



Proposal Details Report

9/13/2023

Customer: Summit Fire Medical District **Bid Number:** 758
Representative McDonald, Ed **Job Number:**
Requirements Manager: **Organization:** Hughes Fire Equipment, Inc
Description: BX3 Wildland, Freightliner, 1000
Chassis: Freightliner M2-106, 4x4, Wildland BX3
Body: WILDLAND BX3, Type 3, NFPA 1906

OptionCode	Type	Option	ProposalText
0765493	SP	Wildland, BX3, Freightliner, 1000 GPM Pump (SF-3202)	

0766594 Boiler Plates,1906, Wildland

Hughes Fire Equipment is pleased to submit a proposal to Flagstaff Fire Department for a **Pierce® wildland fire apparatus** per your request for quotation. The following paragraphs will describe in detail the apparatus proposed. It meets the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution, except where amended by your specifications. Loose equipment not specifically requested will not be provided.

PIERCE MANUFACTURING was incorporated in 1913. Since then we have been building bodies with one (1) philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 28,500 apparatus on commercial chassis, and more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land. A multi-million dollar inventory of parts is available to keep your unit in service long after it has left the factory. Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of applicable NFPA standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

GENERAL DESIGN AND CONSTRUCTION

To control quality and ensure the compatibility of all the components, Pierce specifically designs the pump module, body, and electrical system to properly integrate and function with the commercial cab and chassis.

All welding, assembly and paint work will be done in Pierce owned manufacturing facilities. This includes, but not limited to the pumphouse module assembly, the body and the electrical system.

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.

In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least twenty five (25) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

MANUAL AND SERVICE INFORMATION

At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

SAFETY VIDEO

At the time of delivery Pierce will also provide one (1) 39-minute, professionally-produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the

following: vehicle pre-trip inspection, chassis operation, pump operation, and safety during maintenance.

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus will meet acceleration requirements and braking requirements of the current edition of applicable NFPA standards. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle and not less than 50 percent nor more than 75 percent on the rear axle.

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Hughes Fire Equipment by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within twenty five (25) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of \$5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which, is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU's and descriptions offered on all Pierce apparatus. Published component catalogs, which include proprietary systems along with an extensive operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVT's, and offers hands-on repair and maintenance training classes multiple times a year.

LIABILITY

The successful bidder will defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract.

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Personal and Advertising Injury \$1,000,000

General Aggregate \$2,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form and will include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy will include Owner as an additional insured when required by written contract.

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

The successful bidder will, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile liability insurance and coverage will be written on a Commercial Automobile liability form:

Each Accident Combined Single Limit: \$1,000,000

UMBRELLA/EXCESS LIABILITY INSURANCE

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate: \$3,000,000

Each Occurrence: \$3,000,000

The umbrella policy will be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.

All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as certificate holder.

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of Product Liability insurance:

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form. The manufacturer's policy will include the owner as additional insured when required by written contract between the Owner and a

Pierce authorized dealer.

UMBRELLA/EXCESS LIABILITY INSURANCE

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Each Occurrence: \$25,000,000

Aggregate: \$25,000,000

The umbrella policy will be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.

All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as the certificate holder.

0018257	Commercial chassis & Snorkel products	
0584455	Manufacture Location, Bradenton, Florida	Your apparatus will be manufactured in Bradenton, Florida.
0584453	RFP Location: Bradenton, Florida	
0588609	Vehicle Destination, US	
0799089	Comply NFPA 1906 Changes Effect Jan 1 , 2016 with Exceptions, Commercial Chassis	NFPA 2016 STANDARDS This apparatus specification includes a commercial chassis that has not been certified to meet all the requirements of NFPA 1906 by the chassis manufacturer. Although this chassis may comply with certain aspects of the standard, certification has not been received from this chassis manufacturer that all criteria have been met. The body and equipment as built by Pierce will comply with the current NFPA 1906 standards effective January 2016, except as noted on the NFPA exceptions list. Certification of slip resistance of all stepping, standing and walking surfaces must be supplied with delivery of the apparatus. 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.
0547534	1906 Wildland Fire Apparatus	
0588619	Not Required, Vehicle Certification	
0511675	Certification, Pump, Wildland	PUMP TEST The pump will be tested and certified by the apparatus manufacturer. The test results along with the pump manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horse power curve and the manufacturer's record of pump construction details will be forwarded to the Fire Department.
0537375	Unit of Measure, US Gallons	

0030006	Bid Bond Not Requested	<p>BID BOND NOT REQUESTED</p> <p>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.</p>
0816569	Performance Bond, Not Requested, PPI Terms	<p>PERFORMANCE BOND NOT REQUESTED</p> <p>A performance bond will not be included. If requested at a later date, one will be provided to you for an additional cost and the following will apply: The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required. Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Bumper to Bumper warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed three (3) years from the date of such satisfactory acceptance and delivery, or the actual Bumper to Bumper warranty period, whichever is shorter. Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible. If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0% or more between the month Pierce accepts the order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0% for each year or fractional year between the Order Month and the Evaluation Month. The seller will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.</p>
0010007	No Approval Drawing Req'd.	
0589819	Electrical Diagrams, Commercial	<p>ELECTRICAL WIRING DIAGRAMS</p> <p>Two (2) electrical wiring diagrams, prepared for the body as it interfaces with the commercial chassis, will be provided.</p>
0773668	Freightliner M2-106, 4x4, Wildland BX3	<p>CHASSIS</p> <p>The chassis will be a Freightliner, Model M2, 106MD Conventional Chassis, supplied with the following equipment:</p>
0893566	Model Year 2024	
0768599	SP Use SF-3201 Freightliner Chassis Spec (Wildland BX3) [Use Also w/3202]	
0720765	Base Price,FLR M2-106,4x4,Wildland BX3, Effective 5/18/2021 - EXPIRED 11/23/2021	
0802041	SP Surcharge, Freightliner, Effective 05/30/2022 Build Date	
0767550	Overall Height, Wildland BX3 - w/Freightliner Chassis - 10' 6"	<p>MAXIMUM OVERALL HEIGHT</p> <p>The maximum overall height of the apparatus will be no more than 126.00" (10' 6").</p>

0767548	Angle of Departure, Approximately 25 Degrees, Wildland BX3	ANGLE OF DEPARTURE The angle of departure will be about 25 degrees. This will be effective with the truck in a loaded state.
0751234	Angle of Approach, Approximately 23 Degrees, Freightliner / Wildland BX3	ANGLE OF APPROACH The angle of approach will be about 23 degrees. This will be effective with the truck in a loaded state.
0773610	Wheelbase, 177", Freightliner 4x4, Wildland BX3	WHEELBASE The wheelbase of the vehicle will be 177.00 inches.
0773641	GVW Rating, 35,000#, Commercial Chassis	GVW RATING The gross vehicle weight rating will be 35,000 pounds.
0579898	Frame, Chassis, Freightliner, 120 KSI	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.
0582814	Frame Reinforcement, 1/4" Inner Liner, Freightliner	FRAME LINER An 0.25" inner frame reinforcement will be provided. The frame section properties will be: - Section Modulus: 26.80 cubic inch, per rail - RBM: 3,217,000 in-lb, per rail - Yield Strength: 120,000 psi, per rail
0686245	Axle, Front Driving, 12K, Freightliner 4x4, w/MTC4210 XL (No PTO)	FRONT AXLE Front axle will be a driving axle, with a ground rating capacity of 12,000 lb. The transfer case to drive the front axle will be a 2-speed transfer case. Synthetic lubricant will be provided.
0773475	Suspension, Front Spring, 12,000 lb, Commercial	FRONT SUSPENSION Spring mounted: Taper-leaf Capacity at Ground: 12,000 lb
0073051	Shock Absorbers, Front	Shock absorbers will be provided on the front axle.
0789186	Brakes, Cam Front, 16.50"x 5.00" Commercial	FRONT BRAKES The front brakes will be S-Cam, 16.50" x 5.00". The front brakes will be provided with automatic slack adjusters.
0585775	MichelinTires	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.
0772242	Tires, Front, 22.50, Traction Tread, 4x4 (to 14.6k GAWR)	TIRES, FRONT Front tires will be 22.50, radial tires with a traction tread pattern suitable for the steering axle position on a front driving axle. The capacity of the tires will meet or exceed the rating of the axle and/or suspension and a maximum top speed per the requirements described elsewhere in this proposal, up to 75 MPH.
0683147	Wheel, Steel, 22.50", 4x4	WHEELS, FRONT Wheels for the front axle will be 22.50" steel disc, properly sized for the provided tires.
0765526	Axle, Rear, 23K, Freightliner M2-106 4x4, BX3	REAR AXLE The single reduction rear axle will have a ground rating capacity of 23,000 lb. PARKING BRAKE The parking brake will be spring set and located on the rear axle service brake.

0772020	S-Cam Style 16.50" x 7.00"	Rear axle brakes will be 16.50" x 7.00", S-Cam drum type brakes. Automatic slack adjusters will be provided.
0767494	Top Speed of Vehicle, Comply w/NFPA, Wildland BX3	REAR AXLE RATIO NFPA 1906, 2016 edition, section 4.15.2 requires that the maximum top speed of fire apparatus with a GVWR over 33,000 lb will not exceed either 68 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. The top speed of the apparatus as manufactured meets the NFPA requirement of a top speed of 68 miles per hour. The rear axle <i>ratio</i> provided will allow the vehicle to reach an approximate top speed of 73 miles per hour, but the speed of the chassis will be electronically limited 68 MPH.
0773477	Suspension, Rear Spring, 23,000 lb Commercial	REAR SUSPENSION The rear suspension will be spring mounted multi-leaf, with a capacity at ground level of 23,000 lbs.
0649953	Oil, Synthetic Gear, Meritor 4x4, Front and Rear Axles, Freightliner M2-106	SYNTHETIC GEAR LUBE Axles and rear differential will be supplied with synthetic 75W - 90W gear lube, as recommended by the axle manufacturer.
0008102	Dust Shields, Front and Rear Brakes, Commercial Chassis	DUST SHIELDS The front and rear brakes will be provided with dust shields.
0772235	Tires, Rear, 22.50, Traction Tread, 4x4 (to 27k GAWR)	TIRES, REAR, 4X4 Rear tires will be 22.50, radial tires with a traction tread pattern suitable for the rear axle position on an all-wheel-drive vehicle. The tire capacity will meet or exceed the capacity 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 Due to ratio matching requirements of an all-wheel-drive vehicle, the front and rear tire sizes will be the same. The size of the tires provided will be at least the minimum size required to meet the GAWR rating of both axles.
0810393	Wheel, Steel, 22.50" x 8.25", 4x4	WHEELS, REAR The rear wheels will be 22.50" steel disc properly sized for the provided tires.
0767493	No Tire Pressure Indicator, Fire Department Omits, Non-NFPA 1906-2016 Compliant	TIRE PRESSURE INDICATOR NFPA 1906, 2016 edition, section 4.13.4 requires each tire be equipped with a visual indicator or monitoring system that indicates tire pressure. Per Fire Department specification, a tire pressure indicator is not on the apparatus as manufactured. This apparatus will be non-compliant to NFPA 1906 standards effective at time of contract execution.
0749971	SP Carrier, Spare Tire, Under Rear Substructure, BX3, Non-NFPA 1906	SPARE TIRE CARRIER Provisions to carry one (1) spare tire will be provided on the apparatus. This spare tire carrier will primarily be used for on-road operations. The carrier will consist of an electric winch and set of brackets that will lift and secure the spare tire up and underneath the rear body structure. The carrier will also have a secondary retaining provision in case the primary retention mechanism fails. It is understood that with the spare tire mounted in the carrier, that the angle of departure is reduced, and no skid plate or other protections are provided. When the spare tire is in position on the carrier, it may be non-compliant to NFPA 1906 section 12.3.2.3 that states "... an angle of departure of at least 20 degrees will be maintained..." This winch and brackets will not infringe upon the angle of departure when the spare tire is not carried.
0012045	Mud Flap, Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the rear wheels.
0767491	Chocks, Wheel, Wildland, NFPA, Provided by Fire Department, NFPA 1906 - 2016	WHEEL CHOCKS PROVIDED BY FIRE DEPARTMENT NFPA 1906, 2016 edition, section 5.7.1 requires "Two (2) solid bottom wheel chocks mounted in readily accessible locations, ..." be provided with the apparatus. The wheel chocks are not on the apparatus as manufactured. The fire department will provide and install these wheel chocks.
0544690	Mounting Brackets, Chocks, Provided by Fire Department	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.

0020881	ABS, Anti-Lock Braking System, Commercial	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.
0009547	Air Compressor, Brake, 18.7 CFM, Commercial	AIR COMPRESSOR, BRAKE SYSTEM The air compressor will have an output of 18.7 cubic feet per minute.
0773985	Air Dryer, Brake, w/Heater, Commercial	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
0020851	Not Required, Air Inlet	
0728926	Engine, Cummins L9, 360 hp, FL M2-106, BX3	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
0755088	Engine Surcharge, Cummins/Freightliner	
0001247	High Idle w/Electronic Engine, Commercial	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."
0773963	Auxiliary Brake, Exhaust Brake , VGT Style, With Brake Lights, Commercial	ENGINE EXHAUST BRAKE An exhaust brake with an integral variable geometry turbo charger (VGT) will be provided. The control will be located on the instrument panel within easy reach of the driver. When the engine brake is engaged it will activate the brake lights.
0779576	Fuel/Water Separator, Detroit, w/Hand Primer, H2O Sensor w/Preheater, M2-106/108SD	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.
0773981	Air Intake, Engine, w/Ember Separator, OEM Installed, Commercial	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.

0773636	Exhaust System, Horizontal, RH Step Mounted DPF/SCR, Commercial	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.
0684987	Exhaust Modifications, Commercial Chassis, Horizontal Exhaust	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.
0061579	Coolant Hoses, Gates Blue Stripe, FL M2	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.
0773634	Fuel Tank, 70 Gallon, Left Side, Aluminum, Commercial	FUEL TANK A 70 gallon fuel tank will be provided and mounted at the left-hand cab step. The tank will be constructed of aluminum.
0773952	DEF Tank, Left Side Location, Commercial	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.
0723716	Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	FUEL PRIMING PUMP A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.
0552712	Not Required, Shutoff Valve, Fuel Line	
0023745	Cooler, Chassis Fuel, Pierce Installed	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.
0764176	Chassis Fuel Line Protection, Fire Wrap Lagging, Wildland	FUEL LINE PROTECTION The fuel hoses that run from the chassis fuel tank to the fuel pump will be wrapped with fire wrap lagging to protect them from heat damage. The lagging will be able to withstand high temperatures and will be secured with stainless steel or fire proof ties.
0773950	Trans, Automatic, Allison 3000 EVS, w/(2) PTO Provsions, Commercial	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.
0742564	SP Transmission, Shifter, Push Button, 6 Speed, Freightliner BX3 w/L9 Engine	TRANSMISSION SHIFT CONTROL A push button shift module will be mounted to right of driver. Shift position indicator will be indirectly lit for after dark operation. The transmission will be a six (6)-speed. The transmission ratios will be 1st - 3.49 to 1.00, 2nd - 1.86 to 1.00, 3rd - 1.41 to 1.00, 4th - 1.00 to 1.00, 5th - 0.75 to 1.00, 6th - 0.65 to 1.00, R - 5.03 to 1.00.
0011475	Transmission Oil Cooler, Internal, Commercial	TRANSMISSION COOLER A transmission oil cooler will be provided in a tank of the radiator.
0527500	Transfer Case Oil Cooler, 4x4, Commercial	TRANSFER CASE OIL COOLER The 4x4 transfer case will have an oil cooler specifically designed and installed for the application.

0733744	Driveline for PTO/Transfer Case or No Pump Installation - Commercial	<p>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.</p>
0773640	Driveline Pre-Approved, Freightliner M2-106 4x4, Wildland BX3	
0773977	Steering, Power w/Tilt/Telescope Column, Commercial	<p>STEERING The steering system will be hydraulically driven. The steering column will have an adjustable tilt and telescope feature.</p>
0607536	Skid Plate and Brush Guard, For Fuel and DEF Tanks, Commercial Chassis	<p>SKID PLATE AND BRUSH GUARD A 12 gauge removable steel skid plate will be fastened to the bottom side of the fuel tank hangers. The plate will be formed to protect the underside of the plastic DEF tank and will be fastened to the factory chassis steps.</p>
0761934	Chassis Air Line Protection, Fire Wrap Lagging, Wildland	<p>AIR LINE PROTECTION All air lines that are routed below the frame rails shall be wrapped with fire wrap lagging to protect them from heat damage. The lagging shall be able to withstand high temperatures and shall be secured with stainless steel or fire proof ties.</p>
0751213	Winch, Warn, 15000 lb. Fixed, Front, Synthetic Rope, Polished Fairlead, BX3	<p>FRONT WINCH A Warn Series 15, 15,000 lb electric winch will nest below the top aluminum treadplate surface of the front bumper. A cover will be provided for maintenance and access to the winch Direction control lever and remote control plug will be provided. The cover will be provided with a mechanical stay arm hold open device. Winch will be mounted on a surface that will not flex when the winch is in use, since it could bind working parts of the winch. Winch will be braced by a three (3) point mount, as recommended by the winch manufacturer. Winch will have 70 feet of .50" synthetic rope with hook, pre spooled on drum. Winch will have planetary gearing. Electric motor will have a thermal overload protection switch. Wire cables to battery will be two (2) gauge or larger. Speed and amperage draw of winch will be variable depending on winch load. Winch will have a minimum of a 30 foot remote control cable. A polished fairlead for use with synthetic rope will be supplied of sufficient strength to accommodate the winch capacity. A label will be placed on or near the mount that states the maximum winch load rating and the maximum rope load rating that the mount can support.</p>
0751239	Bumper Extension, 19", Steel Painted, Chicago Style, Commercial Chassis, BX3	<p>BUMPER A one (1) piece bumper manufactured from 0.19" formed steel with a 0.38" bend radius will be provided. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange, and will extend 19.00" from the face of the cab. The bumper will have 45 degree corners. The bumper will be metal finished and painted job color. To provide adequate support strength, the bumper will be mounted directly to the front of the C channel frame. The frame will be a bolted modular extension frame constructed of 50,000 psi tensile steel. GRAVEL PAN A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and the cab face and front wheel wells. The pan will be properly supported from the underside to prevent flexing and vibration.</p>
0751237	Tray, (1) Hose Left Side of 19" Bumper, Wildland BX3	<p>LEFT SIDE HOSE TRAY A hose tray will be placed in the left side of the extended bumper. The tray will have a capacity of 75' of 1.50" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes will be provided.</p>
0766331	Cover, Aluminum Treadplate, One (1) D-Ring Latch, Hose Tray, Notched, BX3	<p>Left Side Hose Tray Cover A bright aluminum treadplate cover will be provided over the left side hose tray. The cover will be notched to allow the hose to be pre-connected to the hose connection. The cover will be attached with a stainless steel hinge. There will be one (1) D-ring latch provided to secure the cover in the closed position and a mechanical stay arm will hold the cover in the open position.</p>
0751236	Tray, (1) Hose Right Side of 19" Bumper, Wildland BX3	<p>RIGHT SIDE HOSE TRAY A hose tray will be placed in the right side of the extended bumper. The tray will have a capacity of 75' of 1.50" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes will be provided.</p>

0766332	Cover, Aluminum Treadplate, One (1) D-Ring Latch, Hose Tray, Notched, BX3	<p>Right Side Hose Tray Cover A bright aluminum treadplate cover will be provided over the right side hose tray. The cover will be "notched" allowing the hose to be pre connected to hose connection. The cover will be attached with a stainless steel hinge. A D-ring latch will secure the cover in the closed position and a mechanical stay arm will hold the cover in the open position.</p>
0002283	Tow Hooks, Painted	<p>TOW HOOKS Two (2) painted steel tow hooks will be installed under the bumper and attached to the front frame members. The tow hooks will be painted to match the chassis frame assembly. 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.</p>
0012300	Bracket, License Plate, Frt Bumper Non-Illuminated	<p>LICENSE PLATE BRACKET A non-illuminated license plate bracket will be mounted on the front bumper. The bracket will be formed from bright stainless steel.</p>
0767590	Cab, 4-door, Crew Cab High-Roof, Freightliner, M2-106, Wildland BX3	<p>CAB A 4-door, high-roof cab will be provided. The cab and doors will be of an aluminum construction.</p> <p>Exterior Styling Aerodynamic hood and windshield Tinted Glass in all Windows Fiberglass hood with mounted plastic grille Single 63"x14" rear window</p> <p>Interior Air bag rear cab suspension Black vinyl mats Forward roof mounted console Dual Sun visors Fresh Air Heater and Defroster</p>
0769892	Cab Interior, Gray, w/Convenience Package, 4-Door Crew Cab, Freightliner	<p>CAB INTERIOR w/CONVENIENCE PACKAGE The cab upholstery will be gray vinyl. The cab interior will include wood grain driver and center instrument panels, molded plastic door panels with vinyl inserts and brushed aluminum lower door kick plates.</p>
0668972	Grille, Chromed Plastic, w/Exterior Appearance Pkg, Freightliner	<p>CAB GRILLE - CHROMED The cab 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.</p>
0548159	Mirrors, West Coast, 8"Convex, Heated, Remote,Bright,PS Aux, Freightliner	<p>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. An auxiliary down view mirror will be included on the passenger side.</p>
0616224	Steps, Cab, as Supplied by Freightliner (Stainless Steel)	<p>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.</p>
0767309	Compartment, Tool, Under RH Crew Cab, Wildland BX3	<p>COMPARTMENT, STORAGE A double-door storage compartment will be provided below the right side crew cab door. Both doors will be double pan construction with a D-ring latch and vertical hinges. The exterior of this compartment will serve as an entrance step to the crew cab. An LED compartment light will be provided inside the compartment with a magnetic switch.</p>
0767312	Compartment,Tool/Brass, Under LH Crew Cab, Max Size, BX3	<p>COMPARTMENT, STORAGE A storage compartment for tools and brass attachments will be provided below the left side crew cab door. There will be a drawer style tray that slides out for access to the equipment. The exterior of this compartment will serve as an entrance step to the crew cab. An LED compartment light will be provided inside the compartment with a magnetic switch.</p>
0637488	Lights, Cab & Crw Cab Acs Stps, LED, 4 Door Cab, BX Product	<p>STEP LIGHTS There will white LED step lights provided to meet NFPA step lighting requirements. Lights will be installed at each cab and crew cab door step. The lights will be activated when any cab door is opened.</p>

0689675	DELETE Rear Cab Window, Freightliner M2-106/112/114SD	DELETE REAR CAB WINDOW The chassis manufacturer will provide a metal panel in place of the rear window in the cab.
0070598	Daytime Running Lts, Commercial	DAYTIME RUNNING LIGHTS The chassis will be provided with daytime running lights.
0773943	Air Conditioning, Commercial	AIR CONDITIONING An air conditioner will be provided that is integral with heater and defroster system.
0759495	Ember Screen, for AC Filter, Air Intake, Pierce Provided, Commercial Chassis	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.
0005940	Lights, Engine Compmt, (2) Commercial Chassis	ENGINE COMPARTMENT LIGHTS Two (2) engine compartment lights will be installed under the engine hood, of which the switches are an integral part.
0731748	Console, 4-Door, Switches, Radio and Storage, BX3	CAB CONSOLE There will be a console located between the front seats with room for radio installation, the electrical and emergency switches, a siren and auxiliary pump controls (if the truck is so equipped). The area for the siren and electrical and emergency switches will be located toward the front of the console. The console will be configured such that the auxiliary pump controls are to be located toward the right side for easier control by the officer . It will also be also be designed without the need to accommodate a turret control joystick . At the rear of the console will be a storage area with an open top . It will be constructed of smooth aluminum and painted black.
0726718	DECLINED - Side Roll Protection, Freightliner	
0767593	Seating Capacity, Cab, 4-Door, Wildland BX3	SEATING CAPACITY The seating capacity in the cab will be five (5).
0582132	Seats, Cab, Air Driver w/911 Air Susp Passenger, Non-SCBA, Freightliner	SEATING Seating inside the cab will consist of a Seats Inc. 911 air-ride driver seat and a Seats Inc. 911 air-ride officer seat.
0764145	Seats, 3-man bench, No Seat Occupied Sensor, FLR	SEATING (crew cab) Three (3)-man bench seat with shoulder belts on the outside seat positions will be provided.
0597773	Seat Belt Web Length, NFPA Compliant, Commercial Chassis	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.
0581771	Seat Belts, Orange, Freightliner	SEAT BELTS All seating positions in the cab and crew cab will have highly visible (orange) seat belts.
0547549	Helmet Storage, Not Required, NFPA 1906 Apparatus	
0767583	Portable Hand Light, Not Required, NFPA 1906 2016 Apparatus	

0584358	Cab Instrumentation, Commercial Chassis	<p>CAB INSTRUMENTS</p> <ul style="list-style-type: none"> - Engine Temperature Gauge and Warning Buzzer - Engine Oil Pressure Gauge and Warning Buzzer - Speedometer with Odometer - Engine Tachometer - Engine Hourmeter - Fuel Level Gauge - DEF Level Gauge and Warning Lamp - Voltmeter: Low voltage red warning light and audible alarm - Air Brake Pressure Gauge - Air Restriction Indicator - Circuit Breakers: For overload protection of electric circuits - Ignition Switch: Keyless type
0767575	Panel, Emergency Switch, on Console, BX3	<p>EMERGENCY SWITCH PANEL</p> <p>An emergency switch panel will be provided in the cab. The switch panel will be located on the floor mounted console.</p>
0641093	Light, Do not move apparatus, Commercial, BX Program	<p>"DO NOT MOVE APPARATUS" INDICATOR</p> <p>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.</p>
0005926	Light, Open Door - Commercial Std	<p>OPEN DOOR INDICATOR LIGHT</p> <p>A red "open door" indicator light will be provided inside the cab, in clear view of the driver, to warn of an open compartment door.</p>
0072620	Wiper control, intermittent feature Commercial	<p>WIPER CONTROL</p> <p>Wiper control will include an intermittent feature and windshield washer controls.</p>
0759671	Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045, on Rear of Console, BX3	<p>SPARE CIRCUIT</p> <p>There will be two (2) dual USB fast charge socket mounts installed in the cab of the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 4.8 amps at 12 volts DC. The USB socket mount will be installed on the rear of the center cab console. Termination will be a Blue Sea Systems part number 1045 dual USB charger socket. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is applied.</p>
0762221	Auxiliary Power Outlet (12V) and USB Port, Commercial Chassis	<p>12V POWER OUTLET AND USB PORT</p> <p>A 12-volt auxiliary power output and a USB port will be provided by the chassis manufacturer. They will be located in the instrument panel.</p>
0637217	Radio, AM/FM/Weather Band, Bluetooth, USB/ Aux Input, J1939, Freightliner	<p>RADIO</p> <p>An AM/FM stereo radio with weatherband and Bluetooth, USB inputs, auxiliary input, and J1939 compatibility will be provided. It will also include two (2) speakers and a clock.</p>
0622928	Not Available, Vehicle Information Center, Multiplex System, Commercial Chassis	
0734854	Collision Mitigation, Not Requested	
0606231	Not Required, Vehicle Data Recorder and Seat Belt Monitor, Export/ULC	
0763435	Two-Way Radio Accommodation Package - Wildland/BX3	<p>TWO-WAY RADIO ACCOMMODATION PACKAGE</p> <p>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 3' long and terminate inside the console 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 to inside the center console. All wiring will be neatly coiled and clearly marked. A weatherproof cap for the antenna mount will also be installed.</p>

0696434 Antenna Mount, Commercial Chassis, Cable Routed to Console

RADIO ANTENNA MOUNT

There will be two (2) standard 1.125", 18 thread antenna-mounting base(s) installed on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the console. A weatherproof cap will be installed on the mount.



0622749 Weldon V-MUX, Electrical System, Freightliner Chassis, BX-Product

0773471 Electrical System, Freightliner M2-106, BX3 Wildland

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.

0768646 Single Start, (3) Batteries, 2250-2280 CCA, w/Jump Studs, FLR M2-106, BX3

BATTERY SYSTEM

A single starting battery system will be provided consisting of three (3)-12 volt, 750 to 760 CCA, maintenance-free batteries. The battery system will have a total of 2250 to 2280 cold cranking amps.

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.

0756893 Battery Relocation by Pierce, FLR M2-106, 4-Door Cab, 4x4, BX3/BLM

0897716 Battery Location, Top of Crew Cab Step Compartment, Left Side

BATTERY LOCATION - ABOVE CREW CAB STEP COMPARTMENT

The batteries will be relocated by the apparatus manufacturer. They will be installed on top of the left side crew cab step compartment. That compartment is defined elsewhere in this specification.

0072685	Selector, Single Start Battery, Commercial Chassis	<p>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 green "battery on" indicator light, visible from the driver's position, will be provided.</p>
0767195	Charger, Sngl Sys, Kussmaul, 1200, 091-187-12-Remote, 40 Amp, BX3, BX	<p>BATTERY CHARGER There will be a Kussmaul™ 1200, Model 091-187-12-Remote, battery charger provided. A bar graph display indicating the state of charge will be provided. The charger will have a maximum output of 40 amps and a fully automatic regulation. The battery charger will be wired to the AC shoreline inlet defined elsewhere in this proposal.</p>
0764272	Location, Charger, in Cab Behind Crew Cab Seat, BX3	<p>BATTERY CHARGER LOCATION The battery charger will be located in the cab behind the crew cab seat.</p>
0642406	Location, Bat Chrg Ind, Driver's Crew Step Area	<p>The battery charger indicator will be located in the driver's crew step area.</p>
0767064	Shoreline, 20A 120V, Kussmaul Auto Eject, for Battery Charger, BX3	<p>KUSSMAUL AUTO EJECT FOR SHORELINE one (1) shoreline inlet will be provided to operate the dedicated 120-volt circuits on the truck without the use of the generator. The shoreline receptacle (s) will be provided with a NEMA 5-20, 120 volt, 20 amp, straight blade Kussmaul auto eject plug with a yellow weatherproof cover. The cover is spring loaded to close, preventing water from entering when the shoreline is not connected. A solenoid wired to the vehicle's starter is energized when the engine is started. This instantaneously drives the plug from the receptacle. The shoreline will be connected to the battery charger. A mating connector body will also be supplied with the loose equipment.</p>
0767063	Shoreline Location, BX3	<p>The shoreline receptacle will be located on the driver's side, under the crew cab door .</p>
0621234	Alternator, 300 amp, Delco, 40SI, FLR	<p>ALTERNATOR The alternator will be a Delco with a capacity of 12-volt 300 amp.</p>
0634181	Load Manager, Inc w/MUX Electrical System , BX Program	<p>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.</p>
0773739	Cab Lighting, LED Marker Lights, Commercial	<p>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.</p>

0669538	Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts, Pumper/Tanker/PUC	<p>REAR CLEARANCE/MARKER/ID LIGHTING</p> <p>There will be three (3) LED identification lights located at the rear installed 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</p> <p>There will be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following: To indicate the overall width of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the rear All at the same height</p> <p>There will be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following: To indicate the overall length of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the side All at the same height</p> <p>There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>Per FMVSS 108 and CMVSS 108 requirements.</p>
0619776	Lights, Tail, Truck-Lite 4.00" Round Grommet Mount, LED Lights, Wildland BX3	<p>REAR FMVSS LIGHTING</p> <p>The rear stop/tail and directional lights will be Truck-Lite®, 4.00" round LED lamp kits. Each lamp kit will include a lamp, a rubber grommet and a connector plug. The following light kits will be provided: Two (2) Truck-Lite, Model 44002R, red stop/tail light assemblies. Two (2) Truck-Lite, Model 44001Y, amber directional light assemblies. The lights will be mounted on the rear face of the rear fender compartment with the red stop/tail light assemblies located at the bottom of the light cluster, in lieu of the standard.</p>
0689409	Lights, Backup, Truck-Lite Model 44350C, LED, Grommet Mount	<p>Two (2) Truck-Lite, Model 44350C, LED backup lamps with grommets will be provided.</p>
0664481	Bracket, License Plate & Light, P25 LED	<p>LICENSE PLATE BRACKET</p> <p>There will be one (1) license plate bracket mounted on the rear of the body. A white LED light will 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.</p>
0589905	Alarm, Back-up Warning, PRECO 1040	<p>BACK-UP ALARM</p> <p>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.</p>
0767028	Lights, Perimeter Cab, Amdor AY-LB-12HW012 LED 4Dr, NFPA 1906 BX3	<p>CAB PERIMETER SCENE LIGHTS</p> <p>There will be four (4) Amdor, Model AY-LB-12HW012, 190 lumens each, 12.00" white LED strip lights provided. One (1) under the driver's side cab access step. One (1) under the passenger's side cab access step. One (1) under the passenger's side crew cab access step. One (1) under the driver's side crew cab access step. The lights will be activated when the battery switch is on and the respective door is open and whenever control has been selected for the body perimeter lights.</p>
0769559	Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts	<p>PUMP HOUSE PERIMETER LIGHTS</p> <p>There will be two (2) Amdor, Model AY-LB-12HW012, 190 lumens each, 12.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, centered front to rear as much as possible, one (1) each side. The lights will be activated when the battery switch is on, and controlled by the same means as the body perimeter lights.</p>
0766637	Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear Step, BX3	<p>BODY PERIMETER SCENE LIGHTS</p> <p>There will be two (2) Amdor, Model AY-LB-12HW012 350 lumens, 12.00" long 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear. The perimeter scene lights will be activated when the battery switch is on, and and is required. EXCLUDED: [Control, Perimeter Lts]. - DS Switch Panel EXCLUDED: [Control, Perimeter Lts]. - Parking Brake Applied</p>

0764260	Lights, Step, LED, BX3, Prk Brk	<p>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 activated when the parking brake is applied . All other steps on the apparatus will be illuminated per the current edition of NFPA.</p>
0764940	Light, WIn, 12V PCPSM2C Pioneer LED Fld/Spt, Surface Mnt 1st, LEFT Side, BX3	<p>12 VOLT LIGHTING There will be one (1) Whelen, Model PCPSM2*, 12 volt surface mounted LED combination spot/flood light(s) located one (1) high and forward on driver's side body . The lights will be mounted with chrome flange(s). The light(s) selected above will be controlled by the following: a switch at the driver's side switch panel a switch at the driver's side pump panel These light(s) may be load managed when the parking brake is set.</p>
0759407	Light, WIn, 12V PCPSM2C Pioneer LED Fld/Spt, Surface Mnt 1st, RIGHT Side, BX3	<p>12 VOLT LIGHTING There will be one (1) Whelen, Model PCPSM2C, 12 volt surface mounted LED combination spot/flood light(s) located one (1) high and forward on passenger's side body . The lights will be mounted with chrome flange(s). The light(s) selected above will be controlled by the following: a switch at the driver's side switch panel a switch at the driver's side pump panel These light(s) may be load managed when the parking brake is set.</p>
0772726	Light, Visor, WIn, 12V PCH2* Pioneer LED Fld/Spt, Brow Mt, Commercial, BX	<p>12 VOLT LIGHTING There will be a Whelen® Pioneer™, Model PCH2*, 12 volt LED light(s) provided. The light will be mounted on a special bracket painted exterior cab roof color, provided on the front of the cab roof, centered. The painted parts of this light assembly to be white. The light(s) will be controlled by the following: a switch at the driver's side switch panel no additional switch location These light(s) may be load managed when the parking brake is set.</p>
0603539	Not Required, Deck Lights, Rear, 1906 Wildland or Other Hose Bed & Rear Lighting	
0766626	Lights, Hose Bed, Cover, Dual LED Light Strips, BX3	<p>HOSE BED LIGHTS There will be white 12 volt DC LED light strips provided to illuminate the hose bed area. Hose bed lights will be positioned to meet the photometric levels listed in NFPA for hose bed lighting requirements. The lights will be activated when the hosebed cover is raised.</p>
0763429	Lights, Walk Surf, Additional Not Req'd, Hose Bed Light Adequate, BX3	<p>WALKING SURFACE ILLUMINATION Additional lighting for the designated walking surface will not be required. The light for illuminating the hose bed will be adequate for the walking surface also.</p>
0804230	WILDLAND BX3, Type 3, NFPA 1906	

0773467	Water Tank, Poly, 500 Gallon, Wildland BX3	<p>WATER TANK Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated. Tank will be designed to provide for deep side compartments and to serve as a large sump to limit the amount of undraftable water. Tank joints and seams will be nitrogen welded inside and out. Tank will be baffled in accordance with applicable NFPA for the type of truck being constructed. Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments. Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding. Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover. All partitions will interlock and will be welded to the tank sides. Fill tower will be constructed of .50" polypropylene. It will have a .25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately four inches down the fill tower and extend through the water tank and dump to the rear of the rear axle. Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions. Tank top will be sufficiently supported to keep it rigid during fast filling conditions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. A minimum of two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes. A sump will be provided at the bottom of the water tank, and will include a drain plug and the tank outlet. The tank will be installed in a fabricated cradle assembly constructed of structural steel. Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel flat bar or rectangular tubing. Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle. Mounting system to be approved by the tank manufacturer.</p>
0003405	Overflow, 4.00" Water Tank, Poly	<p>Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p>
0766960	Foam Tank, Separate, Required	
0553725	Restraint, Water Tank, Heavy Duty, Special Type Tank, 4x4, or Export	<p>WATER TANK RESTRAINT A heavy-duty water tank restraint will be provided.</p>
0768625	Tank Fill, Direct, Rear, 2.50", Wildland	<p>DIRECT TANK FILL There will be one (1) - 2.50" gated external tank fill(s) installed and properly labeled at the rear of the truck. It will be centered, with the valve installed as low as practical for easy hose connection. Piping, for the fill, will 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" SFT style check valve will be provided to prevent backflow. A chrome plated plug and chain will be provided for the tank fill.</p>
0773432	Hose Bed, Wildland BX3	<p>HOSE BED Two main hose storage areas will be provided, one (1) on each side at the top of the truck. (In the center of the hose bed will be an equipment storage area as defined elsewhere in this specification.) Each hose storage area will be about 21.00" wide x 101.00" long (the length of the body) x 20.00" deep. Flooring of the hose bed areas will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.</p>
0762116	Hose Bed Capacity, 500' of 2.50" Hose, Wildland BX3	<p>HOSEBED CAPACITY The hosebed shall be of a fixed design and capacity and shall accommodate a typical wildland truck rolled or flat hose storage requirements per NFPA 1906. There shall be hose storage on each side at the top of the truck with equipment / tool storage in the middle. (This center storage is defined elsewhere in this proposal.) Each side shall have a hose storage space of at least 25 cubic feet, with a total hose bed volume of at least 50.00 cubic feet.</p>

0073494	Not Required, Divider, Hose Bed	
0751228	Covers, Hose Bed, Alum Treadplate, 4-Section, Wildland BX3	<p>HOSE BED COVERS</p> <p>A four-section aluminum treadplate hose bed cover will be provided - two sections (one forward and one rearward) for each side of the hose bed. The covers will be hinged on the outboard side using a full length stainless steel hinge.</p> <p>The covers will be reinforced so that they can support the weight of a person walking on the cover.</p> <p>Gas shocks will aid in opening the covers and keeping them in the upright position. A safety strap to keep the covers from traveling over center will be provided.</p> <p>To keep them in the closed position, a latch will be provided at the rear of each rearward cover. When closed, the rearward cover will be designed to keep the forward cover in the closed position. These rear positioned latches will not require climbing on top of the covers to unlatch them.</p> <p>Chrome grab handles will be provided on each forward cover to aid in opening and closing the cover.</p>
0761425	Flap, Rear of Alum Hose Bed Cover, Two Piece, Vinyl, w/Seat Belt Buckles, BX3	<p>HOSEBED END FLAP</p> <p>A pair of black vinyl flaps will be installed on the rear, one for each of the aluminum treadplate hose bed covers.</p> <p>Each vinyl flap will have (2) nylon tie down straps, with seat belt buckles.</p>
0768124	Top of Truck Gear and Equipment Storage, BX3	<p>TOP OF TRUCK GEAR & EQUIPMENT STORAGE</p> <p>At the top of the truck will be three (3) compartments for the storage of gear and equipment. Two (2) of these storage compartments will be located toward the outside of the hose bed, one (1) on each side of the truck. These compartments will be constructed from stainless steel and incorporated into the body design and construction.</p> <p>Each of these compartments will be about 13.00" wide x 17.00" deep x 100.00" long. Access into these compartments will be at the rear and top. There will be a single pan vertically hinged door at the rear for each compartment. It will be constructed from brushed stainless steel and have a black push-to-open latch. The top of each of these compartments will be covered by the aluminum hose bed covers. When the hose bed covers are in the open position, contents of these compartments can be accessed from the top.</p> <p>The interior of these compartments will remain unpainted natural stainless steel. The floor will be smooth stainless steel and include drain holes.</p> <p>In the center/rear of the hose bed will be a gear/equipment storage compartment. It will be constructed from unpainted smooth aluminum. It will be about 30.00" wide x 20.00" deep x 66.00" long. Access will be from the top. A reinforced aluminum treadplate door, with a full-length stainless steel hinge will be provided. A locking D-ring latch will hold the door closed. The interior, including the floor, will be unpainted smooth aluminum. Drain holes will be provided in the floor.</p> <p>WATER AND FOAM TANK DOME ACCESS</p> <p>Forward of the center hose bed gear/equipment compartment will be an area primarily for housing the water and foam tank domes. The dimensions of this tank dome compartment will be about 30.00" wide x 20.00" deep x 34.00" long. It will be constructed from smooth unpainted aluminum.</p> <p>The tank domes will be accessed through an aluminum treadplate door on the top of this compartment that matches the construction of the center storage compartment. It will also have a full-length stainless steel hinge and a locking D-ring latch.</p>
0768331	Running Boards, Wildland BX3	<p>RUNNING BOARDS</p> <p>Running boards on each side of the pump module will be fabricated of .125" bright aluminum treadplate. The outer edge of the treadplate will have a punched design for extra stepping traction.</p> <p>Each running board will be supported by a welded tubing and channel assembly, which will be bolted to the pump compartment substructure and spaced .50" away from the pump panel.</p>
0766413	Tailboard, w/Hinged Drop-Down Step, Wildland BX3	<p>REAR STEP/TAILBOARDS</p> <p>A pair of 10.00" deep tailboard/steps will be provided at the rear, one each side behind the rear body bulkheads. The supporting framework will be covered with bright aluminum treadplate and will incorporate a punched design along the rearward edge for extra stepping traction.</p> <p>A hinged drop-down / lift-up style of step with a traction grip stepping surface will also be provided on each side of the truck to meet NFPA first-step height requirements. It will store in a manner that does not inhibit the rear angle of departure.</p> <p>Steps and tailboards will meet NFPA requirements.</p>
0607673	Wall, Rear, Aluminum Treadplate, Wildland BX3	<p>REAR WALL, ALUMINUM TREADPLATE</p> <p>The rear facing surfaces of the center rear wall directly below the hose bed will be aluminum treadplate. This treadplate serves as a kick-plate surface for the rear access steps.</p> <p>The bulkheads (the surface to the rear of the side body compartments) will be smooth and the same material as the body.</p>
0766412	Tow Eyes, 1906 Wildland BX3/BLM	<p>TOW EYES</p> <p>Two (2) rear "tow" eyes will be located at the rear of the apparatus. They will be a shackle style tow eye and will be mounted to a framework attached directly to the chassis frame rails.</p>

COMPARTMENTATION

The body and compartments will be fabricated of corrosion resistant, low carbon austenitic, brushed and painted 304L stainless steel. Due to superior corrosion resistance of 300 stainless grades, other grades of austenitic stainless steels, or any grade of ferritic or martensitic stainless, will not be acceptable.

The side compartments will be an integral assembly with the rear fenders. Removable circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

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

The front facing compartment walls will be covered with bright aluminum treadplate.

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

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this Wildland truck, 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.

TESTING OF BODY DESIGN

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

A similar body design will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 12.00" to simulate the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
- Driving the vehicle at 35 mph on a "washboard" road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

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

LEFT SIDE COMPARTMENTATION

A vertically hinged double door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 58.00" wide x 39.00" high x 23.50" deep. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 55.00" wide x 39.00" high.

Positive door holders will be furnished with this compartment.

A full height, vertically hinged, single door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 34.00" wide x 59.00" high x 23.50" deep. The depth of the compartment will be calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 31.00" wide x 59.00" high.

A positive door holder will be furnished with this compartment.

The rear compartment will be designed to provide a superior angle of departure suitable for off-road use.

Main body compartments will be vented. The vents will allow air circulation between compartments and/or to the outside atmosphere. They will be designed and located for optimum performance.

TOOL COMPARTMENT

Located below the compartment behind the rear wheels will be a tool compartment. This compartment will be about 24.75" deep and have a door opening of about 19.00" wide x 7.50" high. It will have a single pan horizontally hinged drop-down door. The door will be constructed from brushed stainless steel and have a black push-to-open latch.

FENDER PANEL STORAGE COMPARTMENT

Two (2) fender panel storage compartments will be provided. They will be located ahead of and behind the rear wheel in the body fender panel.

These compartments will be designed to make use of the available space within the fender panel.

The compartments will be sized as large as practical to allow for the storage of an air bottle, air pack or other tools or equipment. A drain hole will be provided in the bottom of the compartment.

A brushed stainless steel door with a black push-to-open latch will be provided on each compartment. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

0773597

RS, Flush Style Door, Full Depth, w/Ladder Storage, Wildland BX3

RIGHT SIDE COMPARTMENTATION

A vertically hinged double door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 58.00" wide x 39.00" high x 11.50" deep. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 55.00" wide x 39.00" high.

Positive door holders will be furnished with this compartment.

A full height, vertically hinged, single door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 34.00" wide x 59.00" high x 23.50" deep in the lower 21.00" of the compartment and 11.50" deep in the remaining upper portion. The depth of the compartment will be calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 31.00" wide x 59.00" high.

A positive door holder will be furnished with this compartment.

The rear compartment will be designed to provide a superior angle of departure suitable for off-road use.

The back wall of the above compartments will be removable to allow access to the interior of the ladder storage area as defined elsewhere in this specification.

Main body compartments will be vented. The vents will allow air circulation between compartments and/or to the outside atmosphere. They will be designed and located for optimum performance.

TOOL COMPARTMENT

Located below the compartment behind the rear wheels will be a tool compartment. This compartment will be about 24.75" deep and have a door opening of about 19.00" wide x 7.50" high. It will have a single pan horizontally hinged drop-down door. The door will be constructed from brushed stainless steel and have a black push-to-open latch.

FENDER PANEL STORAGE COMPARTMENT

Two (2) fender panel storage compartments will be provided. They will be located ahead of and behind the rear wheel in the body fender panel.

These compartments will be designed to make use of the available space within the fender panel. The compartments will be sized as large as practical to allow for the storage of an air bottle, air pack or other tools or equipment. A drain hole will be provided in the bottom of the compartment. A brushed stainless steel door with a black push-to-open latch will be provided on each compartment. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

0768326

Doors, ALUMINUM, FLUSH STYLE w/"D" Handle - Side Compartments, Wildland BX3

DOORS, SIDE COMPARTMENTS

All hinged body side compartment doors will be will be fabricated of 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi. They will be flush style with double pan construction.

Doors will have a full interior panel. To provide additional door strength, a "C" section reinforcement will be installed between the outer and interior panels.

A closed cell rubber gasket will be installed to provide a weather resisting compartment seal.

A stainless steel continuous hinge will be provided on each compartment door.

Door lock mechanisms will be protected to prevent fouling of the lock in the event equipment inside shifts onto the lock area.

Latches will be recessed with polished stainless steel "D" ring handles. A gasket will be provided between the "D" ring handle and the door.

SCUFFPLATE ON INTERIOR OF COMPARTMENT DOOR(S)

There will be a a brushed stainless steel scuffplate installed on the inside panel of each door pan that covers the width and height of the door.

Scuffplates will be located on all main body compartment doors as follows: B1, LS1, LS2, RS1, RS2 and RS3 .

0615834

Rear Compt, Flush Style Door, Wildland BX3

COMPARTMENTATION, REAR

A vertically hinged, double door compartment at the rear of the truck will be provided. Interior dimensions of this compartment will be 48.00" wide x 45.00" high x 25.50" deep. Depth of the compartment will be calculated with the compartment door closed.

Clear door opening of this compartment will be 30.00" wide x 39.00" high.

Each of the vertically hinged compartment doors will be provided with a positive door holder.

0626754

Doors, ALUMINUM, FLUSH STYLE w/"D" Handle - Rear Compartment, Wildland BX3

DOORS, REAR COMPARTMENT

The rear compartment doors will be will be fabricated of .125", 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi. They will be flush style with double pan construction.

Doors will have a full interior panel. To provide additional door strength, a "C" section reinforcement will be installed between the outer and interior panels.

The doors will be provided with a closed cell rubber gasket to provide a weather resisting compartment seal.

A stainless steel continuous hinge will be provided on each compartment door.

Door lock mechanisms will be protected to prevent fouling of the lock in the event equipment inside shifts onto the lock area.

Latches will be recessed with polished stainless steel "D" ring handles. A gasket will be provided between the "D" ring handle and the door.

0597111

Not Required, Pull Strap

0738852	Keyed Locks for Latches, Key Style 1250, Body Compts, Wildland BX3	<p>KEYED LOCK(S) - BODY COMPARTMENTS The main body compartment door D-ring latches will be furnished with a keyed lock utilizing key style #1250. This includes compartments: LS1 and LS2, RS1, RS2 and RS3 (pump house compartment) and the rear compartment (B1). Other storage areas that also use the same size D-ring latch will also be the key#1250 locking style. These compartments are: the ladder storage door at the rear of the truck, the gear and equipment storage compartment and water/foam dome cover above the water tank.</p>
0766933	Lights, Body Compt, Pierce LED, Dual Lt Strips, Each Side of Door, BX3	<p>COMPARTMENT LIGHTING There will be six (6) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in compartment(s): R1, LS1, LS2, RS1, RS2 and RS3 and the tool/equipment compartment on the right side pump panel. A single LED strip light will be provided in each tool compartment located below each rear/side (LS1/RS1) compartment. Opening the compartment door will automatically turn the compartment lighting on.</p>
0768324	Shelf Tracks, Unpainted, Wildland BX3	<p>MOUNTING TRACKS There will be five (5) sets of tracks for mounting shelf(s) in LS1, LS2, RS1, RS2 and B1 . 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.</p>
0766575	Shelves,Adjustable,500 lb Capacity,Full Width/Depth,Brushed Alum,Wildland BX3,BX	<p>ADJUSTABLE SHELF There will be five (5) shelves provided. Each shelf will be constructed of 0.188" aluminum with 2.00" high sides. Each shelf will as wide and as deep as the compartment space will allow. Each shelf will have a brushed finish. Each shelf will have a load capacity of 500 lb. 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 0.12" 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, in LS2 centered between the floor and ceiling and in B1 centered between the floor and ceiling .</p>
0004015	Trim, Alum Treadplate on Lower Body	<p>LOWER BODY TRIM Bottom edge of the side compartments will be trimmed with bright aluminum treadplate. Trim will be about 2.00" high. It will not be an integral part of the body construction, which allows easy replacement in the event of damage.</p>
0739426	Fender Crowns, Rear, Rubber, w/Removable Liner, BX3	<p>BODY FENDER CROWNS Black rubber fender crowns will be provided around the rear wheel openings. BODY FENDER LINER A painted fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.</p>
0766681	Hose, Hard Suction, Provided by Fire Department, NFPA 1906 2016, Wildland	<p>HARD SUCTION HOSE NFPA 1906, 2016 edition, section 16.13.2.2.1 references suction hose. Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.</p>
0527021	Handrails Located @ Front Body	<p>HANDRAILS The handrails will be 1.25" diameter knurled aluminum to provide a positive gripping surface. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails.. Handrails will be located on the front of the body in positions needed to meet NFPA requirements.</p>
0531152	Handrails, Rear Bulkhead, Wildland	<p>One (1) vertical handrail, with chrome stanchions will be located on each rear bulkhead.</p>
0758878	Handrail, Rear, Above Hose Bed, BX3	<p>One (1) handrail will be installed above the hose bed.</p>
0044229	No Extension Ladder Req'd	
0074231	No Roof Ladder Req'd	

0773396	Ladders, Encl'd Complete, in RS Body, w/Pike Poles, Wildland BX3	<p>LADDER STORAGE A ladder storage area will be provided inside the upper section of the right side compartments. The ladder rack will reduce the depth of the upper section in the side compartments by approximately 12.00". Partitions will be installed inside the compartments to conceal the ladder storage. The area will extend the full length of the body and will be enclosed to protect the ladders and other equipment from road dirt. The ladder will be stored vertically with stainless steel and Dura-Surf slides to aid in loading and unloading of the ladders. Two (2) aluminum pike pole storage tubes will be provided above the ladder storage. Access will be at the rear via a vertically hinged single pan aluminum treadplate door with a locking "D-ring" latch. The ladder storage will accommodate a 20' aluminum extension ladder (Duo Safety model #912 or equivalent) and 2 pike poles (standard or all-purpose head).</p>
0074248	Not Required, Folding Ladder	
0766277	I Zone Bracket, Pair, Located Outboard, Wildland Style	<p>I-ZONE BRACKETS - WILDLAND STYLE - OUTBOARD A pair of I-Zone brackets will be provided and mounted at the rear of the apparatus, one each side, outboard on the rear body bulkheads. The brackets will be designed with adequate reinforcement to eliminate flexing of the body (oil canning) and not interfere with rear facing lights while carrying hose. The design of these I-Zone brackets will have a 45 degree receiver and a removable extension piece that fits into the brackets for carrying hose.</p>
0768315	Steps,(4) Cast Products,Model SP2011-1/(2) Model SP2016-1,Rear Body,Wildland BX3	<p>REAR ACCESS STEPS A quantity of six (6) wedge style steps will be provided at the rear for access to the hose bed. The first step on each side will be 14.00" wide by 8.00" deep - Cast Products model SP2016-1 or equivalent. The second and third step on each side will be 6.50" wide by 8.00" deep - Cast Products model SP2011-1 or equivalent. Each step will include a handhold and an LED light provided above the step surface.</p>
0762015	Step Access to Running Boards, w/4x4 Chassis, Wildland BX3	<p>ACCESS to PUMP HOUSE RUNNING BOARDS Access to the pump house running boards will be via the crew cab access steps. For break over and ground clearance purposes, additional steps below the running boards are not desired.</p>
0766970	Auxiliary Pump, Hydraulic Drive (Price Only)	
0766267	Pump,Auxiliary, Darley,1.5AGH,Hyd PTO Drive,150 GPM, 2016 NFPA 1906,Wildland BX3	<p>AUXILIARY PUMP A hydraulic driven Darley 1.5AGH centrifugal pump will be provided for pump and roll operations. The pump will have a 2.00" suction inlet and a 2.00" discharge port. The pump will have a gear type hydraulic motor. The pump case will be vertically split for removal and service of the impeller. A Viton, carbon/ceramic shaft seal will be provided. The pump shaft and wear ring will be stainless steel. A variable displacement piston type hydraulic pump supplying the hydraulic motor on the water pump will be supplied. The displacement of the hydraulic pump will be controlled by a fixed orifice type, load sensing, hydraulic circuit. The hydraulic system will have a properly sized reservoir, cooler, filter and accessory components. The components will be mounted in the vehicle body to facilitate routine maintenance operations. The hydraulic drive design will be certified by manufacturer of the primary hydraulic components as suitable for the intended use and duty. All components of the water pump and drive system will be readily available on the domestic hydraulic market (USA). An auxiliary pump drain will be supplied.</p> <p>AUXILIARY PUMP PERFORMANCE The pump will be rated by the pump manufacturer on bench testing to the deliver the following performance at 1000 engine rpm. These numbers will be reduced when installed on the apparatus due to plumbing restrictions and/or the location of this water pump. - 150 gpm @ 80psi - 100 gpm @ 200psi - 35 gpm @ 300psi This pump will also meet NFPA 1906 section 16.2.2.1 for pump and roll performance/requirements. It will deliver 20 gpm @ 80 psi while moving at 2 mph or less.</p>
0626923	Installation Location, Aux Pump, Inside Pump house Area	<p>AUXILIARY PUMP INSTALLATION The auxiliary pump will be installed and located within the main pump module.</p>
0788341	Not Required, Fuel Supply, (Hydraulic Drive Pump)	
0626844	Not Required, Exhaust Routing, Aux Pump	

0787477	Discharge Connections, Aux Pump, Standard, w/Foam System	<p>AUXILIARY PUMP DISCHARGE CONNECTIONS A discharge manifold will be supplied as required to allow plumbing of the required discharges. This pump will supply water to all foam capable discharge outlets Check valve(s) will be provided to prevent backflows between the main pump and the auxiliary pump.</p>
0786060	Tank to Pump Line, Hyd Aux Pump, 2.00", Separate Tank to Pump Line	<p>AUXILIARY PUMP -TANK TO PUMP CONNECTION An independent 2.00" tank to pump piping with a 2.00" valve will be provided for the auxiliary pump. It will not be part of the main pump's tank to pump line nor draw water through the main pump. The design will include a method for anti-swirl protection and prevent pump cavitation. The tank to pump line will run from the pump into the front face of the water tank. 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. This tank to pump connection will have an electric valve that will open when the Pierce hydraulic pressure controller(s) "ON" switch is activated. The valve will close when the "OFF" switch is activated. The electric tank to pump valve will not be gateable.</p>
0802862	SP Not Required, Primer for Aux Pump, Gravity Prime	<p>AUXILIARY PUMP PRIMING The auxiliary pump will be installed in such a manner that an additional primer or priming valve is not required. The pump will prime by gravity flow of water from the tank.</p>
0766930	Controls, Hydraulic Aux Pump, Pierce, Dual, In Cab and at Pump Panel, Wildland BX3	<p>AUXILIARY PUMP GAUGES AND CONTROLS The auxiliary pump system will be activated by a switch in the cab near the driver's position and on the left pump operator's panel. To control the pump pressure, a Pierce electronic water pressure controller will also be provided in the cab near the driver's position and on the left pump operator's panel. The panel containing the activation switch will also include a digital pressure gauge, pump and system status indicators and the pressure adjustment knob.</p>
0626933	Line, Recirculating, Aux Pump, 499gpm and less, 0.375", Automatic	<p>AUXILIARY PUMP AUTOMATIC RECIRCULATING LINE The auxiliary pump will be furnished with a 0.375" automatic pump recirculating line with a check valve. The line will be routed from the discharge side of the auxiliary pump to the water tank. This line will be designed to circulate water continuously from the auxiliary pump back to the tank to help maintain the water pump temperature at a safe level. The recirculating line will be plumbed into the water tank dome. It will include a check valve to facilitate priming and prevent water backflow. The check valve will be installed as close as possible to the water tank dome.</p>
0766268	Engineering Review of Aux Pump System Not Req'd - Wildland BX3	
0773415	Pump House, Side Control, 28", Wildland BX3	<p>PUMP COMPARTMENT The pump compartment will be manufactured separate from the hose body and compartments. It will be a fabricated assembly of stainless steel tubing, angles and channels which supports both the fire pump and the side running boards. The pump compartment will have substructure to facilitate the pump mounting. The substructure will be mounted on the chassis frame rails with rubber isolators in a four point pattern to allow for chassis frame flex while in motion. Pump compartment, pump, plumbing, gauge panels, hose body and compartments will be detachable and removable from the chassis and body as a single assembly.</p> <p>PUMP MOUNTING Pump will be mounted to the substructure which is attached to the chassis frame rail using the rubber isolators. The mounting allows for vehicle flex while maintaining pump alignment within the pump compartment.</p> <p>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 panels will be fastened to the enclosure with screws. The pump module will have a nominal width of 28.00". Brushed stainless steel trim collars will be installed around all inlets and outlets. Valve controls will have locking control rods.</p> <p>IDENTIFICATION TAGS All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.</p>

0769817	Pump, Darley, LSP, 1000 GPM, Single Stage, PTO Drive, Wildland BX3	<p>PUMP</p> <p>Pump will be a Darley LSP 1000 gpm midship mounted centrifugal type. It will be driven by power take off (PTO) from the vehicle transmission.</p> <p>Pump will deliver the percentage of rated discharge at pressures indicated below:</p> <ul style="list-style-type: none"> - 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. <p>Pump body will be fine-grained gray iron, bronze fitted. The pump will be easily separated from a one-piece section for convenient servicing when required.</p> <p>The impellers will be high strength bronze alloy accurately balanced and splined to pump shaft for precision fit and durability. Double seal ring design will help to minimize end thrust.</p> <p>Deep groove radial type oversize ball bearings will be provided. The bearings will be protected at the openings from road dirt and water with an oil seal and a water slinger.</p>
0007153	Seal, Mechanical, Darley, Silicon Carbide	<p>MECHANICAL SEALS</p> <p>Silicon carbide mechanical seals will be provided. The seals will be spring loaded and self-adjusting. The seals will have a minimum thermal conductivity of 126 W/m*K to run cooler. Seals will have a minimum hardness of 2800 kg/mm² to be more resistant to wear, and have thermal expansion characteristics of no more than 4.0 X106mm/mm*K to be more resistant to thermal shock.</p>
0014633	Trans, Pump, Darley, PTO, 3 Gear	<p>PUMP TRANSMISSION</p> <p>A three gear transmission with helical gears and a 1.375" diameter splined shaft will be provided. The pump transmission will be driven by a hot shift PTO attached to the Allison Transmission.</p>
0603731	Pumping Mode, Stationary and Pump in Motion (Pressure Gauge in Cab Included)	<p>PUMPING MODE</p> <p>An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping and the truck to be in motion while pumping.</p> <p>A digital pump pressure gauge will be supplied in the cab.</p>
0535276	Pump Shift, PTO Pump	<p>PUMP SHIFT</p> <p>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.</p>
0581602	Transmission Lock-up, Not Req'd, PTO Pump	
0004547	Auxiliary Cooling System	<p>AUXILIARY COOLING SYSTEM</p> <p>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.</p>
0014486	Not Required, Transfer Valve, Single Stage Pump	
0746511	Valve, Relief Intake, TFT	<p>INTAKE RELIEF VALVE</p> <p>A Task Force Tips A18 series relief valve will be installed on the suction side of the pump preset at 125 psig .</p> <p>The relief valve will have a working range of 90 psi to 300 psi.</p> <p>The pressure relief valve control will be located behind an access door at the right side pump panel.</p> <p>The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.</p>
0794959	Controller, Pressure, Pierce, Pump Boss, PBA300	<p>PRESSURE CONTROLLER</p> <p>A Pierce Pump Boss Model PBA300 pressure governor will be provided.</p> <p>A pressure transducer will be installed in the water discharge manifold on the pump.</p> <p>The display panel will be located at the pump operator's panel.</p>
0613850	Primer, Waterous, VPO Motor, (1) VAP Valve, (2) Push Button Controls, PTO Pump	<p>PRIMER SYSTEM</p> <p>A Waterous electric pump priming system conforming to standards outlined in the current edition of NFPA 1901 will be furnished with the apparatus.</p> <p>One (1) VPO electric motor driven rotary vane primer will be provided.</p> <p>One (1) VAP vacuum activated priming valve will be plumbed to the main pump.</p> <p>Two (2) momentary push-button controls will be provided, with one located at the pump operator's panel for the main pump and one located in the cab.</p> <p>The push button control system control will operate an electric priming motor and the priming valve will automatically open during priming and close when the primer is deactivated.</p>

0506633	Plate, Test, Main Pump	TEST PLATE A main pump test plate will be provided at the left pump operator's panel that states the rated discharges and pressures as determined by the pump certification test.
0694360	Pump Drain, Trident Multi-Port, IPO Std Pump Drain	PUMP DRAIN A Trident multi port pump drain will be used in place of the standard pump drain.
0517155	Line, 0.375" Recirculating w/Check Valve, Automatic, NFPA 1906, Wildland	RECIRCULATING LINE, WITH CHECK VALVE A 0.375" automatic recirculating line will be run from the discharge side of the main pump to the water tank. This line will be designed to circulate water continuously from the pump back to the tank to help maintain the water pump temperature at a safe level. The recirculating line will be plumbed into the water tank dome. The recirculation line will include a check valve to facilitate priming and prevent water backflow. The check valve will be installed as close as possible to the water tank dome.
0759034	Outlet, Back Pack Pump Filler, Gravity Fed From Tank, BX3	BACK PACK PUMP FILLER VALVE A brass, 0.75" quarter turn ball valve with a chrome handle will be supplied for the refill of back pumps. This outlet is gravity fed from the main water tank sump. The valve plumbing will be 0.75" I.D. Aeroquip type hose with swivel fittings. It will be routed to allow smooth flow of water from the tank sump to the valve. The valve outlet will be installed at the rear of the truck below the rear compartment. A 0.75" male garden hose fitting will be provided to allow the connection of a piece of garden hose as needed to fill back pumps, etc. A manual shut off valve will be provided at the tank.
0780364	Manuals, Pump, (2) Total, Electronic Copies	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.
0602487	Plumbing, Stainless Steel and Hose, Single Stage Pump, PMFD	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.
0775901	Plumbing and Manifolds, Stainless Steel, w/Foam System	FOAM SYSTEM PLUMBING All piping and manifolds 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 NOT allowed.
0762334	Inlet, 5.00" - 1000 GPM Pump, Left Side Only, BX3	MAIN PUMP INLETS A 5.00" pump manifold inlet will be provided on the left side of the vehicle. The suction inlet will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.
0017541	Cap, Main Pump Inlet, Rocker Lug, NST, VLH	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.
0084610	Valves, Akron 8000 series- All	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.
0766918	Valve, Inlet(s) Recess Behind Panel, Wildland BX3	The location of the valve for the auxiliary inlet(s) will be behind the pump panel.
0004700	Control, Inlet, at Valve	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.

0505201	Inlet, Left Side, 2.50", Wildland	<p>LEFT SIDE INLET</p> <p>There will be one (1) auxiliary inlet with a Akron 8600 2.50" valve at the left side pump operator's 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. If the gated inlet intake valve location on the pump panel is higher than the top of the frame rail, a chrome 30 degree inlet with 2.50" NH (F) swivel will be supplied.</p>
0763478	Inlet, Right Side, 2.50", Auxiliary Inlet, Wildland BX3, BX	<p>RIGHT SIDE INLET</p> <p>There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.</p>
0505132	Anode, Zinc, Pair, Pump, One (1) on Inlet Side & One (1) on Discharge Side	<p>ANODE, INLET</p> <p>One (1) pair of sacrificial Zinc anodes will be provided in the water pump to protect the pump from corrosion. One (1) will be placed in the inlet side of the pump and the other one (1) in the discharge side of the pump.</p>
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	<p>INLET BLEEDER VALVE</p> <p>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.</p>
0520031	Tank to Pump,(1) 3.0" Valve,4.0" Plumbing,In/Open-Out/Closed, Wildland/BX3	<p>TANK TO PUMP</p> <p>The booster tank will be connected to the intake side of the pump with 4.00" heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. The control on the pump panel will be "in" when the valve is open and "out" when the valve is closed. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p>
0006764	Tank ReFill, 2.0"	<p>TANK FILL</p> <p>A 2.00" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.</p>
0021138	Control, Outlets, At Valve, NFPA 1906 Wildland	<p>DISCHARGE OUTLET CONTROLS</p> <p>The discharge outlets will incorporate a quarter-turn ball valve with the control located at the valve. The valve operating mechanism (handle) will indicate the position (open/closed) of the valve.</p>
0768275	Outlet, Left Side, 2.50", w/1000 GPM Pump, Wildland	<p>LEFT SIDE DISCHARGE OUTLETS</p> <p>A quantity of One (1) discharge outlet will be provided on the left side pump operator's panel. Each outlet valve will be a 2.50" quarter turn full flow ball valve with a TS-style handle.</p>
0015027	Not Required, Elbow, Left Side Outlets	
0759639	Outlet, Left Side, 2.50" w/2" Plumbing, Adjacent to Deadlay, Wildland BX3	<p>There will be One (1) discharge outlet with a 2.00" valve on the left side of the apparatus, adjacent the deadlays, terminating with a male 2.50" National Standard hose thread adapter. In addition, the discharge will be equipped with a 2.50" (F) x 1.50" (M) NST reducer.</p>
0035094	Not Required, Elbow, Left Side Outlets, Additional	
0024302	Not Required, Outlet, Right Side, Wildland	
0065478	Not Required, Elbow, Right Side Outlets	

0759637	Outlet, Right Side, 2.50" w/2" Plumbing, Adjacent to Deadlay, Wildland BX3	RIGHT SIDE DISCHARGE OUTLET(S) There will be One (1) discharge outlet with a 2.00" valve on the right side of the apparatus, adjacent the deadlays, terminating with a male 2.50" National Standard hose thread adapter. In addition, the discharge will be equipped with a 2.50" (F) x 1.50" (M) NST reducer.
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0773401	Outlets,(2),Front1.5"w/2" Plumbing, Valves at Outlet,LS-RS,1906 Wildland BX3	FRONT DISCHARGES There will be two (2) 1.50" discharges at the front bumper, located one (1) each side . Plumbing will be a single line to the front bumper and will include a tee that supplies both discharges. Plumbing will consist of 2.00" piping and flexible hose with two (2) 2.00" self-locking one-quarter turn full flow ball valve with "TSC" style handles. Control of each outlet will be at the valve at the front bumper. Installed on the outlets will be 90 degree swivels with 1.50" NPSH thread and chrome caps and chains. There will be Petcock quarter turn drains provided at all low points of the piping. The valves for each front bumper hose basket will be located outboard of the frame rail and mounted below the bumper deck. The discharge swivel locations will provide adequate clearance for the use of 1.50" gated wye's and be designed so as not to interfere with the opening and closing of the hood. The swivels will feature stops to protect the hood. An emergency shut off valve will be provided for this plumbing line in case of damage. The valve will be in an accessible location on the right side of the apparatus near the pump module. This valve will be labeled "Front Discharge On/Off".
0505191	Outlet, Rear, 1.50", w/2" Plumbing, Valve at Outlet, Wildland BX3	REAR DISCHARGE VALVE A quantity of One (1) discharge outlet with a 2.00" valve will be provided. The valve will be a 2.00" full flow ball valve controlled at the valve body, and will have a 1.50" NH male thread adapter with chrome cap and chain. It will be installed with proper clearance for spanner wrenches or adapters. The valve will be exterior mounted below the center hose bed.
0045099	Not Required, Elbow, Rear Outlets	
0766836	Outlet, Rear, 2.50", Wildland BX3	DISCHARGE OUTLET (Rear) There will be One (1) discharge outlet piped to the rear of the truck, located on the center . Proper clearance will be provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control at the valve. The discharge outlet(s) will terminate with a 2.50" male National Standard hose thread male adapter.
0655198	Not Required, Elbow, Rear Outlets, 2.50", Additional	
0752097	Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	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.
0002604	Valve, Bleeders, Individual Not Req'd	PLUMBING SYSTEM DRAIN The discharges and plumbing will drain through a main pump drain system that accommodates the plumbing system. Individual drains or bleeders for each discharge will not be required.
0773410	Deadlay (1), No Plumbing, Low Mount, 200' of 1.75" Capacity, Divided, BX3	DEADLAY HOSE BED One (1) deadlay bed, without plumbing, will be provided at the top/front of the pump compartment. It will be capable of carrying a total of 200' of 1.75" double jacketed fire hose. It will have a divider in the center that allows the storage of 100' of 1.75" hose on each side, for deployment to either side of the truck. The deadlay bed flooring will consist of perforated brushed aluminum. The deadlay will be recess mounted at the front of the pump module to provide optimum accessibility.
0766784	Hose Restraint, Treadplate Top, Vinyl Sides, Wildland BX3	CROSSLAY HOSE RESTRAINT An aluminum treadplate cover, hinged at the front will be installed over the top of the deadlay. It will include a latch at each end of the cover to hold it securely in place, and a foam rubber gasket where the cover comes into contact with a painted surface. CROSSLAY END FLAPS A red vinyl end flap will be provided over each end of the hose bed. The flaps will be permanently attached to the aluminum cover, and secured with velcro and snaps on the bottom.

0766783	NPSH Reel, Booster, LS, 2/3 H.P. Motor, Over Pump, Wildland BX3	<p>BOOSTER HOSE REEL ABOVE PUMP</p> <p>One Hannay electric rewind booster hose reel with 2/3 HP motor will be installed over the pump compartment, on the left side of the apparatus. The exterior finish of the reel will be painted #269 gray from the reel manufacturer.</p> <p>A polished stainless steel roller and guide assembly will be mounted on the reel side of the apparatus. An additional roller assembly will be installed on the side of the truck opposite the reel for use with hose payout to the right side.</p> <p>Discharge control will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.00" hose and piping with a 1.00" valve.</p> <p>The reel will have NPSH threaded couplings.</p>
0005280	Switches, Reel Rewind - (1) Each Pump Panel	<p>Reel motor will be protected from overload with a circuit breaker rated to match the motor.</p> <p>Two (2) electric rewind control switches will be provided, one (1) installed on each pump panel.</p>
0018394	Hose, Booster - 150' of 1.00"/800 PSI, 1" NPSH Coupling	<p>Booster hose, 1.00" diameter and 150 feet, with chrome plated Barway, or equal couplings will be provided. The couplings will have 1" NPSH threads.</p> <p>Working pressure of the booster hose will be a minimum of 800 psi.</p>
0017858	Capacity, Hose Reel 150' of 1"	<p>Capacity of the hose reel will be 150 feet of 1.00" booster hose.</p>
0007428	Nozzle for Booster Reel Not Req'd	

FOAM PROPORTIONER

A foam proportioning system will be provided that is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically proportion foam solution at rates from .1 percent to 3.0 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system will allow operation from draft, hydrant, or relay operation.

System Capacity

The system will have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi.

100 gpm @ 3 percent

300 gpm @ 1 percent

600 gpm @ 0.5 percent

Class A foam setting in .1 percent increments from .1 percent to 1 percent. Typical settings of 1 percent, .5 percent and .3 percent (maximum capacity will be limited to the plumbing and water pump capacity).

Control System

The system will be equipped with a digital electronic control display located on the pump operators panel. Push button controls will be integrated into the panel to turn the system on/off, control the foam percentage, and to set the operation modes.

The percent of injection will have a preset. This preset can be changed at the fire department as desired. The percent of injection will be able to be easily changed at the scene to adjust to changing demands.

Three (3) .50 tall LEDs will display the foam percentage in numeric characters. Three (3) indicator LEDs will also be included, one (1) green, one (1) red, and one (1) yellow. The LEDs will indicate various system operation or error states.

The indications will be:

Solid Green - System On

Solid Red - Valve Position Error

Solid Yellow - Priming System

Flashing Green - Injecting Foam

Flashing Red - Low Tank Level

Flashing Yellow - Refilling Tank

The control display will house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump.

A remote foam system activation switch will be installed in the cab. The switch will include an integral indicator light.

Hydraulic Drive System

The foam concentrate pump will be powered by a hydraulic drive system, which is automatically activated, whenever the foam system is turned on. A system that drives the foam pump via an electric motor will not be acceptable. A large parasitic electric load used to power the foam pump can cause an overload of the chassis electrical system.

Hydraulic oil cooler will be provided to automatically prevent overheating of the hydraulic oil, which is detrimental to system components. The oil/water cooler will be designed to allow continuous system operation without allowing hydraulic oil temperature to exceed the oil specifications. The hydraulic oil reservoir will be of four (4) gallons minimum capacity and will also be of sufficient size to minimize foaming and be located to facilitate checking oil level or adding oil without spillage or the need to remove access panels.

Foam Concentrate Pump

The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum will be present in its construction.

A relief system will be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump

The foam concentrate pump will have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.

External Foam Concentrate Connection

An external foam pick-up will be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty, or the use of foam different than the foam in the foam tank.

Panel Mounted External Pick-Up Connection / Valve

A bronze three (3)-way valve will be provided. The unit will be mounted to the pump panel. The valve unit will function as the foam system tank to pump valve and external suction valve. The external foam pick-up will be one (1) .75" male connection GHT (garden hose thread) with a cap.

Pick-Up Hose

A .75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a .75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose.

Discharges

The foam system will be plumbed to all valved discharges 2.0" and smaller, which includes the following discharges: Front bumper outlets (would include turret discharge if so equipped), rear 1.50" discharge, right and left side discharges adjacent to the deadlays (used to pre-connect hose in deadlay) and the hose reel(s).

0012126	Not Required, CAF Compressor	
0628070	Refill, Foam Tank, Integral, Husky 3, BX	REFILL, SINGLE FOAM TANK The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller will display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will shut the yellow LED off. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED will illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.
0578417	Control, Husky 3, Switch and Indicator Light in Cab	HUSKY CONTROL A switch and indicator light will be provided inside the cab to control the Husky 3 Foam system to be turned "on" or "off".
0031896	Demonstration, Foam System, Dealer Provided	
0768342	Foam Tank, Separate 20 Gallon, BX3	FOAM TANK The foam tank will be separate from the polypropylene water tank. The tank will have a capacity of 20 gallons of foam with the intended use of Class A foam. The brand of foam stored in this tank will be a nationally recognized brand. This tank will not reduce the capacity of the water tank. A screen and breather will be included in the fill dome and lid.
0628071	Drain, 1.00", Foam Tank #1, Foam System, Quarter Turn, BX	FOAM TANK DRAIN The foam tank drain will be a 1.00" quarter turn drain valve located inside the pump/plumbing compartment.
0738072	Approval Dwg, Pump Panel(s), Not Required	
0035570	Pump Panel Configuration, No Match Required	PUMP PANEL CONFIGURATION The pump panel configuration will be neat and orderly.
0762017	Material, Pump Panels, Brushed Stainless, 1906 Wildland BX3	PUMP AND GAUGE PANEL The pump panels will be constructed of stainless steel with a brushed finish.
0766517	Pump Access - Wildland BX3	PUMP ACCESS Access to the pump & plumbing will be provided through a removable panel installed on the back wall of the right side forward compartment. Access will also be via a hinged panel installed at the pump operator's position, and from the area above the pump.
0071130	Light, Pump Compt, PMFD	PUMP COMPARTMENT LIGHT A compartment light will be provided inside the pump enclosure.
0586382	Gauges, Engine, Included With Pressure Controller	Engine monitoring graduated LED indicators will be incorporated with the pressure controller. Also provided at the pump panel will be the following: - Master Pump Drain Control
0005601	Throttle, Engine, Incl'd w/Press Controller	
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	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.
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	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.

0767294	Hourmeter, Pump/PTO, Wildland BX3, BX	<p>PUMP HOURMETER An hourmeter will be provided inside the pump module to record the hours the main PTO driven pump is engaged.</p>
0511078	Gauges, 4.00" Master, Class 1, 30"-0-600psi	<p>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.</p>
0768295	No Discharge Pressure Gauges Required, NFPA 1906 Wildland	
0766488	Gauge, Water and Foam Level, Master w/Mini in Cab, Wildland BX3/BLM	<p>WATER and FOAM LEVEL GAUGES An electric water level gauge manufactured by Innovative Controls Inc., the SL Series Tank Level Monitor System will be provided. One (1) master display electric water level gauge will be provided on the pump operator's panel, and one (1) "mini" slave display electric water level gauge will be provided in the cab on the console. A foam level gauge will be integrated into the water level gauge housing. The master display electric water level gauge will register water level by means of fourteen (14) brightly colored LED lights and be provided on the pump operator's panel. The water level indicators will be as follows: Full = Green 3/4 = Yellow 1/2 = Yellow 1/4 = Yellow Empty = Red The mini slave display electric water level gauge will register water level by means of five (5) brightly colored LED lights and be provided in the cab on the console. The water level indicators will be as follows: Full = Green 3/4 = Yellow 1/2 = Yellow 1/4 = Yellow Empty = Red To further alert the pump operator, the refill light will start flashing when the water level drops below the 1/4 mark. The level measurement will be based on the sensing of the electrical conductivity of the water in the tank.</p>
0668618	Not Required, Foam Level Gauge Included With Dual Water & Foam Gauge	
0723261	Lighting, Pump Operator Control Panel Illumination, BX3	<p>LIGHTING, PUMP PANEL ILLUMINATION Lighting will be provided for the pump operator's control panel. Illumination will be 12 volt DC white LED lights installed under the cargo extension. The lighting will 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. One (1) pump panel light will come on when the pump is in ok to pump mode.</p>
0773413	Light, Over PS Pump Panel, P25 LED, Wildland BX3	<p>There will be one (1) white LED scene lights with ABS chrome housing, installed above the passenger side pump panel. The lights will be operated from a switch on the pump operator's panel.</p>

0751223	Compartment, Tool/Equipment, Right Side Pump Module, Angled Door Opening, BX3	<p>COMPARTMENT, TOOL/EQUIPMENT, PUMP PANEL</p> <p>A compartment, constructed of aluminum, will be installed by the right side pump panel for storage of long handle tools. The main area of the compartment will be approximately 59.00" high (interior) x 14.00" wide (interior) x 13.75" deep. A wedge-shaped section located directly behind the door will be able to contain tall/narrow tools.</p> <p>A vertically hinged door constructed of aluminum will be provided. It will be installed at an angle to maximize the interior space available. It will open 135 degrees for access to the interior. The door will have a D-ring latch for keeping it closed, and a positive door holder will be provided to hold the door in an open position.</p> <p>The interior of the compartment will remain unpainted natural aluminum.</p> <p>On the inside of the compartment, the back wall toward the pump panel will have a large removable panel to allow access to the pump and plumbing behind it.</p>
0766263	Siren, WIn 295SLSA1, 100 or 200 Watt, Wildland BX3	<p>ELECTRONIC SIREN</p> <p>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.</p>
0637494	Location, Electronic Siren, BX Product	Siren head will be located in the cab within reach of the driver.
0076157	Control, Elec Siren, Horn Ring	<p>SIREN CONTROL</p> <p>The electronic siren will be controllable on the siren head and horn ring only. No foot switches will be required.</p> <p>The driver will have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel.</p>
0766262	Speaker, (1) WIn, SA315P, 100 watt, Wildland BX3	<p>SPEAKER</p> <p>There will be one (1) speaker provided. Each speaker will be a Whelen model SA315P black nylon composite, 100-watt. Each speaker will be connected to the siren amplifier. A grille to protect the speaker during off-road use will be integrated into the bumper.</p>
0763428	Location, Speaker, Frt Bumper, Recessed, Far Left Side on Angled Corner	The speaker will be recessed in the far left side of the front bumper, in the swept-back section.
0606714	Lightbar, WIn, Freedom IV-Q, 60", RR_R_W__W_R_RR	<p>FRONT ZONE UPPER WARNING LIGHTS</p> <p>There will be one (1) 60.00" Whelen Freedom IV LED lightbar mounted on the cab roof. The lightbar will include the following:</p> <ul style="list-style-type: none"> One (1) red flashing LED module in the driver's side end position. One (1) red flashing LED module in the driver's side front corner position. Open in the driver's side first front position. One (1) red flashing LED module in the driver's side second front position. Open in the driver's side third front position. One (1) white LED module in the driver's side fourth front position. Open in the driver's side fifth front position. Open in the passenger's side fifth front position. One (1) white flashing LED module in the passenger's side fourth front position. Open in the passenger's side third front position. One (1) red flashing LED module in the passenger's side second front position. Open in the passenger's side first front position. One (1) red flashing LED module in the passenger's side front corner position. One (1) red flashing LED module in the passenger's side end position. <p>There will be clear lenses included on the lightbar.</p> <p>There will be a switch installed in the cab on the switch panel to control this lightbar.</p> <p>The two (2) white flashing LED modules will be disabled when the parking brake is applied.</p> <p>The two (2) red flashing LED modules in the front positions may be load managed when the parking brake is applied.</p>
0766470	Lights, Front Zone, WIn M6** LED, Clear Lens, Wildland BX3	<p>FRONT WARNING LIGHT</p> <p>There will be two (2) Whelen, Model M6** LED flashing lights provided at the front of the truck.</p> <ul style="list-style-type: none"> The driver's side front warning light to be red. The passenger's side front warning light to be red. The color of the lenses will be clear. The lights will be mounted with with a flange. The lights will be activated by a switch on the cab instrument panel.
0766458	Lights, Side Zone Lower, WIn M6*C LED, Clear Lens 2pr, BX3	<p>SIDE ZONE LOWER LIGHTING</p> <p>There will be four (4) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:</p> <ul style="list-style-type: none"> Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red. Two (2) lights, one (1) each side on the rear corners of the body. The side rear lights to be red. The lights will include a clear lenses. There will be a switch in the cab on the switch panel to control the lights. The lights on the front bumper will be recess mounted to better protect them from damage.

0753267	Lights, Rear Zn Lwr, Wln M6°C, Clear Lens,(Use for 4" Round Tail Lights) BX3	<p>REAR ZONE LOWER LIGHTING</p> <p>There will be two (2) Whelen®, Model M6°C, LED flashing warning lights with Model M6FC, chrome flanges located at the rear of the apparatus.</p> <p>The driver's side rear light to be red</p> <p>The passenger's side rear light to be red</p> <p>Both lights will include a lens that is clear.</p> <p>There will be a switch located in the cab on the switch panel to control the lights.</p>
0766447	Lights, Rear/Side Up Zone, Wln M6°C LED, Clear Lens 4lts, Wildland BX3	<p>WARNING LIGHTS (Rear and Side upper zones)</p> <p>Four (4) Whelen, model M6°C LED flashing warning lights will be provided at the rear of the apparatus.</p> <p>The side rear upper light(s) on the driver's side to be red.</p> <p>The rear upper light(s) on the driver's side to be red.</p> <p>The rear upper light(s) on the passenger's side to be red.</p> <p>The side rear upper light(s) on the passenger's side to be red.</p> <p>These lights will include a lens that is clear.</p> <p>There will be a switch located in the cab on the switch panel to control the lights.</p>
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0007150	Bag of Nuts and Bolts	<p>LOOSE EQUIPMENT</p> <p>The following equipment will be furnished with the completed unit:</p> <p>One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.</p>
0519913	Not Required, Soft Suction Hose	<p>SOFT SUCTION HOSE</p> <p>There will be no soft suction hose provided.</p>
0766676	Strainer, Provided by Fire Department, Wildland NFPA 1906 2016 Classification	<p>STRAINER PROVIDED BY FIRE DEPARTMENT</p> <p>NFPA 1906, 2016 edition, section 16.2.4.1 references a suction strainer used with suction hose. The strainer is not on the apparatus as manufactured. The fire department will provide the suction strainer.</p>
0766686	Extinguisher, Dry Chemical, Wildland NFPA 1906 2016, Provided by Fire Department	<p>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</p> <p>NFPA 1906, 2016 edition, section 5.7.2 requires one (1) approved dry chemical portable fire extinguisher with a minimum 3A-40-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.</p>
0766685	Extinguisher, 2.5 Gal, Not Required, NFPA 1906 2016 Wildland Apparatus	

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:

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.

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.

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.

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.

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.

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.

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.

0583882

Paint, 90 Red, Commercial Grade
Chassis Finish, PMFD Commercial
Chassis**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 .

0586561

Chassis Cab Paint, #90 Red, by
Chassis Manufacturer, Standard**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 .

0583915

No Two-Tone Paint Req'd

0582663	Paint, Chassis Frame Assy, Black, by Commerical Chassis Manufacturer	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.
0651188	Paint, Wheels, By Chassis Manufacturer, Single Rear Axle, Commercial	WHEEL PAINT The wheels will be painted by the chassis manufacturer to match the main color of the cab.
0651181	Wheels, Silver Accent Stripe on Outer Edge, Single Axle	WHEELS, ACCENT STRIPE The exposed outer edge circumference of the wheel will be painted with a silver accent stripe.
0037234	Compartment, Unpainted	COMPARTMENT INTERIOR FINISH The interior of the body compartments will be left unpainted and have the natural finish.
0544087	Reflective Band, 6"	REFLECTIVE BAND A 6.00" white reflective band will be provided across the front of the vehicle and along the sides of the body.
0007357	Reflective on Front Bumper	REFLECTIVE VINYL ON FRONT BUMPER There will be a reflective vinyl band provided across the front bumper.
0766414	Stripe, Chevron, Rear, Reflexite, Wildland BX3	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered. The colors will be red and L2 fluorescent yellow green . Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1906, which states that 50% of the rear surface will be covered with chevron striping.
0065785	Stripe, Reflective, Cab Drs Interior, Commercial Cabs, 4dr	CAB DOORS REFLECTIVE STRIPE 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.
0027286	Not Required, Lettering Specs	
0007472	[Lettering not Requested]	
0766245	Manual, Fire Apparatus Parts, USB, Body Parts Only, Commercial Product	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.
0766243	Manual on USB Flash Drive, Service, Commercial	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. The manual will be specifically written for the unit being purchased. It will not be a generic manual for a multitude of different units.
0002902	Manual, Commercial Chassis Operation	MANUAL, CHASSIS OPERATION One (1) chassis operation manual will be provided with the completed unit.

0080008	Warranty, Basic, 1 Year, Apparatus, Commercial Chassis, WA0008	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.
0681678	Warranty, Basic Vehicle, 3 yrs or 100,000 Miles, Freightliner	CHASSIS WARRANTY The chassis manufacturer will provide a three (3) year or 100,000 mile warranty.
0595282	Warranty, Cab Paint, As Provided By Chassis Manufacturer, Commercial	PAINT WARRANTY The commercial chassis manufacturer's paint warranty will apply to the paint on the chassis only.
0647720	Warranty, Pierce LED Strip Lights, WA0203	COMPARTMENT LIGHT WARRANTY The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.
0021516	Warranty, 5-Year EVS Transmission, Standard Comm, WA0187	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.
0688798	Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	WATER TANK WARRANTY A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0690936	Warranty, Roll up Doors, Not Required	
0582368	Warranty, Pump, Darley, 6 Year Parts, 3 Year Labor, WA0179	PUMP WARRANTY A Darley pump limited warranty certificate, WA0179, is included with this proposal.
0648675	Warranty, 10 Year S/S Pumbing, WA0035	TEN (10) YEAR PUMP PLUMBING WARRANTY The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.
0657990	Warranty, Foam System, Husky 3, WA0231	FOAM SYSTEM WARRANTY The Husky 3 foam system limited warranty certificate, WA0231, is included with this proposal.
0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.
0593921	Not Required, Warranty, No Lettering	
0544897	Certification, Cab Integrity, Freightliner, CD0022	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.

0545073	Amp Draw Report, NFPA Current Edition	<p>AMP DRAW REPORT</p> <p>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.</p> <p>The manufacturer of the apparatus will provide the following:</p> <p>Documentation of the electrical system performance tests.</p> <p>A written load analysis, which will include the following:</p> <p>The nameplate rating of the alternator.</p> <p>The alternator rating under the conditions specified per:</p> <p>Applicable NFPA 1901 or 1906 (Current Edition).</p> <p>The minimum continuous load of each component that is specified per:</p> <p>Applicable NFPA 1901 or 1906 (Current Edition).</p> <p>Additional loads that, when added to the minimum continuous load, determine the total connected load.</p> <p>Each individual intermittent load.</p> <p>All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0000017	FLORIDA DIVISION BODY	
0000015	FLORIDA DIVISION COMMERCIAL CHASSIS	
0004713	ENGINE, OTHER	
0046395	EVS 3000 Series TRANSMISSION	
0018574	DARLEY PUMP	
0028048	FOAM SYSTEM	
0020006	SIDE CONTROL	
0020007	AKRON VALVES	
0020909	ABS SYSTEMS, Commercial	
0658751	PUMPER BASE	