 2200 RPM. The torque rating will feature 1150 lbs.-ft of torque at 1200 RPM. EPA2021.
2.4.2	There will be two (2) controls for the diesel particulate filter. One (1) control will be for regeneration and one (1) control will be for regeneration inhibit.



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SPECIFICATIONS	
2.4.3	A high idle switch will be provided, inside the cab that will automatically maintain a pre-set engine RPM.
2.4.4	A Jacob compression brake, for the six (6) cylinder engine will be provided.
2.4.5	Cruise-control will be provided and will also serve as high-idle control.
2.4.6	A 1000-watt, 115 V block heater with automatic thermostat will be installed. The block heater will be connected to a 120 V inlet located in the driver step with chrome recepticle.
2.5	COOLING
2.5.1	A Horton fan clutch will be provided with a switch in dash
2.5.2	The cooling package will include Extended Life Coolant (ELC). The coolant will contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34°F (-37 °C).
2.5.3	Gate blue stripe hose type will be used for all engine coolant lines.
2.6	AIR INLET
2.6.1	Air intake with NFPA compliant ember screen and fire-retardant air cleaner. Chrome mounted air intake grille.
2.7	EXHAUST
2.7.1	The exhaust system will be mounted in officer cab step with tailpipe, exit forward of right rear tires at 90 degrees with temperature mitigation system.
2.8	TRANSMISSION
2.8.1	Allison 5th generation, model EVS 3000.
2.8.2	6-speed with “Package 265”. Aggressive downshift option.
2.8.3	The transmission fluid will be monitored electronically.
2.8.4	The transmission will include a cooler system.
2.9	PTO
2.9.1	The transmission will feature two (2) 10-bolt PTO pads located on top and left side.
2.10	DRIVELINE
2.10.1	All drivelines will be heavy duty metal tube and equipped with MXL 16T / 17T universal joints.
2.11	FUEL SYSTEM
2.11.1	Spin-on Cummins primary fuel filter.
2.11.2	A 50-gallon fuel tank will be provided and mounted in the driver step
2.11.3	Detroit fuel filter/water separator with heated bowl and Primer pump
2.12	FRONT AXLE



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SPECIFICATIONS	
2.12.1	Front axle will be a drive axle and rated at 16,000 lb.
2.12.2	The front axle ratio 5.57
2.12.3	A Meritor MTC-4210XP 2-speed transfer case will be installed on the truck. The switch will be located in the cab.
2.12.4	An oil cooler will be installed for the transfer case
2.13	FRONT SUSPENSION
2.13.1	The front axle will be furnished with shock absorbers.
2.13.2	The taper leaf front suspension spring capacity will be rated at 16,000lbs
2.14	STEERING
2.14.1	The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
2.14.2	The power steering pump will be a TRW TAS-85
2.15	REAR AXLE
2.15.1	Rear axle will have a rated capacity of 27,000 lbs.
2.15.2	A driver controlled differential lock will be installed on the rear axle.
2.15.3	The top speed of the vehicle will be approximately 68 MPH +/-2 mph
2.15.4	The differential ratio will be optimized by the OEM for startability. (5.63)
2.16	REAR SUSPENSION
2.16.1	Flat leaf spring suspension will be provided. The rear suspension capacity will be rated at 27,000 lbs.
2.17	TIRES
2.17.1	Front tires will be MICHELIN 315/80R22.50 20 ply XDN2 GRIP tread.
2.17.2	Rear tires will be MICHELIN 315/80R22.50 20 ply XDN2 GRIP tread.
2.17.3	A RealWheels LED AirSecure™ tire alert pressure management system will be provided. That system will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.
2.17.4	All tires will be balanced
2.18	WHEELS
2.18.1	Front steel wheels 22.50" x 9.00"
2.18.2	Rear steel wheels 22.50" x 9.00"
2.18.3	Wheels will be painted cab primary color. (RED # L780806EY)



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SPECIFICATIONS	
2.18.4	Front and rear wheels will have chrome nut covers on each nut. Front and rear wheels will have a center chrome cover.
2.18.5	Nylon guard between front and rear wheels, all interfaces
2.19	BRAKE SYSTEM
2.19.1	A WABCO 4S4M air brake system with ABS will be installed on the front and rear axles. In addition to the air brake system, an automatic traction control system (ATC) will be installed on the rear axle. As a complement to this system, an electronic stability control system (ESC) will be installed on the braking system.
2.19.2	Meritor front brakes will be drum, dimension 16.5" x 5.00", cam operated with automatic slack adjusters.
2.19.3	Meritor rear brakes will be drum, dimension 16.5" x 7.00", cam operated with automatic slack adjusters.
2.19.4	Brakes will be equipped with dust shields.
2.20	AIR SYSTEM
2.20.1	Air compressor will be a Cummins/WABCO with a capacity of 18.7 CFM.
2.20.2	Automatic DV-2 drain valves (Bendix DV2 non-heated) will be installed on all tanks of the air supply system.
2.20.3	The air dryer will be a BENDIX AD-9SI, with heater.
2.20.4	The air system on the chassis will be plumbed with colour coded nylon tubing air lines.
2.20.5	A rapid built-in air connector will be installed in the cab step. The connector will have a plastic cap.
2.20.6	An additional air tank with 1,730 cubic inch displacement will be provided to increase the capacity of the air system. This tank will be dedicated for the tool air outlets; air primer and/or blowout drain valves. The air tank will be primed and painted to meet a minimum 750-hour salt spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets. The output flow of the engine air compressor varies with engine rpm. Full compressor output is only achieved at governed engine speed.
2.20.7	One (1) AIR EJECT receptacle with a red cover will be installed in the driver-s step next to the shoreline. It will automatically eject the air cord when the starter button is released.
2.21	FRAME
2.21.1	Each simple rail will have yield strength of 120,000 psi.
2.21.2	Frame components will be painted black.



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	SPECIFICATIONS
2.22	FRONT BUMPER
2.22.1	A front bumper constructed from steel, chromed finished with cut-out for the siren speaker will be provided.
2.22.2	Two (2) painted steel tow hooks will be installed, under the bumper and attached to the front frame members.
2.23	HOOD
2.23.1	Fiber glass hood with chrome front grille.
2.23.2	A LED, 32" strip NFPA compliant light mounted under the hood for area work lighting on the engine. The light will have a switch in the cab.
2.23.3	Two (2) air horns « EMERGENCY TONE » above the front wheel well and controlled with two (2) LANYARDS, driver and officer.
2.23.4	A selector switch to choose from air horns or DOT horn on the steering wheel will be provided.
2.23.5	Hood liner insulation, added firewall and floor heat insulation
2.23.6	2½" inch fender extensions
2.24	WINDOWS
2.24.1	Tinted door glass LH and RH with tinted non-operating wing windows.
2.24.2	RH and LH electric powered windows
2.24.3	Omit rear window.
2.25	CLIMATE CONTROL
2.25.1	Heater, defroster and air conditioner. Standard HVAC ducting with snow shield for fresh air intake.
2.25.2	Main HVAC controls with recirculation switch.
2.25.3	Premium insulation package.
2.26	INTERIOR
2.26.1	12V Power distribution: <ul style="list-style-type: none"> - One (1) 12V, 15-amp, power point plug in the center console or on the center dash - One (1) dual USB 7.5amp outlet connected direct to batteries installed between the driver and officer at the front console. - One (1) dual USB outlet 7.5amp connected direct to batteries installed for crew cab area. - 50A 6 position blue sea fuse block in center console for expansion. - 50A 6 position blue sea fuse block in one compartment TBD for future expansion.



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SPECIFICATIONS	
2.26.2	<p>RADIO WIRING:</p> <p>There will be one (1) pair of wires, installed on the apparatus for radio installation. The above wires will have the following features:</p> <ul style="list-style-type: none"> • (1) positive wire will be connected directly to the battery power • The negative wires will be connected to ground • Wires will be protected to 30 amps at 12 volts DC • Power and ground will terminate center console. • Termination will be butt spliced in the center dash location <p>An antenna bracket will be installed on the cab roof and will be wired to the same location as the above radio wires.</p>
2.26.3	Molded plastic door panel without vinyl insert with aluminum kickplate lower door.
2.26.4	Opal gray vinyl interior.
2.26.5	Gray/charcoal flat dash.
2.26.6	Forward roof mounted console with upper storage compartments without netting.
2.26.7	<p>A console made of 1/8" thick aluminum and painted with black Zolatone will be made and installed between the front seats. The console will have two (2) compartments for binders with a hinged cover will be maintained open by a gas cylinder.</p> <p>The console will have a control panel for pump and roll operations as well as any required cab scene-light switching.</p>
2.26.8	<p>A radio with weather band, AM/FM stereo receiver, compact disc player, Bluetooth and microphone.</p> <p>Four (4) speakers will be installed in the cab.</p>
2.26.9	Two (2) red/white dome lights will be added to the cab, one for the front and one for the rear.
2.27	SEATS
2.27.1	<p>A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows:</p> <ul style="list-style-type: none"> • Seat Occupied & Buckled = Green • Seat Occupied & Unbuckled = Red • No Occupant & Buckled = Red • No Occupant & Unbuckled = Not Illuminated
2.27.2	Air ride driver seat, Seats Incorporated, 911 Series.
2.27.3	Air ride passenger seat with SCBA bracket, Seats Incorporated, 911 Series.
2.27.4	Three (3) rear non-suspension passenger seats seat with SCBA bracket, Seats Incorporated, 911 Series.



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SPECIFICATIONS	
2.27.5	All seating positions will be furnished with three (3)-point shoulder type orange seat belt.
2.27.6	All seats will be gray Cordura plus cloth.
2.27.7	Five (5) helmet holders will be provided, to be located at final inspection.
2.27.8	All four (4) SCBA type seats in the cab will be equipped with HANDS FREE IMMI brackets
2.28	CAB EXTERIOR
2.28.1	Windshield wiper control will have high, low, and intermittent modes.
2.28.2	LH and RH exterior grab handles with single rubber insert.
2.28.3	Two (2), Door mounted mirrors dual west coast bright finish heated mirrors with LH and RH remote.
2.28.4	Mud flaps will be installed behind the front wheels.
2.28.5	RH down view mirror.
2.28.6	The original side steps on both sides of the cab will be removed and replaced by NFPA compliant custom-made side steps, made of anti-slip aluminum checkered plate with grip strut inserts. STEP COMPARTMENTS: <ul style="list-style-type: none"> • A compartment with maximum dimensions of approximately 30" length x 22" depth x 15" height will be built in the step under the right-rear door, enough room for the hose reel. The door will open downwards with dimensions around 28" x 10". Full fascia will be removable for tool-less service access to the reel and mechanism. A compartment with maximum dimensions of approximately 30" length x 22" depth x 15" height will be built in the step under the left-rear door, for more storage.
2.29	BATTERY SYSTEM
2.29.1	(2) DTNA 12V maintenance free, total 2000 CCA threaded stud batteries located in a tray below the rear-left corner of the cab. (Freightliner OEM locations)
2.29.2	One (1) set of battery jumper studs with plastic color-coded covers will be included in the front wheel well, near the starter
2.29.3	Delco-Remy 275 amp, 12V alternator.
2.30	CHARGING/COMPRESSOR SYSTEM
2.30.1	A Kussmaul 20-amp super auto-eject electrical receptacle will be supplied with a red cover. It will automatically eject the plug when the starter button is depressed. The electrical inlet will be installed on the left-hand side of cab in the step.
2.30.2	A Kussmaul 1200 battery conditioner will be supplied. The battery conditioner will be mounted in the cab. The Kussmaul battery conditioner will be supplied with a display, installed near the electric shoreline.



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SPECIFICATIONS	
2.30.3	Two (2) NEMA 15-amp duplex receptacles will be installed, one behind the front center console, one in a compartment to be confirmed at preconstruction meeting.
2.31	LIGHTS
2.31.1	Sides and front of cab will include LED marker lights.
2.31.2	The hood will include two (2) integral headlight/marker assemblies with chrome bezel.
2.31.3	LED headlight option from the OEM.
2.32	OPTICAL WARNING DEVICE
2.32.1	Two (2) LED flashing red light clearly labeled "Do Not Move Apparatus" will be installed in the cab, one for the door ajar and the other one for the ladder rack. In addition to the flashing red lights, an audible alarm will be included which will sound while the light is activated. The flashing red light will be located centered left to right for a better visibility.
2.33	BACKUP SAFETY DEVICE
2.33.1	A solid-state Preco 1040 electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided.
2.33.2	A Sony Optimo heated rear-view camera will be installed to the rear of the vehicle. The 7" color LCD monitor will be installed close to the driver. A protective aluminum cover will be installed above the camera.
2.34	INSTRUMENTATION
2.34.1	Instrumentation and gauges will be in STANDARD measurement primary.
2.34.2	Engine hour meter required.
2.35	ADDITIONAL CHASSIS OEM EQUIPMENT
2.35.1	One (1) 2.50 lbs. D.O.T approved fire extinguisher with BC rating will be shipped loose with the cab.
2.35.2	One (1) emergency road safety kit.
2.35.3	A total of two (2) door keys for the manual door locks.
2.35.4	Option # 275-075 ENABLE 12V OUTPUT CHANNEL FOR PARK BRAKE NOT SET WITH DRIVER DOOR OPEN AND ALL IGNITION KEY POSITIONS
2.35.5	Option # 679-001 OVERHEAD INSTRUMENT PANEL
2.35.6	Option # 164-131 CUMMINS CM2450 WITH ON ENGINE ACUMEN (new description for the Engine Control module (ECM)) ** option code not available from Freightliner **
2.35.7	Option # 87P-001 CAB AUXILIARY POWER CABLE



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SPECIFICATIONS	
3.1	PUMP
3.1.1	A brand-new current year HALE RSD125 pump rated at 1000 GPM. The pumping system will have a Trident Air Max model relief valves with control on the pump panel. The pump will have mechanical type seal.
3.1.2	The Class A Pump will will provide the following ratings at an altitude of less than 600 meters (2000 ft): <ul style="list-style-type: none"> • 1000 GPM - 100% of rating at 165 PSI. • 1000 GPM - 100% of rating at 150 PSI • 700 GPM - 70% of rating at 200 PSI • 500 GPM - 50% of rating at 250 PSI
3.2	PUMP SHIFT
3.2.1	The Pump will be driven by a Chelsea PTO 800 SERIES.
3.2.2	All indicator lights and pump engagement will be NFPA 1901-2016 compliant.
3.2.3	The front-center-console will have a control panel includes the following elements: <ul style="list-style-type: none"> - Pump and roll switch - Stationary pump switch - NFPA lights for pump shift - Pump digital pressure Gauge (Class 1 PSIS) - Mini foam level - Mini water level - Discharge valve controller - Tank-to-pump control with green/red LED indicator lights - FoamPro remote On/Off button
3.3	PRESSURE GOVERNOR
3.3.1	A Pump Boss PBA400 governor be installed on the operator control panel. The pressure governor will be calibrated by the manufacturer in mode « pressure/pre-set » and the pressure specified by the customer, which is about 120 PSI.
3.4	PRIMER
3.4.1	One (1) Trident AutoPrime automatic air primer, 3-barrel. Multi-location prime feature will be installed for individual priming of the inlets for drafting from gated inlets.
3.5	HEAT EXCHANGER
3.5.1	Water flow from the fire pump will be used to cool the engine coolant. The control, «¼ turn type» will be located on pump panel and equipped with a ¾" valve.



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SPECIFICATIONS	
3.5.2	A Thermal relief valve with light will be installed on the pump. The discharge of the thermal relief valve will be routed in the water tank fill tower, above the overflow tube.
3.6	DRAIN SYSTEM
3.6.1	A manual master drain valve will be installed on the pump panel. The master pump drain assembly will consist of a Trident Emergency bronze master drain with a rubber disc seal. The master drain will have a rubber seal to prevent water from running out on the running board. The master drain will provide independent ports for low point drainage of the fire pump and auxiliary devices.
3.6.2	An Innovative Control brand ¾" bleeder valve with lift-up handle will be provided for each inlet and discharge. The drain will be located at lowest point drainage of the fire pump.
3.7	PLUMBING
3.7.1	All fabricated piping will be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss. The pump system will utilize a stainless-steel discharge manifold system and flexible high-pressure hoses with stainless steel ends that allows a direct flow of water to discharge valves. The manifold is "foam ready" for Hale Foam Logix or FoamPro system with 3" plumbing.
3.7.2	All the valves on the truck will be Akron 8800 series. When flexibility is needed, a "Victaulic" fitting will be installed.
3.7.3	The pump and steel accessories will be painted black. Stainless steel plumbing components are not painted.
3.8	INTAKES AND DISCHARGES (GENERAL)
3.8.1	All intake and discharge valves will be mechanically activated from the pump operator's panel. Control handles for tank supply, tank fill and all discharges will be All control levers will be «push-pull» style, including a «T» handle with sufficient space to allow the valve identification. The controls will be Innovative Controls brand.
3.8.2	All discharges and intake located at the sides and rear panels will be provided with colour identification.
3.8.3	All discharges, except the 1½" and 2" discharges will have a 30-degree chrome droop adapter.
3.8.4	The hoses threads on the vehicle will be: <ul style="list-style-type: none"> • 1½ ": NH • 2½ ": NH • 6 ": NH
3.9	INTAKES
3.9.1	Two (2) 6" diameter suction ports with 6" NH male threads and removable zinc screens will be provided, one (1) on each side.



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4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

SPECIFICATIONS	
3.9.2	Two (2) 2½" suction intake will be installed, one each side. They will be equipped with a strainer and a chrome plug with a retaining chain. They will be manual integrated control valves, "up and down" type. A ¾" bleeder valve assembly will be installed for each intake.
3.10	DISCHARGES
3.10.1	All 2½" discharges will be equipped with a 2½" female chrome-plated reducer to a male 1½" with a 1½" chrome plug retained by a chrome chain.
3.10.2	Four (4) 2½" discharges, with 2½" valves, will be installed. These discharges will be located as follows: <ul style="list-style-type: none"> • Two (2) discharges left side with manual control on pump panel • One (1) discharge right side with manual control on pump panel • One (1) discharge in the front-right corner of the hose bed to be used as a rear pre-connect, with manual control on pump panel
3.10.3	Two (2) pre-connect speedlay type discharges will be provided on the pump compartment. One discharge will provide one (1) 2" valve and the second one will provide a 2½" valve. The discharges will provide 90 degree swivel elbows that will exit over each pump compartment's removable drawers. Each elbow discharge will have a reducer to 1½". Removeable speedlay trays will be built to hold up to 250ft. of pre-connected 1¾" hose.
3.10.4	One (1) booster reel discharge with 2" valve will be installed in the right rear cab steps. The electric valve controller for this discharge will be installed on the pump panel with integrated pressure gauge only. The discharge will be equipped with an electric rewind reel having a capacity of 200 ft of 1" high-pressure rubber booster hose. An Akron Provenger #1602 nozzle will be supplied. The booster reel discharge will be equipped with one (1) blow out valve for the drainage of the reel. The blow out valve will be located at the passenger-side pump panel and will be supplied by an auxiliary air tank added to the chassis.
3.11	TANK FILL AND TANK-TO-PUMP
3.11.1	One (1) 2" valve to fill water tank will be provided and installed. The adapter on the tank will be in stainless steel.
3.11.2	The tank will be connected to the pump with 4" piping and one (1) 4" butterfly air actuated valve. This pipe will have a check valve, an anti-swirl mechanism to avoid pump cavitation and will be connected to the tank. Three-way switches for this valve located at the pump operator's panel and in the cab on the center-console.
3.12	FOAM SYSTEM:
3.12.1	A FOAMPRO 2001 12-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 gpm (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR).



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	SPECIFICATIONS
3.12.2	A foam tank gauge will be installed on pump panel. The foam level indicator will be the same make and model as the water tank gauge.
3.12.3	The system will be capable of handling Class A foam. Operational tests will be completed with PHOSCHECK WD-881 foam.
3.12.4	A full flow stainless steel check valve will be provided to prevent foam contamination of the fire pump and water tank as well as to prevent water contamination of the foam tank.
3.12.5	The foam system will be plumbed to the speedlays and preconnect discharges.
3.12.6	The system will be installed in a suitable, accessible location. The system will be installed and calibrated by the manufacturer before delivery.
3.12.7	A label will be placed near the foam concentrate tank fill opening that reads: “DO NOT MIX BRANDS AND TYPE OF FOAM”
3.12.8	A system rating panel placard will be installed near the foam controller.
3.12.9	A remote ON/OFF button will be installed on the center console for cab foam controls.
3.12.10	An electronically-operated FOAMPRO 12V # 3435-0184 selector kit designed to connect an on-board concentrate reservoir and an off-board pickup concentrate source into the FOAMPRO 2002. The foam fill system will include a 3-foot pick up tube. It provides automatic water flush cycle to cleanse the lines between source selections.
3.12.11	A Power-Fill Refill system, FOAMPRO, 12V, model 3435-0134 will be installed in compartment R1 to fill the foam tank from the ground.

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SPECIFICATIONS																											
4.1	PUMP OPERATOR CONTROL PANEL																										
4.1.1	<p>Controls and gauges will be located on driver side.</p> <p>The side intake/discharge pump panels will be made from aluminum and painted black Zolatone. Each panel will be removable for easier maintenance access to plumbing components.</p> <p>Pump operator control panel will be made from aluminum and painted black Zolatone. The top panel section of the operator’s panel will be hinged for easier maintenance access to electrical components.</p> <p>Color coded pump panel labels will be in accordance with the recommendations of NFPA 1901as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Discharge</th> <th>Color</th> </tr> </thead> <tbody> <tr> <td>Preconnect #1</td> <td>Orange</td> </tr> <tr> <td>Preconnect #2</td> <td>Red</td> </tr> <tr> <td>Preconnect #3 or discharge #1 (hose bed)</td> <td>Yellow</td> </tr> <tr> <td>Discharge #2</td> <td>White</td> </tr> <tr> <td>Discharge #3</td> <td>Blue</td> </tr> <tr> <td>Discharge #4</td> <td>Black</td> </tr> <tr> <td>Discharge #5</td> <td>Green</td> </tr> <tr> <td>Front Turret</td> <td>Silver</td> </tr> <tr> <td>Large-diameter hose</td> <td>Yellow with white border</td> </tr> <tr> <td>Foam line(s)</td> <td>Red with white border</td> </tr> <tr> <td>Booster reel(s)</td> <td>Gray</td> </tr> <tr> <td>Inlets</td> <td>Burgundy</td> </tr> </tbody> </table>	Discharge	Color	Preconnect #1	Orange	Preconnect #2	Red	Preconnect #3 or discharge #1 (hose bed)	Yellow	Discharge #2	White	Discharge #3	Blue	Discharge #4	Black	Discharge #5	Green	Front Turret	Silver	Large-diameter hose	Yellow with white border	Foam line(s)	Red with white border	Booster reel(s)	Gray	Inlets	Burgundy
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4.1.2	<p>Innovative Controls gauges reading in PSI. The 4½" pressure gauges will be filled with interlube.</p> <p>There will be one (1) 4½" diameter, 30"-0-400 psi gauge connected to the pressure manifold and another (1) connected at the pump inlet in a single assembly with chrome bezel and colored labels.</p>																										
4.1.3	<p>Innovative Controls gauges reading in PSI. The pressure gauges will be filled with interlube.</p> <p>There will also be one (1) 2½" diameter, 0/400 psi connected to each discharge.</p>																										
4.1.4	<p>FRC WLA water level and foam level gauges will be installed on the pump panel.</p> <p>(Mini remote gauges will also be installed on the cab center-console.)</p>																										

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	SPECIFICATIONS
4.1.5	A vacuum and pressure port for annual pump performance testing and checking the accuracy of pump panel gauges.
4.1.6	Rocker switches for pump heater, pump lights, hose bed lights, scene lights, etc. will be installed on the pump panel. The heater will have a red pilot light.
4.2	COLD PACKAGE
4.2.1	<p>A 42,000 BTU heater will be installed in the pump compartment. This heater will use the truck coolant system.</p> <p>The heater will have two (2) fans.</p>
4.2.2	<p>A 2-section aluminum heat pan will be installed below the pump house to prevent freezing and will be removable without any tools.</p> <p>The heat pan will have approximately 48’’ wide x 72’’ long and cover all the pump and plumbing. The front and the back of the heat pan will be protected by an aluminum plate around the drive shaft.</p> <p>The clearance between ground and the heat pan will be minimum 14’’</p>

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SPECIFICATIONS	
5.1	TANK
5.1.1	A 750 GAL booster tank and a 30 GAL foam tank will be supplied. The booster tank will be completely removable without disturbing or dismounting the apparatus body structure.
5.1.2	The booster tank will be entirely in ½" thick copolymer polypropylene with 3/8" swash partitions. The assembly will be welded utilizing thermoplastic welding technology. The booster tank will have lifting eyelets for facilitating the removal.
5.1.3	The water/foam tank design will be in accordance with CAN/ULC-S515 and NFPA 1901 requirements. The foam tank will have one (1) air intake installed on the top of the foam tank. The tank will provide two (2) openings, one (1) for the injection system supply and the second one to allow tank cleaning with a 1" hose with Class 1, model BV10, 1" valve.
5.1.4	At the front, under the tank, there will be a dirt collector with a 1½" drain and a 3" plug. The drain will be installed at the bottom of the collector to allow fully draining of the tank. This drain control will be on the operator pump panel, not in a compartment. The valve will be enclosed in the heat pan assembly to prevent freezing.
5.1.5	Two (2) manual fill towers will be located to the forward area of the tank, clearly labeled WATER and FOAM. The water tower will be 14"x14" and a 6" vent/overflow pipe will be installed halfway-up the tower. This pipe will empty behind rear wheels.
5.2	DIRECT TANK FILL
5.2.1	One (1) 3" inlet for direct tank fill will be installed at the pump panel with strainer and installed as low as possible and clearly labeled. This inlet will be equipped with a threaded connection with strainer, cap and retention cable. Piping, for the fill, will include a flow deflector to avoid the breaking of the tank when it is being filled.
5.2.2	Connected to the 3" inlet, an ELKHART device model AUTOMATIC TANK FILL, which uses a UNIBODY ELKHART 3" valve. This valve will be located in the pump compartment to avoid any freezing of the valve. When the AUTOMATIC mode is activated, this valve allows filling the tank without taking care of the controls.
5.2.3	Three (3) Whelen PSTANK water level indicators with chrome bezels will be installed as follows: <ul style="list-style-type: none"> - One (1) on the rear face of the apparatus. - One (1) each side of top front body



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SPECIFICATIONS	
6.1	GENERAL (BODY AND PUMP HOUSE)
6.1.1	<p>The aluminum used to build the body and pump house will be 5052-H32 marine grade and 6061-T6/6063-T5 for aluminum extrusions.</p> <p>The thickness of the aluminum will be 3/16" for the bottom and the back of each compartment and for the front and back of the body. Only the wall between compartments will be 1/8" thick.</p> <p>The aluminum tread plates will be 3003-H22, 1/8" thick and will meet NFPA slip resistance, when specified.</p>
6.1.2	<p>All joints that may corrode or degrade by calcium and water infiltration will be sealed by a continuous welding cord outside.</p> <p>Where there is a possibility of water infiltration between aluminum tread plates and painted aluminum, gray silicon sealer will be applied.</p> <p>All joints and welding will be polished and so leave no sharp edge.</p>
6.1.3	The design of the body is such that the water tank of the truck will not be visible outside.
6.1.4	All compartments will be "sweep out" design, which means the floor is raised by at least 1" to avoid water infiltration.
6.1.5	The aluminum components of the body and pump house will be manufactured by using CNC (Computer Numeric Control) machine tools. Each individual assembly parts will be cut and bended for an optimum precision.
6.2	PUMPHOUSE
6.2.1	A step will be installed each side of the pump house, on its full width. The step will have 11¾" in depth built from aluminum grip-strut.
6.2.2	<p>The top of the pump house will be made of aluminum tread plates and will meet NFPA requirements.</p> <p>The front of the pump house will be covered by tread plates.</p>
6.2.3	<p>The pump module will have a total width of 26" and two upper storage areas. The lower transverse storage area will accommodate two preconnected handlines (200' of 1¾" hose with nozzle). The bottom of this compartment will at approx. 70" from the ground.</p> <p>The speedlay areas will include two removable storage trays. The trays will be constructed of 1/8" (.125") smooth aluminum plate with an exterior sanded finish. The walls and floor of the tray will be slotted to prevent the accumulation of water and allow for ventilation of wet hose.</p> <p>A protective strip of 0.187" UHMW Polyethylene will be bolted to the bottom of outside edge speedlay tray.</p>

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SPECIFICATIONS	
	<p>Two (2) 1” stainless steel rolls, one on each side, to facilitate the removal and insertion of the trays in this compartment.</p> <p>The speedlay side access will have a restraint system consist of a vinyl tarp with Velcro along the entire perimeter.</p> <p>Pump service access doors will be provided three (3) access to the pump. One (1) in L1, One (1) in R1 and one (1) on the top in front of the body. The doors will be secured with tool-free hardware.</p>
6.2.4	A «P» shaped rubber gasket of about 1" will be installed between the pumphouse and the body to avoid friction of the modules.
6.2.5	The pumphouse will be attached to the chassis with rubber insulation between the pump house and the chassis.
6.2.6	<p>An enclosed compartment will be built above the pump side panels.</p> <p>Two (2) aluminum tread plates doors will be built to give access to this compartment, one each side. The doors will be equipped with a D-Ring handle. Doors will open from the top and they will be held in the open position with a gas cylinder.</p> <p>The compartment will be lit by two (2) LED lights Amdor Lumabar, 12".</p> <p>This compartment will have a vertical divider across the compartment to divide it into 2 compartments for long tools, brooms, shovels, etc.</p> <p>This compartment will also have (1) pike pole tube for a NY Hook.</p>
6.2.7	The pumphouse will have the same height as the body.
6.3	BODY ATTACHMENT
6.3.1	<p>The main body will be attached to the chassis frame rails with six (6) U-bolts.</p> <p>U-bolts will be made of two (2) 5/8" diameter steel bolts and two (2) ½" thick x 2" width steel plates. There will be insulation between U-bolts and body.</p> <p>The mounting will allow easy removal of the body in case of major repair.</p>
6.3.2	There will be a rubber insulation to avoid contact between the aluminum body and the steel frame rails.
6.4	BODY
6.4.1	The wheel well will have monohulled fiberglass fenders.
6.4.2	A "P" shaped fenderette will be constructed from fiber glass with a bright black finish.
6.4.3	The wheel well outer side face will be made of 3/16" aluminum thick and will be painted the same colour as the body.

	SPECIFICATIONS
6.4.4	<p>Four (4) compartments for SCBA cylinders, extinguishers or wheel chocs will be installed in the wheel wells.</p> <ul style="list-style-type: none"> - Left front compartment will be able to contain One (1) ABC extinguisher and one (1) water extinguisher. - Left rear compartment will be able to contain the wheel chocs. - Right front compartment will be able to contain three (3) SCBA bottles. - Right rear compartment will be able to contain One (1) SCBA bottle and One (1) Co2 extinguisher <p>Every cylinder compartment will be built with aluminum pipes and the bottom will be covered with rubber mat according to the CAN/ULC-S515 section.</p> <p>Every compartment will have an aluminum door the same colour as the vehicle with a “chrome Southco” latch.</p> <p>The doors will be designed to avoid water and dust infiltration with reinforcement inside the door.</p>
6.4.5	<p>The body will have rub rails mounted along the sides and at the rear. The rub rail will be C-channel in design and constructed of 3/16" thick aluminum extrusion. The rub rail will be 2-¼" height x 1-¼" deep and will extend beyond the body width to protect compartment doors and the body sides. The depth will allow marker and/or warning lights to be recessed inside for protection.</p>
6.4.6	<p>The body structure will be made from aluminum extrusion 2" x 3" x ¼" and 3" x 3" x 1/8".</p> <p>The body design will allow the booster tank to be completely removable without disturbing or dismounting the apparatus body structure in case of repair.</p>
6.4.7	<p>The angle of departure will be 20 degrees minimum, laden.</p> <p>The angle underneath back of the body will have an aluminum tread plate to cover the angle of departure.</p>
6.4.8	<p>The clearance between the body and the ground will be 14” minimum.</p>
6.5	HOSE BED
6.5.1	<p>The hose bed will be made above the water tank and will have a width of approx. 70", a length of approx. 95” and a height of approx. 15”.</p> <p>The sides of the hose bed will be made from smooth aluminum plate.</p> <p>Hose bed flooring will be easily removed interlocking plastic tiles, minimum 5/8” thick.</p>
6.5.2	<p>One (1) hose bed divider will be constructed of 3/16" brushed aluminum plate with a reinforced aluminum base welded to the bottom. The divider will be adjustable.</p> <p>The rear end of the dividers will have a 3" radius corner and a handle will be integrated to the dividers.</p>
6.5.3	<p>The main hose bed will be covered by two (2) hinged aluminum hard panels. There will be pneumatic shocks to hold the covers on the front panels.</p> <p>The interior of each covers will be covered by a smooth aluminium plate.</p> <p>There will be a black tarp covering the rear of the hose bed. The back of the tarp will have a chevron pattern and will be weighted.</p> <p>An orange strap will be installed to visually show where to open the tarp.</p>

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	SPECIFICATIONS
6.6	COMPARTMENTS
6.6.1	<p>Each compartment seam will be sealed using a permanent pliable silicone caulk.</p> <p>The walls of each compartment will have openings for adequate ventilation.</p> <p>Each compartment will have aluminum extrusion tracks for use with adjustable shelves. The tracks will be vertically mounted and attached to the side and/or rear walls of the compartments.</p> <p>The flooring will have drain holes to prevent the accumulation of water.</p> <p>The flooring will be covered by plastic interlocking tiles 5/8" thick.</p>
6.6.2	<p>Compartment doors will be roll-up type with anodized aluminum finish.</p> <p>Doors will be AMDOR brand.</p> <p>All full-height doors will be equipped with an elastic strap.</p> <p>Compartment lights switches will be located at the top of the door. The switch will be magnetic type AMDOR brand.</p>
6.6.3	<p>An aluminum drip pan will be installed under each roll-up door. A drain will be installed to allow the draining of water.</p>
6.6.4	<p>The top and the front of the body compartments will be covered by 1/8" thick aluminum tread plate.</p>
6.6.5	<p>Six (6) adjustable shelves will be provided, locations to be confirmed at pre-construction meeting.</p> <p>Each exterior shelf mentioned in this proposal should be built as specified in this section unless otherwise mentioned. Each shelf will be as wide and deep as possible.</p> <ul style="list-style-type: none"> - Maximum load capacity of at least 400 lbs. - Constructed of 3/16" aluminum, with a 2" lip and as deep as possible according to the size of the compartment. - Bottom of the shelves are covered by rubber tiles of at least 5/8" thick.
6.6.6	<p>One (1) slide-out tray will be provided, location to be confirmed at pre-construction meeting.</p> <p>Each roll-out tray mentioned in this proposal should be built as specified in this section unless specified brand and model are required or otherwise mentioned. Each tray will be as wide and deep as possible.</p> <ul style="list-style-type: none"> - Maximum load capacity of at least 400 lbs. when fully extended - Minimum exterior slide extension should be about 20". - Constructed of 3/16" aluminum, with a 2" lip and as deep as possible according to the size of the compartment. - Shall be maintained in open or close position with a gas cylinder or with self-locking tray slides when cylinder installation is not possible. - Bottom of the shelves are covered by rubber tiles of at least 5/8" thick. <p>All trays installed on the bottom of the compartments will have two (2) aluminum runners with nylon cover installed near the center to avoid the tray from collapsing.</p>

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SPECIFICATIONS	
6.6.7	One (1) Swing-out Toolboard will be provided, location to be confirmed at pre-construction meeting. Each toolboard mentioned in this proposal will be built as specified in this section unless otherwise mentioned. Each toolboard will be as wide, deep or high as possible. - Constructed of 3/16" aluminum.
6.7	LEFT SIDE COMPARTMENTS
	(Front of rear wheels) – L1
6.7.1	The compartment door opening will be approximately 26" wide x 13" deep x 63" high. This compartment contains the pump operator's panel.
	(Above rear wheels) – L2
6.7.2	The compartment door opening will be approximately 56" wide x 22" deep x 28" high
	(Rear of rear wheels) – L3
6.7.3	The compartment door opening will be approximately 42" wide x 28"/22" deep x 52" high
	(Rear of rear wheels, below L3) – L4
6.7.4	A compartment with maximum dimensions of approximately 24" wide x 28" deep x 8" high The door will open downwards and will be painted red with a chrome Southco latch. - Will contain two (2) poly boxes that slide in and out
6.8	RIGHT SIDE COMPARTMENTS
	(Front of rear wheels) – R1
6.8.1	The compartment door opening will be approximately 26" wide x 24" deep x 63" high. (Tool-less access to the pump through this compartment)
	(Above rear wheels) – R2
6.8.2	The compartment door opening will be approximately 18" wide x 22" deep x 31" high
	(Above rear wheels) – R3
6.8.3	The compartment door opening will be approximately 18" wide x 22" deep x 31" high
	(Rear of rear wheels) – R4
6.8.4	A compartment with maximum dimensions of approximately 42" wide x 28"/22" depth x 53" height
	(Rear of rear wheels- below R4) – R5
6.8.5	A compartment with maximum dimensions of approximately 24" wide x 28" deep x 8" high The door will open downwards and will be painted red with a chrome Southco latch. - Will contain two (2) poly boxes that slide in and out



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4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

SPECIFICATIONS	
6.9	REAR COMPARTMENTS
6.9.1	B1 - The compartment door opening will be approximately 36" width x 24" depth x 34" height.
6.9.2	<p>A storage compartment will be built on left rear side, upper corner. It will be built to contain:</p> <ul style="list-style-type: none"> - Two (2) 3'' suction hoses. - Two (2) NY pike poles (6' and 8' feet). - One (1) folding 10' foot attic ladder. <p>This compartment door will be covered by chevron striping. (ladders, suction hoses and pike poles not included unless specified in the loose equipment section 9)</p>
6.10	REAR
6.10.1	The rear tires will have a set of black mud flaps mounted behind the rear chassis wheels.
6.10.2	<p>A tailboard step will be provided at the rear of the body. The tailboard will have 9 ¾" in depth.</p> <p>The tailboard step will be formed from 1/8" aluminum tread plate will be in accordance with current NFPA requirements and will include three (3) grip strut inserts incorporated into the diamond plate.</p>
6.10.3	<p>All handrails on body and pump compartment will be 1¼" diameter aluminum extrusion knurled, to provide a positive gripping surface.</p> <p>Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.</p> <p>Drain holes will be provided in the bottom of all vertically mounted handrails.</p> <p>Handrails will be provided to meet NFPA requirements.</p>
6.10.4	<p>There will be one (1) short swing out and down access ladder supplied and installed at the left rear of the apparatus, for accessing the hose bed. The ground to the first step dimension, on level ground, will be near eighteen (18") inches. The ladder will have a stainless-steel spring latch to hold it in position. This latch will be installed outside of the ladder.</p> <p>A sealed, magnetic sensor will be installed connected to the "Do Not Move Apparatus" system, to alert driver if not stowed properly.</p>
6.10.5	<p>Two (2) heavy duty tow eyes made from steel having 2-1/2" diameter will be mounted below the body at the rear of the vehicle to allow towing (not lifting).</p> <p>The tow eyes will be painted black.</p> <p>There will be a plate specifying the capacity of the assembly.</p>
6.10.6	<p>Four (4) folding steps will be provided at the rear three (3) on the left and one (1) on the right, to allow access to the hose bed. Each step will incorporate two (2) LED light, chrome bezel, to illuminate the stepping surface, below and above the steps. The steps can be used as a hand hold with built-in openings wide enough for a gloved hand.</p> <p>The step lights will be activated when the parking brake is set, or when the vehicle marker lights are activated.</p>

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SPECIFICATIONS	
6.11	LADDER RACK:
6.11.1	<p>The vehicle will be equipped with a ZICO one (1) arm hydraulic rack, model 3097. The rack will be installed on right side above the rear wheel wells. The front face of the rack will be covered with aluminum treadplate. The system is made to contain one (1) 24-foot and one (1) 14-foot ladder.</p> <p>Rack will have brackets for Two (2) up-to 6” x 10’ hard suction tubes. (ladders not included unless listed in the loose equipment section 9)</p> <p>Three (3) red flashing LED lights will be installed to indicate that the hydraulic rack is ajar. Two (2) lights will be installed at each end of the rack and the third light in the vehicle cab.</p> <p>An audible alarm will also be installed on that cab light.</p> <p>A FEDERAL SIGNAL 97-decibel alarm, model 210331 shall be installed outside the vehicle and will operate only when the rack is in motion.</p> <p>Controls of the rack will be placed at the rear of the vehicle. The switch will be in a CAST PRODUCTS aluminum box.</p> <p>The hydraulic pump will be powered by a high gauge wire adequately protected by a 200-amp fuse easily accessible.</p>
6.12	6" SUCTION TUBE STORAGE
6.12.1	<p>The two (2) suction tube mounting locations will be provided on the hydraulic rack. (Hard suction hoses not included unless listed in the loose equipment section)</p>
6.13	SPARE TIRE
6.13.1	<p>A spare tire will be mounted on top of front body with a winch system and rotating arm for lowering the spare tire.</p>
6.14	I - ZONE POLES
6.14.1	<p>One (1) set of angled removable I Zone poles with brackets will be installed at the rear of the apparatus for quick hose recovery or deployment. The poles will be strait type. (Not “J” or hook style).</p>



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SPECIFICATIONS	
7.1	ELECTRICAL SYSTEM
7.1.1	<p>The electrical system will meet CAN/ULC S515 and NFPA 1901 requirements.</p> <p>The electrical system will include the following:</p> <ul style="list-style-type: none"> a) The wiring in the body will be securely fastened with stainless steel bolts attached to all each 8"-10"; b) Electrical terminals in weather exposed areas will have a non-conductive grease or spray applied; c) Adhesive device will be not acceptable; d) Every electrical wiring will be covered by a plastic split sleeve; e) 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; f) Heat shrink material and sealed connectors will be used to protect exposed connections; g) A coil of wire will be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work; h) All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
7.1.2	The wiring of the body will be colour coded and number coded at each 3".
7.1.3	<p>Every circuits added to the chassis will be protected by internal electronic circuit breakers with transistor outputs. The system will operate in accordance with the J1939 communication protocol.</p> <p>The system will comprise three nodes of at least 8 inputs and 16 outputs, each node will be protected by an individual breaker GROTE model 54-852PL. They will be located to optimize the wiring, two (2) back into the compartments and one (1) in the pumphouse.</p> <p>The vehicle will have one (1) programming plug installed near the multiplex node in the pumphouse.</p>
7.1.4	The switches in cab and pump panel will have an identification meets ULC and NFPA.
7.2	WARNING AND EMERGENCY
7.2.1	<p>Two (2) Whelen M6 red light heads, clear lens, will be provided for the lower front zone.</p> <p>The lights will include chrome flanges. The lights will be mounted facing forward of the apparatus, above the headlights.</p>
7.2.2	<p>Four (4) Whelen M6 red light heads, clear lens, will be provided for the lower side zone. The lights will include chrome flanges.</p> <ul style="list-style-type: none"> - One (1) each side in the rear wheel well - One (1) each corner of the front bumper extension
7.2.3	Two (2) Whelen TLIR ION series red lights, clear lense will be installed between cab doors.
7.2.4	A WHELEN JUSTICE JE2NFPA 56" lightbar will be installed on the front of the cab roof.



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4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

	SPECIFICATIONS
7.2.5	Two (2) WHELEN L31 series, Red LED beacons with clear lens will be supplied and installed on upper of the rear body.
7.2.6	The Whelen 295SLSC1 siren will feature 100-watt output with detachable mic cord, and one (1) 100W SP315 speaker mounted in the front bumper. Controls from the horn ring and push-button on the officer side.
7.2.7	High-beams will alternate flashing when E-Master is on. Wig wag will be de-activated when high-beams are engaged.
7.2.8	A red push-button switch will be located on the pump panel, labeled "EVACUATION ALERT" This switch can be wired to the air-horns or the siren, to be determined at pre-construction meeting.
7.2.9	Door open alarm override switch.
7.3	LIGHTING
7.3.1	LED, GROTE model 47962 / 47963 clearance/marker lights.
7.3.2	The center top rear marker lights will be a GROTE model 253-4400-1 for marker light AND for brake light signal.
7.3.3	Turn signal-lights, brake-lights and backup lights will be the same series to match the emergency lights. There will be a total of two (2) brake lights, two (2) back-up lights and two (2) turn-signal lights. They will be mounted on a 4-space light bezel together with the emergency lights. The rear part of the lights, visible from the compartment will be entirely covered with a protective aluminum cover which will protect the rear part of the light and the electrical wiring. Two (2) amber, GROTE #47963 LED auxiliary turn lights one each side front of body will be installed recessed in the rub rail.
7.3.4	One (1) white LED GROTE #60681 license plate light mounted at the rear of the body. The plate will be mounted with four (4) stainless steel bolts.
7.3.5	Two (2) Britax marker lights mounted on rubber arms will be installed, one on either side of the tailboard.
7.4	AUXILIARY LIGHTS
7.4.1	Two (2) 12" AMDOR, LUMABAR # AY-9500-012 LED lights will be mounted under the control panel light shield, one (1) each side. These lights will automatically turn on when the pump is engaged or when the "pump light" switch is on and when the park brake is set.
7.4.2	One (1) Amdor AY9220-032 LED light will be installed in the pumphouse and it will be controlled by the "pump light" switch on the pump panel.

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4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

SPECIFICATIONS	
7.4.3	<p>Two (2) LED lights AMDOR LUMABAR compartment light strips will be mounted in each body compartment.</p> <p>Except the L1 compartment, this one will have four (4) lights.</p> <p>Length of each light is the same as the door opening height (+/- 5").</p>
7.4.4	<p>A total of eleven (11) perimeter lights under cab and body will be Truck Lite LED lights, as follows:</p> <ul style="list-style-type: none"> ➤ Four (4) under cab steps (2 each side) ➤ Two (2) pumphouse (1 each side) ➤ One (1) under the pump panel compartment ➤ Two (2) under rear compartments (1 each side) ➤ Two (2) recessed rear-facing under the rear body, angled 45-degrees <p>The ground lighting will be activated by the opening of a cab door, or when the parking brake is set and when the marker lights are turned on, or when the transmission is on reverse.</p> <p>There will be a switch labeled PERIMETER LIGHTS in the cab for pump & roll operations.</p>
7.4.5	<p>A LED TecNiq model E03 light will be installed under each 6" inlet on pump panel for steps lighting.</p> <p>The lights will turn on when the parking brake is set and the marker lights are turned on or with the pump light switch.</p>
7.4.6	<p>One (1) JETCO # 300-series LED light will be used for hose bed light. It will be installed in the front of the body. The hose bed light will turn on when the parking brake is set and when the marker lights are turned on, or with the hose bed switch.</p>
7.4.7	<p>Two (2) FRC SPA900-Q70 model scene lights will be installed on the rear face of the vehicle. The control of these lights will be as follows:</p> <ul style="list-style-type: none"> - They will turn off when the parking brake is not set; - Turn on when the transmission is on reverse and the E-Master is turned on; - Turn on with a waterproof switch, located on the rear left side when the parking brake is set. <p>The rear lights switch will be waterproof and installed in a sealed aluminum box CAST PRODUCTS on the left rear side.</p> <p>Rear scene light switches will be located in the cab and on the pump panel, and one at the rear labeled REAR SCENE.</p>
7.4.8	<p>Four (4) FRC model SPA900-Q70 LED scene lights will be installed. Two (2) per upper side of the body. The waterproof switch will be located on the pump panel and in the cab. These lights will turn off when the parking brake is not set.</p>
7.4.9	<p>Two (2) SAE J583 Compliant Selective Yellow Fog Light Pair Sr-Series Pro 6 Inch Street Legal Surface Mount Rigid Industries will be provided and recessed in front bumper.</p>
7.4.10	<p>One (1) Whelen Summit 44" Brow light Model # S44MB will be installed on the center of the front of the cab roof. A switch will be located in the cab labeled FRONT SCENE.</p>

Timerline CO Fire Protection District

4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

SPECIFICATIONS	
8.1	BODY FINISH DETAILS
8.1.1	All nuts and rivets installed on the apparatus will be stainless steel
8.1.2	Where dissimilar metals are to be mounted together, the mounting base material will have an isolation barrier prior to assembly to prevent dissimilar metal reaction.
8.1.3	All Caution, Warning, Danger and other safety related signs will meet the requirement of the FAMA Standard Product Safety Signs for Automotive Fire Apparatus issued October 2015 or more recent.
8.1.4	A rust preventive barrier, Corrosion Control Coatings 2020A Waterborne, will be sprayed under the entire body and body substructure, before their installation on the chassis so that no area is left unprotected.
8.1.5	The rear steel sub-frame structure will be painted black
8.2	BODY AND CHASSIS PAINT
8.2.1	The painting will be conducted in accordance with best practices followed in the heavy equipment industry to ensure the best protection against corrosion and abrasion. All removable parts such as brackets, lights, doors, and steps will be removed before painting the body and will be painted separately if required.
8.2.2	Paint and primer used will be of good quality and type « base Coat / Clear Coat ». The painting process will be in accordance with the paint manufacturer.
8.2.3	The cab will be 2-Tone, painted white # L2978EY over red # L780806EY. Paint code to be confirmed at pre-construction meeting.
8.2.4	The body and the pumphouse will be painted 2-Tone White and Red to match the cab color.
8.2.5	The body compartments interiors will have a Zolatone grey (20-72) finish.
8.2.6	All shelves and trays inside compartments will have a Zolatone grey (20-72) finish.
8.3	LETTERING, STRIPING
8.3.1	White reflective stripes, 4” wide with a “step-up” pattern will be installed according to the current NFPA standard: <ul style="list-style-type: none"> ➤ At least 50 % of the cab and body length, each side of the vehicle. ➤ At least 25 % of the width of the front of the vehicle.
8.3.2	Maximum of the rear body visible surface, except the roll up door, will be covered by chevron stripes according to NFPA. The stripes will be red and lime-green, 3M-983 brand.
8.3.3	A 3” wide chevron type stripe will be installed on each cab door. The covering surface will be at minimum 150 square inches.

Timberline CO Fire Protection District
4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

	SPECIFICATIONS
8.3.4	Designated Walking Areas of standing/walking surface on upper areas of apparatus. 1'' wide safety yellow on surface higher than 48'' excluding steps and ladders.
8.3.6	Two (2) logos printed on reflective vinyl material, about 14" height will be produced and installed on the Driver's and Passenger Doors. (Customer to supply digital artwork in either .EPS or .AI format)
8.3.7	Lettering / Graphics to match current Engine 58 at : https://timberlinefpd.colorado.gov/

Timerline CO Fire Protection District
4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

	SPECIFICATIONS
9.1	LOOSE EQUIPMENT TO BE SUPPLIED BY BIDDER
9.1.1	Two (2) folding wheels chocks ZICO, 44" diameter tires with brackets will be installed in the L4 compartment.
9.1.2	Two (2) 6" NH chrome caps for pump inlets.

Timerline CO Fire Protection District
4x4 PARAGON WILDLAND/URBAN INTERFACE APPARATUS

	SPECIFICATIONS
10.1	WARRANTY
10.1.1	The warranty is effective upon delivery of the vehicle.
10.1.2	One (1) year material and workmanship limited warranty (bumper-to-bumper).
10.1.3	The chassis manufacturer standard limited warranty will be provided.
10.1.4	A Cummins five (5) year/160,000 km limited engine warranty will be provided.
10.1.5	Five (5) year/unlimited km parts and labor warranty will be provided for transmission.
10.1.6	Ten (10) year limited warranty on structural integrity of the body. This warranty will cover all the structural components of the body against defects in materials and workmanship. Excluded from this warranty is hardware, mechanical and electrical items or paint finish.
10.1.7	One (1) year pro-rated limited warranty on the cab paint. This warranty will cover the paint and perforations due to corrosion, delaminating and cracking under normal use of the vehicle.
10.1.8	Ten (10) year pro-rated limited warranty on the body paint. This warranty will cover the paint and perforations due to corrosion, delaminating and cracking under normal use of the vehicle.
10.1.9	Ten (10) year pump stainless steel plumbing components limited warranty. This warranty will cover all components of the pump except the valves against defects in materials and workmanship. Excluded from this warranty are the breakage caused by freezing.
10.1.10	A Hale, 5-year limited warranty covering parts and labor for the first two (2) years and only parts (no labor) for the remaining three (3) years of the warranty. This warranty will cover all components of the pump except the valves against defects in materials and workmanship. Excluded from this warranty are the breakages caused by freezing.
10.1.11	The water/foam tank parts and labor warranty will be provided for life (25 years) against any manufacturing defects.
10.1.13	All other components, such as foam systems, warning and emergency lights, generators, compressors, multiplex systems, etc., will be covered by the original manufacturer's standard warranties.