



RESOLUTION NO. 2024-173

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FARMERS BRANCH, TEXAS, AUTHORIZING THE PURCHASE OF TWO 2028 PIERCE-CUSTOM VELOCITY PUMPERS AND ONE 2028 PIERCE-CUSTOM VELOCITY AERIAL 105' LADDER FOR THE FIRE DEPARTMENT FROM THE SIDDONS MARTIN EMERGENCY GROUP THROUGH THE TEXAS LOCAL GOVERNMENT PURCHASING COOPERATIVE BUYBOARD FOR THE TOTAL AMOUNT OF \$3,677,627; AUTHORIZING THE CITY MANAGER TO EXECUTE THE CONTRACT AND PROVIDE FOR PAYMENTS ON THE CITY'S BEHALF; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, as part of the fleet maintenance schedule, the current long lead time (47- 49 months) for fire apparatus to be delivered, and the projected price increases, City Administration recommends the City purchase the apparatus in October 2024, which will allow the Farmers Branch Fire Department to maintain the needed number of modern fire apparatuses to support fire and rescue service; and

WHEREAS, at the time of replacement, the Farmers Branch Fire Department will replace a 16-year-old fire apparatus pumper, a 14-year-old fire apparatus pumper, and a 10-year-old aerial; and

WHEREAS, the Texas Local Government Purchasing Cooperative BuyBoard will be used to purchase the fire apparatuses manufactured by Pierce Manufacturing from the Siddons Martin Emergency Group, that satisfies the performance specifications of the Farmers Branch Fire Department; and

WHEREAS, City Administration recommends the City Manager be authorized to purchase two 2028 Pierce-Custom Velocity Pumpers and one 2028 Pierce-Custom Velocity Aerial, 105' Ladder for the Farmers Branch Fire Department from the Siddons Martin Emergency Group through the Texas Local Government Purchasing Cooperative BuyBoard for the total amount of \$3,677,627; and

WHEREAS, the City Council of the City of Farmers Branch finds it to be in the public interest to authorize such purchases.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FARMERS BRANCH, TEXAS THAT:

SECTION 1. The City Council approves, and the City Manager is hereby authorized to accept and approve, the purchase of two 2028 Pierce-Custom Velocity Pumpers and one 2028 Pierce-Custom Velocity Aerial, 105' Ladder in the total amount of \$3,677,627 from Siddons Martin Emergency Group, pursuant to the quote attached hereto as Exhibit "A," utilizing the interlocal cooperative purchasing agreement with Texas Local Government Purchasing Cooperative BuyBoard under contract number 651-21, and is further authorized to provide for payment and to sign on the City's behalf any necessary or appropriate documents and accept and approve such

contract amendments as the City Manager deems reasonable, necessary, in the public interest, in compliance with applicable law and City policy, and, in the case of an increase in contract price, subject to the availability of funds.

SECTION 2. This resolution shall become effective immediately from and after its passage.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF FARMERS BRANCH, TEXAS, THIS 22ND DAY OF OCTOBER, 2024.

ATTEST:

APPROVED:

Stacy Henderson, City Secretary

Terry Lynne, Mayor

APPROVED AS TO FORM:

Whitt Wyatt, City Attorney
[ww_9.24.2024.1]

Siddons Martin Emergency Group, LLC
3500 Shelby Lane
Denton, TX 76207
GDN P115891
TXDOT MVD No. A115890



September 9, 2024

Daniel Latimer, Chief
FARMERS BRANCH FIRE DEPARTMENT
13333 HUTTON DR
FARMERS BRANCH, TX 75234

Proposal For: 2028 FBFD 105 Quint

Siddons-Martin Emergency Group, LLC is pleased to provide the following proposal to FARMERS BRANCH FIRE DEPARTMENT. Unit will comply with all specifications attached and made a part of this proposal. Total price includes delivery FOB FARMERS BRANCH FIRE DEPARTMENT and training on operation and use of the apparatus.

Description	Amount
<hr/>	
Qty. 1 - 1156 - Pierce-Custom Velocity Aerial - 105'	
(Unit Price - \$1,984,957.00)	
Delivery within 47-48 months of order date	
QUOTE # - SMEG-0007397-0	
Vehicle Price	\$1,984,957.00
Chassis Prepay Discount	(\$20,882.00)
Aerial Prepay Discount	(\$7,002.00)
Full Prepay Discount	(\$224,777.00)
2 TFT Intakes	\$5,587.00
Hose package	\$11,935.00
2018 Pierce - 105' Aerial trade in	(\$128,000.00)
1156 - UNIT TOTAL	\$1,621,818.00
SUB TOTAL	\$1,621,818.00
BuyBoard on Pumper	\$0,000.00
TOTAL	\$1,621,818.00

Price guaranteed through October 30, 2024. Trade in shall be kept in good working order and turned in after acceptance and training of new apparatus. BuyBoard fee is split between both contract for pumpers and aerials. Not shown in purchase price here. It is shown on the pumper contract.

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

Persistent Inflationary Environment Notification: If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] (the "PPI") has increased at a compounded annual growth rate greater than 5.0% from the date of acceptance of this proposal letter (the "Order Month") and 14 months prior to the anticipated Ready for Pickup Date (the "Evaluation Month"), then the proposal price may be increased by an amount equal to any increase exceeding 5.0% for the time period between the Order Month and the Evaluation Month. Siddons Martin and Pierce will provide documentation of such increase and the updated price for the customer's approval before proceeding with completion of the order along with an option to cancel the order.'

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

Late Fee: A late fee of .033% of the sale price will be charged per day for overdue payments beginning ten (10) days after the payment is due for the first 30 days. The late fee increases to .044% per day until the payment is received. In the event a prepayment is received after the due date, the discount will be reduced by the same percentages above increasing the cost of the apparatus.

Cancellation: In the event this proposal is accepted and a purchase order is issued then cancelled or terminated by Customer before completion, Siddons-Martin Emergency Group may charge a cancellation fee. The following charge schedule based on costs incurred may be applied:

- (A) 10% of the Purchase Price after order is accepted and entered by Manufacturer;
- (B) 20% of the Purchase Price after completion of the approval drawings;
- (C) 30% of the Purchase Price upon any material requisition.

The cancellation fee will increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. Siddons-Martin Emergency Group endeavors to mitigate any such costs through the sale of such product to another purchaser; however, the customer shall remain liable for the difference between the purchase price and, if applicable, the sale price obtained by Siddons-Martin Emergency Group upon sale of the product to another purchaser, plus any costs incurred by Siddons-Martin to conduct such sale.

Acceptance: In an effort to ensure the above stated terms and conditions are understood and adhered to, Siddons-Martin Emergency Group, LLC requires an authorized individual from the purchasing organization sign and date this proposal and include it with any purchase order. Upon signing of this proposal, the terms and conditions stated herein will be considered binding and accepted by the Customer. The terms and acceptance of this proposal will be governed by the laws of the state of Texas. No additional terms or conditions will be binding upon Siddons-Martin Emergency Group, LLC unless agreed to in writing and signed by a duly authorized officer of Siddons-Martin Emergency Group, LLC.

Sincerely,



Travis Ownby

I, _____, the authorized representative of FARMERS BRANCH FIRE DEPARTMENT, agree to purchase the proposed and agree to the terms of this proposal and the specifications attached hereto.

Signature & Date

CONTRACT PRICING WORKSHEET

Buy Board Contract 651-21 for motor vehicles only Contract No.: 651-21 Date: 9/9/2024

Agency:	Farmers Branch Fire Department	Contractor:	Siddons-Martin Emergency Group
Contact:	Shannon Langford	Prepared:	Jeff Doran
Phone:	972-919-2647	Phone:	281-442-6806
Fax:	N/A	Fax:	
Email:	shannon.langford@farmersbranchtx.gov	Email:	jdoran@siddons-martin.com

Prod. Code:	19	Description:	Velocity Aerial
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A. Product Item Base Unit Price Per Contractor's Buy Board Contract: \$ 1,831,224.00

B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.

Description	Cost	Description	Cost
Subtotal From Additional Sheet(s):			\$ 326,015.00
Subtotal B:			\$ 326,015.00

Total Published Options \$ 2,157,239.00

C. Unpublished Options - Itemize below / attach additional sheet(s) if necessary.

Description	Cost	Description	Cost
Subtotal From Additional Sheet(s):			\$ (154,760.00)
Subtotal C:			\$ (154,760.00)

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B). -7%

D. Other Cost Items Not Itemized Above (e.g. Installation, Freight, Delivery, Etc.)

Description	Cost	Description	Cost
Subtotal D:			\$ -

E. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C+D) \$ 2,002,479.00

Quantity Ordered:	1	X Subtotal of A + B + C + D:	2002479	=	Subtotal E:	\$ 2,002,479.00
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F. Buy Board Fee Calculation (From Current Fee Tables) included Subtotal F: \$ -

Description	Cost	Description	Cost	
Chassis Pre-Payment Discount	\$ (20,882.00)	Aerial Prepay Discount	\$ (7,002.00)	
100% Pre-Payment Discount	\$ (224,777.00)	Trade In	\$ (128,000.00)	
Subtotal of column	\$ (245,659.00)	Subtotal of Column	\$ (135,002.00)	
Subtotal G:			\$ (380,661.00)	

Delivery Date: 47 - 48 Months **H. Total Purchase Price (E+F+G):** \$ 1,621,818.00

Option Number	Qty	Description	Published Options	Unpublished Options
112	1	TAK-4 Suspension	\$23,269.00	
114	1	T3 Steer Tandem Suspension	\$82,604.00	
120	1	Driver operated differential control	\$4,566.00	
145	1	Brake fittings compression type	\$2,641.00	
154	1	Engine EPA Compliance upgrade	\$29,728.00	
180	1	Bumper warning light recess	\$1,396.00	
183	1	Line-x type Bumper Coating front or rear	\$878.00	
190	1	Electric Door locks	\$1,762.00	
192	1	Handrail with LED Lighting per 2	\$824.00	
217	1	Danhard Style A/C	\$9,457.00	
223	2	EMS Compartment in Cab	\$9,160.00	
231	1	Raised roof, custom cab	\$3,430.00	
251	1	Full height Cab doors - Raised Roof	\$3,251.00	
274	1	Install Customer GPS	\$554.00	
287	1	Spare 12 volt power (each)	\$228.00	
289	3	12 volt USB Connection	\$975.00	
295	1	Camera System Rear only	\$2,062.00	
318	1	Auto-eject 20 amp	\$784.00	
321	1	Transfer switch	\$1,003.00	
323	1	Batteries 6 total	\$1,769.00	
338	4	12 volt LED Scene - C	\$12,412.00	
340	2	12 volt LED Flood Brow light B	\$9,346.00	
384	1	PUC Flip-out steps	\$1,390.00	
422	8	Adjustable Comp. shelves	\$2,328.00	
438	1	Swing-out tool board	\$3,398.00	
451	3	C-Tech style drawers (per ea.)	\$5,838.00	
457	2	SCBA Cylinder storage in fender panel single (each)	\$2,026.00	
460	3	SCBA Storage in fender panel	\$4,689.00	
461	1	Extinguisher Compartment	\$1,182.00	
472	1	Add Mechanical Seal to Pump	\$1,282.00	
473	1	Thermal Relief	\$1,825.00	
482	1	Add Large Diameter Side Discharge	\$8,201.00	
488	2	Preconnect 2.5 or 3" plumbing - Speed or Cross	\$11,978.00	
503	1	Crosslay roll-up door enclosure	\$4,670.00	
562	1	LED Emergency Lighting A	\$10,945.00	
584	1	Additional Speaker	\$958.00	
591	1	GTT Emitter Roof/remote mounted	\$8,320.00	
616	1	Hydraulic 3.6 kw	\$18,031.00	
646	6	Electrical Receptacle duplex (per each) 15 or 20 amp	\$3,072.00	
666	1	DC Power to Tip	\$4,968.00	
671	-1	Provide Breathing Air to Tip	-\$19,315.00	
690	1	Enclosed Stokes Box	\$3,261.00	
693	1	Camera Stabilizer per pair	\$3,001.00	
700	1	LED Rung Lighting	\$11,219.00	
703	1	12 Volt LED Tracking/tip lights	\$7,474.00	
710	1	Two-tone cab paint	\$4,348.00	
731	1	Graphics Upgraded 4	\$11,891.00	
820	8	Each Portable Hand Light w/ Mounting Brackets	\$1,800.00	
762026	2	Compt, Top of Compt, Smooth Aluminum, Painted, Aerial		\$5,883.00
889382	1	Gear Case, Integrated Pump Transmission, PUC-NG, Paccar		\$31,220.00
911362	1	Contract Discount		-\$191,863.00
227A	1	Heavy Duty HVAC	\$5,136.00	
Base Bid			\$ 1,831,224.00	
Published Options			\$ 326,015.00	
Total with Published Options			\$ 2,157,239.00	
Unpublished Options			\$ (154,760.00)	-7.17%

Total Options including Fee

\$

2,002,479.00



Proposal Details Report

Customer: Farmers Branch Fire Department
Representative: Ownby, Travis
Requirements Manager:
Description: Farmers Branch 105 Quint
Chassis: Velocity Chassis, Aerials, Tandem, PUC-NG (Big Block)
Body: Aerial, HD Ladder 105', PUC, Alum Body
Bid Number: 1156
Job Number:
Organization: Siddons-Martin Emergency Group

OptionCode	Type	Option	ProposalText
0010012		No Boiler Plates requested	
0018180		Single Source Compliance, Aerials	<p>SINGLE SOURCE MANUFACTURER Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pump house (including the sheet metal enclosure, valve controls, piping and operators panel) body and aerial device will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.</p>
0584456		Manufacture Location, Appleton, Wisconsin	Your apparatus will be manufactured in Appleton, Wisconsin.
0584452		RFP Location: Appleton, Wisconsin	
0588609		Vehicle Destination, US	
0670275		Unit to be Similar in some Aspects, Excluding Pump Panel	<p>SPECIAL INSTRUCTIONS The apparatus being proposed will be designed and built to match the 40561 Midmount with switch panel layout, paint and graphics as best as possible. However, some variation may be necessary due to changes in our manufacturing processes or our product offering. Revisions in NFPA guidelines and/or other regulations may also affect our ability to match the previous unit.</p>
0764706	SP	BMP Truck- Pre-Approval at Bid - Approved Option will be Required at Booking	
0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	<p>NFPA 2024 STANDARDS This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions. Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus. All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack. A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating. The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications. An official of the company will designate, in writing, who is qualified to witness and certify test results.</p>
0533351		Quint Fire Apparatus	
0588612		Vehicle Certification, Aerial w/Pump	

Agency, Apparatus Certification,
Aerial w/Pump, U.L.

NFPA COMPLIANCY

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

INSPECTION CERTIFICATE

A third party inspection certificate for the aerial device will be furnished upon delivery of the aerial device. The certificate will be Underwriters Laboratories Inc. Type 1 and will indicate that the aerial device has been inspected on the production line and after final assembly.

Visual structural inspections will be performed on all welds on both aluminum and steel ladders. On critical weld areas, or on any suspected defective area, the following tests will be conducted: Magnetic particle inspection will be conducted on steel aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.

A liquid penetrant test will be conducted on aluminum aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.

Ultrasonic inspection will be conducted on all aerials to detect any flaws in pins, bolts and other critical mounting components.

In addition to the tests above, functional tests, load tests, and stability tests will be performed on all aerials. These tests will determine any unusual deflection, noise, vibration, or instability characteristics of the unit.

PUMP TEST

The pump will be tested, approved and certified by Underwriter's Laboratory at the manufacturer's expense. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, the generator will be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

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

0816495 Certification, Vehicle Inspection Program, NFPA 1900

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

0620362 Consortium, HGAC

0537375 Unit of Measure, US Gallons

0030006 Bid Bond Not Requested

BID BOND NOT REQUESTED

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

All bidders will provide a bid bond as security for the bid in the form of a 5 percent bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

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

Performance Bond, 100% with 25%
Warranty Bond, 1 Yr, and Payment
Bond, PPI Terms

PERFORMANCE BOND, 1 YEAR

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 Basic One (1) Year Limited 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 one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited 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.

000007

Approval Drawing

APPROVAL DRAWING

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

0670758

Drawing, Compartment Layout, Aerial

COMPARTMENT LAYOUT DRAWING

A sales drawing will be provided as if the rear body compartment doors are open. This drawing will be provided for graphic representation only and will include such things as shelves, trays, reels, dividers, air control panels, air bottle storage bins, poly boxes, etc.

0002928

Electrical Diagrams

ELECTRICAL WIRING DIAGRAMS

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

0888813

Velocity Chassis, Aerials, Tandem,
PUC-NG (Big Block)

VELOCITY CHASSIS

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

0000110

Wheelbase

WHEELBASE

The wheelbase of the vehicle will be 250.

0000070

GVW Rating

GVW RATING

The gross vehicle weight rating will be 76000.

0000203

Frame Rails, 13.38 x 3.50 x .375,
Qtm/AXT/Imp/Vel/DCF

FRAME

The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal

FRAME REINFORCEMENT

In addition, a mainframe internal liner will be provided. The liner will be an internal "C" design that steps to an internal "L" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear portion of the liner. Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 1,494,042 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb.
The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.

0508846

Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity

FRONT NON DRIVE AXLE

The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 24,000 lb.
Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.
The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.
Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.
There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.
The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load. Camber at load will be 0 degrees for optimum tire life.
The ball joint bearing will be of low friction design and be maintenance free.
Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.
The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle.
The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.
The axle will have a turning angle of up to 45 degrees.

0090914

Suspension, Front TAK-4, 24,000 lb, DLX/Qtm/AXT/Vel/Enf/SFR

FRONT SUSPENSION

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 24,000 lb.
The independent suspension system has been designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.
Each wheel will have a torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension.
The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.
The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.
The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

0087572

Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf

FRONT SHOCK ABSORBERS

KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.

0000322

Oil Seals, Front Axle

FRONT OIL SEALS

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

0804560

Tires, Front, Michelin, XZE (wb), 425/65R22.50, 20 ply, Fire Service Load Rating

FRONT TIRES

Front tires will be Michelin 425/65R22.50 radials, XZE wide base tread, rated for 24,396 lb maximum axle load and 68 mph maximum speed.

0725046

Wheels, Front, 22.50" x 12.25", Steel, Hub Pilot, 24k

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

	<p>Axle, Rear, Oshkosh TAK-4 T3, 52,000 lb, Rear Steer, 2 Axle, AXT/Imp/Vel/Dash CF</p>	<p>REAR AXLE The rear axle will be a tandem axle assembly, of the Oshkosh TAK4® T3, Tight Turning Technology, independent suspension design, with the ability to support a mechanical rear axle steering system. Tandem rear axles will have a ground rating of 52,000 lb. The rear axles will be designed for specific use of the independent suspension. The rear independent suspension driving axles will be equipped with a carrier reduction of 1.69 to 1.00 with a planetary wheel end reduction of 3.55 to 1.00. Driving torque will be transmitted from the center differential to the planetary wheel drive by means of a half shaft. Oil fills and level checks will be required at the center differential and the planet wheel end locations. An inter-axle differential, which divides torque evenly between axles, will be provided with an indicator light mounted on the cab instrument panel.</p> <p>REAR AXLE STEERING The tandem rear axle assembly will include a mechanical rear steering system. The mechanical rear steering system will be applied to both rear axles. The steering geometry will be designed to minimize tire scrub of the rear tandem axle tires while reducing the overall turning diameter of the apparatus. The mechanical rear steering system will not use electronic controls and will not have a means to be disengaged. Coordinated steering is the only steering mode supported by the mechanical steering system. Rear steering system is actuated by a mechanical means of connecting the front master/slave steering gear system to a rear axle master/slave steering gear system.</p>
<p>0818717</p>	<p>Top Speed of Vehicle, 65 MPH/104 KPH, Non-NFPA/ULC 2024</p>	<p>TOP SPEED OF VEHICLE NFPA 1900 and ULC 515, 2024 edition requires limits on the top speed of vehicles. NFPA 7.16.1 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. NFPA 7.16.2 requires that if the combined water tank and foam agent tank on the fire apparatus exceed 1250 gallons or the GVWR of the vehicle is over 50,000 lb, the maximum top speed of the apparatus will not exceed either 60 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. It is the intention of the standard to improve safety by limiting the speed of all apparatus to 68 mph, and tankers or heavy apparatus to 60 mph. By requesting an exception to this requirement, the purchasing authority is consciously choosing to operate their apparatus at speeds above the limits designated as safe speeds by the NFPA Technical Committee on Fire Department Apparatus. The top speed of the apparatus as manufactured exceeds the NFPA requirements. Per fire department specification of a top speed that exceeds NFPA requirements, the apparatus will be non-compliant to NFPA 1900 and ULC 515 standards at time of contract execution. The rear tires being specified have a top speed limit of 65 mph / 104 kph from the tire manufacturer.</p>
<p>0644945</p>	<p>Suspen, Rear, Oshkosh TAK-4, Independent, 52,000 lb</p>	<p>REAR SUSPENSION The rear suspension will be an Oshkosh TAK-4® independent type with a minimum ground rating of 52,000 lbs. The independent suspension will be configured with upper and lower control arms with a spring seat for a coil spring mounted to the lower control arm. The spring tower will be integrated into the suspension frame mount. Each control arm has elastomeric bushings at the inner pivot locations with a ball joint bearing at the outer pivot location. All suspension pivot joints will be of a maintenance free design. The rear independent suspension will be provided with steering toe links providing tow adjustments and maintaining wheel control throughout the range of wheel travel. The independent suspension will be designed to provide maximum ride quality when traveling at highway speeds over improved roads or a moderate speeds over secondary road surfaces with minimal transfer of shock and vibration to the apparatus. Each independent suspension will utilize a coil type of spring. The design will allow for removal of the spring without the use of any spring compression. The rear suspension will provide a minimum wheel travel of 10.00", 6.00" jounce and 4.00" of rebound.</p>
<p>0000485</p>	<p>Oil Seals, Rear Axle</p>	<p>REAR OIL SEALS Oil seals will be provided on the rear axle(s).</p>
<p>0618521</p>	<p>Driver Controlled Differential Locks, Both Axles, Oshkosh TAK-4 IRS/T3 Tandem</p>	<p>DRIVER CONTROL DIFFERENTIAL LOCK (DCDL) Both rear tandem axles will be equipped with driver controlled differential locks (DCDL). The control will be located within easy reach of the driver.</p>
<p>0636818</p>	<p>Tires, Rear, Michelin, XZY3 (wb), 445/65R22.5, 20 ply,(IRS)Tandem,FS Load Rating</p>	<p>REAR TIRES Rear tires will be four (4) Michelin super single 445/65R22.5 radials, 20 ply all position XZY3 wide base tread, rated for 52,640 lb maximum axle load and 65 mph maximum speed.</p>
<p>0826900</p>	<p>Wheels, Rear, 22.50" x 13.00", Steel, Hub Pilot, Tandem, AWS/IRS</p>	<p>The tires will be mounted on 22.50" x 13.00" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.</p>

0568081	Tire Balancing, Counteract Beads	TIRE BALANCE All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.
0620569	Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle	TIRE PRESSURE MANAGEMENT There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of 10 tires. The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi. Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.
0801909	Lug Nut, Covers, Chrome	CHROME LUG NUT COVERS Chrome lug nut covers will be supplied on front and rear wheels.
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	FRONT HUB COVERS Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0617577	Chocks, Wheel, Worden HWG- SB, Super Gripper	WHEEL CHOCKS There will be one (1) pair of Worden Safety Products, Model HWG-SB, wheel chocks provided. Heavy Duty, large molded aluminum wheel chock with solid bottom, natural cast aluminum finish.
0646364	Mounting Brackets, Chocks, Worden Safety, Model U815T	WHEEL CHOCK BRACKETS There will be one (1) pair of Worden Safety, Model U815T, mounting wheel chock brackets provided. The brackets will be mounted LS forward of rear axle.
0821337	ABS Wabco Brake System, Tandem Rear Axle, Tak-4, NFPA 1900/ULC	ANTI-LOCK BRAKE SYSTEM The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels (rear axle of tandems). A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel sensor 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.
0030185	Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	BRAKES The service brake system will be full air type. The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance. The brake system will be certified, third party inspected, for improved stopping distance.
0581433	Brakes, Bendix, Cam, Rear, 16.50 x 7.00"	The rear brakes will be Bendix®, Model ES1657D, 16.50" x 7.00" cam operated with automatic slack adjusters.
0735527	Air Compressor, Brake, Wabco 26.8 CI, Paccar	AIR COMPRESSOR, BRAKE SYSTEM The air compressor will be a Wabco single piston compressor with a 26.8 CI displacement.

Brake Reservoirs, Five

BRAKE SYSTEM

The brake system will include:
 Bendix dual brake treadle valve
 Heated automatic moisture ejector on air dryer
 Total air system capacity of 6,653 cubic inches
 Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
 Spring set parking brake system
 Parking brake operated by a push-pull style control valve
 A parking "brake on" indicator light on instrument panel
 Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, will be provided with an automatic spring brake application at 40 psi
 A pressure protection valve will be provided to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa).
 Quarter turn drain valves on each air tank
 The air tank will be primed and painted to meet a minimum 750 hour salt spray test.
 The air tanks will be painted same as frame color.
 To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

0568012 Air Dryer, Wabco System Saver 1200, Heater, 2010

BRAKE SYSTEM AIR DRYER

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

0000790 Brake Lines, Nylon

BRAKE LINES

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

0617799 Inlet/Outlet, Air, w/Disconnect Fitting, 1/4 Turn Valve, Location

AIR INLET/OUTLET

One (1) air inlet/outlet will be installed with the female coupling located pump panel. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a 1/4 turn valve. A mating male fitting will be provided with the loose equipment.
 The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

0070810 All Wheel Lockup (Aerial/Tanker Chassis)

ALL WHEEL LOCK-UP

An additional all wheel lock-up system will be installed which applies air to the front brakes only. The standard spring brake control valve system will be used for the rear.

0010767 Moisture Ejector, Automatic, w/o Heat

AUTOMATIC MOISTURE EJECTOR(S)

One (1) automatic moisture ejector will be installed in the brake system. The moisture ejector(s) will be provided on the wet side tank reservoir(s).

0612549 Fittings, Compression Type, Entire Apparatus, Tandem Rear Axle

COMPRESSION FITTINGS

Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable.

0808514 Engine, Paccar MX, 510HP, 1850 lb-ft W/OBD, EPA 2027, Velocity

ENGINE

The chassis will be powered by an electronically controlled engine as described below:
 Make:
 Paccar
 Model:
 MX
 Power:
 510 hp at 1600rpm
 Torque:
 1850 lb-ft at 1000rpm
 Governed Speed:
 1900 rpm
 Emissions Certification:
 EPA 2027
 Fuel:
 Diesel
 Cylinders:
 Six (6)
 Displacement:
 13.7L
 Starter:
 DP60
 Fuel Filters:
 Dual cartridge style with check valve, water separator, and water in fuel sensor
 The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

0810929	Engine Contingency Adjustment	
0001244	High Idle w/Electronic Engine, Custom	<p>HIGH IDLE</p> <p>A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.</p> <p>The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."</p>
0735687	Engine Brake, Fully Integrated, Paccar MX13 Engine	<p>ENGINE BRAKE</p> <p>The compression release brake option is a fully integrated MX engine braking system. It utilizes the turbocharger and back pressure valve, but adds in a hydraulically operated compression brake to increase overall retarding power.</p> <p>To maximize the effectiveness of the compression brake the MX engine brake system works in conjunction with the turbocharger and back pressure valve.</p> <p>The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.</p>
0733852	Clutch, Fan, Air Actuated, Paccar, VEL	<p>CLUTCH FAN</p> <p>A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.</p>
0584898	Shutoff Valves, Cab & Crew Cab Heater, w/Labels	<p>HEATER SHUTOFF</p> <p>The cab and crew cab heaters will be provided with a shut-off valve installed in the supply line. This valve will be in an accessible location.</p> <p>Shut-off valve will be labeled for easy recognition.</p>
0734434	Air Intake, Water & Ember Screen, Paccar, VEL	<p>ENGINE AIR INTAKE</p> <p>The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille.</p> <p>The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine.</p> <p>The ember separator will be easily accessible by tilting the cab.</p>
0814375	Exhaust System, Horizontal, Right Side	<p>EXHAUST SYSTEM</p> <p>The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device. The exhaust system will include an aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipe between the turbo and the aftertreatment device to minimize the transfer of heat to the cab.</p> <p>The exhaust will terminate horizontally ahead of the right side rear wheels and will extend 2.00" past the body rub rail. The exhaust pipes will be aluminized steel.</p> <p>There will be an aluminized steel exhaust diffuser with a standard straight tip on the end provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p>
0734440	Radiator, VEL, Paccar	<p>RADIATOR</p> <p>The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards.</p> <p>For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes.</p> <p>Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.</p> <p>The radiator will be compatible with commercial antifreeze solutions.</p> <p>The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.</p> <p>The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.</p> <p>A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.</p> <p>Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.</p>
0511425	Cooling Hoses, Rubber	<p>COOLANT LINES</p> <p>Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.</p> <p>Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.</p>

0001125	Fuel Tank, 65 Gallon, Left Side Fill	<p>FUEL TANK</p> <p>A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A 0.75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only." A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.</p>
0001129	Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.
0734402	DEF Tank, 7.3 Gallon, LS Fill, Under Cab, Paccar, VEL	<p>DIESEL EXHAUST FLUID TANK</p> <p>A 7.3 gallon diesel exhaust fluid (DEF) tank will be provided and mounted under the cab on the driver's side. A fill inlet will be provided on the driver's side of the cab. The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing. The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p>
0552793	Not Required, Fuel Priming Pump	
0552712	Not Required, Shutoff Valve, Fuel Line	
0699437	Cooler, Chassis Fuel, Not Req'd.	
0690880	No Selection Required From This Category	
0887546	Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	<p>TRANSMISSION</p> <p>An Allison 6th generation, Model EVS 4000P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with an amber light and buzzer will be installed on the cab instrument panel.</p>
0625331	Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	<p>TRANSMISSION SHIFTER</p> <p>A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be:</p> <p>1st 3.51 to 1.00 2nd 1.91 to 1.00 3rd 1.43 to 1.00 4th 1.00 to 1.00 5th 0.75 to 1.00 6th 0.64 to 1.00 R 4.80 to 1.00</p>
0517604	Transmission Programming, Park to Neutral, PUC	<p>TRANSMISSION PROGRAMMING</p> <p>The transmission will be programmed to automatically shift the transmission to neutral when the parking brake is set to simplify operation and increase operational safety.</p>
0684459	Transmission Oil Cooler, Modine, External	<p>TRANSMISSION COOLER</p> <p>A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.</p>

0001375	Driveline, Spicer 1810	<p>DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.</p>
0734211	Steering, Sheppard M110 w/Tilt, TAK-4, Paccar Pump, w/Cooler, Paccar	<p>STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and Paccar hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.</p>
0001544	Not Required, Steering Assist Cylinder on Front Axle	
0509230	Steering Wheel, 4 Spoke without Controls	<p>STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.</p>
0690274	Logo/Emblem, on Dash	<p>LOGO AND CUSTOMER DESIGNATION ON DASH The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row. The first row of text will be: Farmers The second row of text will be: Branch The third row of text will be: Fire</p>
0606460	Bumper, 19" Extended, Painted, Reinforced, Imp/Vel	<p>BUMPER The bumper will be manufactured from 0.25" formed steel with a 0.38" bend radius. The bumper will be 10.00" high with a 1.50" top and bottom flange. The bumper will be one (1) piece with a front face of the bumper to be 81.00" with 9.00" 45 degree corners with side plates extending back to the cab. The bumper will be metal finished and painted job color.</p> <p>Gravel Pan A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.</p>
0616491	Tray, Hose, Center, 19" Bumper, Outside Air Horns, Rolled Edge, Imp/Vel	<p>CENTER HOSE TRAY A hose tray, constructed of aluminum, will be placed in the center of the bumper extension. A smooth rolled edge will be provided on the top of the front and sides of the tray. The tray will have a capacity of 150' of 1.75" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.</p>
0633479	Hose Restraint, Bumper Tray, Velcro Straps, Pair	<p>Center Hose Tray Restraint There will be one (1) pair of hose tray restraint straps located over the center mounted tray. The restraints will be a pair of 2.00" wide black nylon straps with Velcro® fasteners provided. The strap(s) will be used to secure the hose in the tray.</p>
0510226	Lift & Tow Package, Imp/Vel, AXT, Dash CF	<p>LIFT AND TOW MOUNTS Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame.</p>
0032932	Tow Eyes, Painted, Extended Out Front of Bumper	<p>TOW EYES Two (2) tow eyes will be mounted through the front face of the bumper. The inner and outer edges of the tow eyes will have a .25" radius. The tow eyes will be mounted directly to the bumper frame. Cutouts will be provided in the front face of the stainless steel bumper to allow the tow eyes to extend out the front. The tow eyes will be designed and positioned to allow up to a 9,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus. The tow eyes will be painted job color.</p>
0532853	Recess, Side Zone Warning Light, In Side of Extended Bumper	<p>SIDE ZONE LIGHT MOUNTING The front lower warning lights on each side will be recessed into the side of the bumper extension to protect the light from damage. The recessed bracket will be made of painted smooth aluminum.</p>

Exhibit A
0692444

Recess, Front/Side Warning Light, In
Angled Corner of Extended Bumper

SIDE ZONE LIGHT MOUNTING

The front warning lights on each side will be recessed into the angled portion of the bumper extension to protect the light from damage.
The recessed bracket will be made of painted smooth aluminum.

0698960

Coating, Top Flange, Front Bumper,
Outside Exterior, UL-LX Coating,
Black

FRONT BUMPER UL-LX COATING

Protective black UL-LX® coating will be provided on the outside exterior of the top front bumper flange. It will not be sprayed on the underside of the flange.
The lining will be properly installed by an authorized UL-LX dealer.

CAB

The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

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

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

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

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

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 112.00". The raised portion will start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The raised roof section of the crew cab will have a 58.00" wide x 10.00" high square notch in the center section of the roof. This will allow the aerial device to be bedded in the same location as a non-raised roof.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 52.95" in the center position and 68.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

CAB PUMP ENCLOSURE

The rear of the cab will be made to house the fire pump below the forward facing crew cab seats. The cab side panels will be notched to accommodate the pump panel.

FENDER LINERS

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

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather. The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

0890953	Engine Tunnel, Spray Insulation, Impel/Velociry FR, w/T3 Rear Axle	<p>ENGINE TUNNEL To provide structural strength, the engine tunnel sidewalls will be constructed of 0.50" aluminum plate that is welded to both the 0.25" firewall and 0.38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered. The engine tunnel will be insulated for protection from heat and sound. The underside of the tunnel will be sprayed with insulation. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards.</p>
0887600	Cab Insulation, Impel/Velociry FR	<p>INTERIOR CAB INSULATION The cab will include 1.50" insulation in the ceiling, 3.00" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.</p>
0677478	Rear Wall, Exterior, Cab, Aluminum Treadplate	<p>CAB REAR WALL EXTERIOR COVERING The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.</p>
0122466	Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	<p>CAB LIFT A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure. The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2.00' (coiled) to 6.00' (extended). The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab. The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.</p> <p>Cab Lift Interlock The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.</p>
0123176	Grille, Bright Finished, Front of Cab, Velocity	<p>GRILLE A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.</p>
0002224	Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	<p>DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a 1.00" polished stainless steel scuffplate, mounted on the striker side of the jamb.</p>
0527032	Trim, S/S Band, Across Cab Face, Rect Lights, Velocity	<p>FRONT CAB TRIM A band of 22 gauge polished stainless steel trim will be installed across the front of the cab, from door hinge to door hinge. The trim band will be centered on the head lights and applied with two (2)-sided tape. A 0.625" self adhesive trim strip will be applied around the perimeter of the trim band. There will be polished stainless steel corner covers provided over the painted cab corner where the cab turn signals are located.</p>
0087357	Molding, Chrome on Side of Cab	<p>SIDE OF CAB MOLDING Chrome molding will be provided on both sides of cab.</p>
0521669	Mirrors, Retrac, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	<p>MIRRORS A Retrac, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.</p>

Door, Full Height, Velocity FR 4-Door Cab, Raised Roof

CAB DOORS

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 85.50" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum. The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.

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

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

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

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

A chrome grab handle will be provided on the inside of each cab and crew cab door.

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

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

0655511 Door Panel, Brushed Stainless Steel, Impel/Velociry 4-Door Cab

Door Panels

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

0667905 Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velociry FR

RECESSED POCKET WITH ELASTIC COVER

To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 5.63" wide x 2.00" high x 4.00" deep. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console.

0667902 Controls, Electric Windows, All Cab Doors, Impel/Velociry FR

ELECTRIC WINDOW CONTROLS

Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.

0670028 Electric Door Locks, Cab Doors, DS Bumper Conceal Switch Loc, Imp/Vel

ELECTRIC CAB DOOR LOCKS

The front driver and passenger doors will have a door lock master switch (custom designed rotary lock knob) built into the interior door latch that will control all front and rear side exit door locks. Each rear cab door will have its own lock control. Each door will have a keyed exterior lock mechanism built into the door handle assembly.

There will be one (1) concealed switch on the exterior of the cab, located under the front bumper on the driver side, that operates the cab door locks.

The lock system will include two (2) key FOBs that allow for keyless entry into the vehicle. The key FOB system will use code hopping technology for high security and be FCC part 15 compliant.

0555485 Steps, 4-Door Full Tilt Cab, Imp/Vel

CAB STEPS

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.

0770200 Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab

CAB EXTERIOR HANDRAILS

A Hansen knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. Each handrail will be provided with red LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.

0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	<p>STEP LIGHTS There will be four (4) white P25 LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The light(s) will have a chrome housing. The lights will be activated when the adjacent door is opened.</p>
0002140	Fenders, S/S on Cab	<p>FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings.</p>
0586564	Window, Side of C/C, Fixed, w/EMS Cabinet, Imp/Vel	<p>CREW CAB WINDOWS One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 20.00" wide x 20.50" high.</p>
0552935	Trim, Cab Side Windows, Velocity	<p>WINDOWS INTERIOR TRIM For improved aesthetics, the cab side windows will include a vacuum formed ABS interior trim panel.</p>
0012090	Not Required, Windows, Front/Side of raised roof	
0509286	Not Required, Windows Rear of Crew Cab, Imp/Vel	
0558334	Not Required, Trim, Cab Rear Windows, No Rear Windows	
0123686	Drip Rail, Cab Roof, Impel/Veloccity/Velocity SLT	<p>CAB ROOF DRIP RAIL For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.</p>
0798684	Work Surface, 3/16" Alum, Full Engine Tunnel, Vel/Imp FR	<p>WORK SURFACE There will be a work surface provided on the engine tunnel. The work surface will be flat. It will not follow the engine tunnel angles. The work surface will cover the entire engine tunnel and will be constructed of 0.19" aluminum to allow for the mounting of equipment. The work surface will start to the rear of the center instrument panel and finish at the end of the engine tunnel. The work surface will be painted to match the cab interior.</p>
0664063	Shelf, Equipment Mounting, Aluminum, Lip, Full Width	<p>EQUIPMENT MOUNTING SHELF There will be one (1) full width shelf for permanent mounting of equipment provided. The full width shelf will be located full width over both rear facing EMS cabinets and the engine tunnel. The shelf will have a 1.00" lip around edge. The shelf will be fabricated from aluminum and will be painted to match the cab interior. Tray not intended for storage of loose equipment. Items stored on tray will be permanently attached to meet current edition of applicable NFPA standards.</p>
0664381	Bracket, PAC, Ironslok, PN K5003	<p>HALLIGAN TOOL/AXE MOUNTING BRACKET(S) There will be one (1) PAC Ironslok, P/N 5003, mounting bracket(s) provided. They will be located on back of the engine tunnel over the fluid access door.</p>
0657250	Tray, Slideout, Alum, Sides, MDT Bracket, Recessed Dash, Officer	<p>COMPUTER MOUNTING TRAY There will be one (1) sliding aluminum tray located forward of the officer. The tray will be as wide as possible in the dash panel recess. The tray will be painted to match the cab interior.</p>

Cab Interior, Vinyl, Velocity FR,
CARE

CAB INTERIOR

With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road.

The center console will be a high impact ABS polymer and will be easily removable.

The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.

To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.

To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.

To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew.

The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be 36 oz dark silver gray vinyl. All cab interior materials will meet FMVSS 302 (flammability of interior materials).

0667943

Cab Interior, Paint Color,
Impel/Velocity FR

CAB INTERIOR PAINT

The following metal surfaces will be painted black, vinyl textured paint:

Modesty panel in front of driver

Vertical surface of dash in front of the officer (not applicable for recessed dash)

Glove box in front of the officer (if applicable)

Power distribution in front of the officer

Rear heater vent panels

The remaining cab interior metal surfaces will be painted fire smoke gray, vinyl texture paint.

0509532

Floor, Rubber Padded Cab & Crew
Cab, Imp/Vel, Dash CF

CAB FLOOR

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

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

DEFROST/AIR CONDITIONING SYSTEM

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

Cab Defroster

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

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

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

Cab/Crew Auxiliary Heater

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

Air Conditioning

A 13.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.

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

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

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

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

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

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

- Five (5) will be directed towards crew cab area

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

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

Climate Control

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

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

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

Gravity Drain Tubes

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

The drain tubes will terminate under the cab, on the inboard side of the front wheelwells.

0603570 SP A/C Unit, Danhard, 120 Volt AC, 13500 BTU, Location, Painted Cover, Notched Roof

AUXILIARY AIR CONDITIONER

A Danhard, Inc, Model 70-2030, 120 volt AC air conditioning system will be provided in the crew cab. The air conditioning evaporator will be rated at 13,500 BTU. The system will be powered by the 20 amp shoreline only. The evaporator and control unit will be located within an enclosure inside the crew cab on the ceiling above the forward facing center position. The condenser and compressor will be located on the crew cab roof and enclosed with an aluminum painted cover.

0639675 Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf

SUN VISORS

Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab. There will be no retention bracket provided to help secure each sun visor in the stowed position.

0548173 Grab Handles, Driver and Passenger Door Post, Imp/Vel

GRAB HANDLE

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

0583938 Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3" LED, Trim

ENGINE COMPARTMENT LIGHTS

There will be one (1) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.

These light(s) will be activated automatically when the cab is raised.

Fluid Check Access, Imp/Vel

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be flush with the wall of the engine tunnel. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil. The door will have a rubber seal for thermal and acoustic insulation. One (1) Southco C2 black powder coated flush latch will be provided on the access door.

0583042

Side Roll and Frontal Impact Protection

CAB SAFETY SYSTEM

The cab will be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and will include the following:

A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.

A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.

A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.

A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.

A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.

Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.

Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.

Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

Frontal Impact Protection

The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected.

The SRS system will deploy the following components in the event of a frontal or oblique impact event:

Driver side front air bag

Passenger side knee bolster air bag

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

Seat belts will be pre-tensioned to firmly hold the occupant in place

Side Roll Protection

The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.

The SRS system will deploy the following components in the event of a side roll:

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

Seat belts will be pre-tensioned to firmly hold the occupant in place

0622618

Seating Capacity, 5 Seats

SEATING CAPACITY

The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be five (5).

0697005

Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety, PRIMARY

DRIVER SEAT

A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type with air suspension. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.75" travel) and horizontal (7.00" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. Providing for maximum comfort, the seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. The lumbar adjustment lever will be easily located at the lower outboard position of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). The seat will include the following features incorporated into the side roll protection system:

Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.

A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

Seat, Officer, Pierce PS6, Base,
SCBA, Safety, PRIMARY

OFFICER SEAT

A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a fixed type, with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.
The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
A seat safety system will be included. When activated, this system will pretension the seat belt. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

0510037 Radio Compartment, Below Officer
Seat, Imp/Vel

RADIO COMPARTMENT

A compartment for the radio amplifier will be located under the front passenger's seat. The size of the compartment will be approximately 16.00" wide x 7.50" high x 16.50" deep. A drop-down door with a chrome plated, flush lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

0823633 Cabinet, Rear Facing, LS, 21 W x 28
H x 24 D, Web, Imp/Vel

REAR FACING LEFT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the left side outboard position. The cabinet will be 21.00" wide x 28.00" high x 24.00" deep. The interior door will be web netting. The netting is to be made with 2.00" wide nylon material with 2.00" openings permanently fastened on the bottom with seat belt buckle fasteners on the top to secure it. A bar and orange pull strap to be provided connecting the fasteners for a single release. The clear door opening will be 18.50" wide x 25.00" high.
The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lipped to match the cab interior.
The cabinet will include no louvers.
The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.
Cabinet Light
There will be one (1) white LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the exterior of the cabinet.

0102783 Not Required, Seat, Rr Facing C/C,
Center

0826946 Cabinet, Rear Facing, RS, 19 W x 28
H x 26.5 D, Web, Imp/Vel

REAR FACING RIGHT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the right side outboard position. The cabinet will be 19.00" wide x 28.00" high x 26.50" deep. The interior door will be web netting. The netting is to be made with 2.00" wide nylon material with 2.00" openings permanently fastened on the bottom with seat belt buckle fasteners on the top to secure it. A bar and orange pull strap to be provided connecting the fasteners for a single release. The clear door opening will be 16.50" wide x 25.00" high.
The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lipped to match the cab interior.
The cabinet will include no louvers.
The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.
Cabinet Light
There will be one (1) white LED strip light installed on the right side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the exterior of the cabinet.

0818870 Seat, Fwd Fcng C/C, LS Otbrd, PS6,
SCBA, Foldup, 17" Btm,Safety,3"
Inbrd,PRIMARY

FORWARD FACING LEFT SIDE OUTBOARD SEAT

There will be one (1) forward facing, Pierce PS6®, foldup seat provided at the left side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 17.00" deep foam cushions and the seat back will be provided with 90 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.
The seat will be moved 3.00" inboard from the standard location.
The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.
The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.
The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

	<p>Seat, Fwd Fcng C/C, Ctr, (1) Pierce PS6, Base, SCBA, 17" Btm, Safety, SECONDARY</p>	<p>FORWARD FACING CENTER SEAT There will be one (1) forward facing, Pierce PS6® seat provided at the center position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 17.00" deep foam cushions, and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location. The seat will include the following feature incorporated into the side roll protection system: A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
<p>0820885</p>	<p>Seat, Fwd Fcng C/C, RS Otbrd, PS6, SCBA, Foldup, 17" Btm, Safety, 3" Inbrd, PRIMARY</p>	<p>FORWARD FACING RIGHT SIDE OUTBOARD SEAT There will be one (1) forward facing, Pierce PS6®, foldup seat provided at the right side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 17.00" deep foam cushions and the seat back will be provided with 90 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled. The seat will be moved 3.00" inboard from the standard location. The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location. The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
<p>0766467</p>	<p>Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE</p>	<p>SEAT UPHOLSTERY All seat upholstery will be leather grain 36 oz dark silver gray vinyl resistant to oil, grease and mildew. The cab will have five (5) seating positions.</p>
<p>0543991</p>	<p>Bracket, Air Bottle, Hands-Free II, Cab Seats</p>	<p>AIR BOTTLE HOLDERS All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G. There will be a quantity of four (4) SCBA brackets.</p>
<p>0690610</p>	<p>Embroidery, Seats, Cab and Crew Cab</p>	<p>SEAT EMBROIDERY The seats in the cab and crew cab will be provided with custom embroidery. The Fire Department will determine what the embroidery will be by providing pictures at the time of order. The custom logo will be provided in place of the standard OEM logo. The embroidery will be provided on five (5) seats.</p>
<p>0603867</p>	<p>Seat Belt, ReadyReach</p>	<p>SEAT BELTS All seating positions in the cab, crew cab and tiller cab (if applicable) will have orange seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only.</p>
<p>0604864</p>	<p>Seat Belt Height Adjustment, 5 Seats, Imp/Vel, Dash CF</p>	<p>SHOULDER HARNESS HEIGHT ADJUSTMENT All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. A total of five (5) seating positions will have the adjustable shoulder harness.</p>
<p>0817557</p>	<p>Helmet Storage, Provided by Fire Department, NFPA/ULC 2024</p>	<p>HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.</p>

	Lights, Dome, FRP Dual LED 4 Lts	<p>CAB DOME LIGHTS There will be four (4) dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the lens switch. In order to ensure exceptional illumination, each white LED dome light will provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.</p>
0615448	Lights, Dome, W/in, 60C0EJCS White LED, Bat Dir and Bat Charger	<p>ADDITIONAL DOME LIGHTS There will be one (1) Whelen®, Model 60C0EJCS, 6.00" round white LED dome light(s) with lens switch located PS crew cab ceiling to light up EMS cabinet access area. The light(s) will have 12 volt DC power when the shoreline inlet is connected to the apparatus.</p>
0896451	Enhanced Software for Cab and Crew Cab Dome Lts	<p>ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed. The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.</p>
0631776	Not Required, Overhead Map Lights	
0804719	Handlts, (4) Streamlight, Fire Vulcan, 44451, C4 LED, Tail Lts, 12v, Orange	<p>HAND HELD LIGHT There will be four (4) Streamlight, Fire Vulcan, Model #44451, hand lights provided with a vehicle mount with 12VDC direct wire charging rack and quick release buckle strap mounted wire coiled under each seat and two coiled inside center console for mounting at final. Each light housing will be orange in color and be provided with a C4, LED and two (2) "ultra bright blue tail light LEDs". The tail light LEDs will have a dual mode of blinking or steady.</p>
0695283	Handlight, Streamlight, Survivor, 90503, C4 LED, 12v, Orange, Steady Charge	<p>HAND HELD SPOTLIGHT There will be four (4) lights Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC cords provided and installed in the ceiling above each seat position. The driver and officer light should be as close as possible to the AC plenum so the firefighter does not hit the light climbing in the cab. The flashlights will be connected battery direct and will charge when the chassis batteries are charging.</p>
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	<p>CAB INSTRUMENTATION The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership.</p> <p>Gauges The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance:</p> <ul style="list-style-type: none"> Voltmeter gauge (Volts) Low volts (11.8 VDC) Amber indicator on gauge assembly with alarm High volts (15 VDC) Amber indicator on gauge assembly with alarm Very low volts (11.3 VDC) Amber indicator on gauge assembly with alarm Very high volts (16 VDC) Amber indicator on gauge assembly with alarm Tachometer (RPM) Speedometer (Primary (outside) MPH, Secondary (inside) Km/H) Fuel level gauge (Empty - Full in fractions) Low fuel (1/8 full) Amber indicator on gauge assembly with alarm Very low fuel (1/32) fuel Amber indicator on gauge assembly with alarm Engine oil pressure gauge (PSI) Low oil pressure to activate engine warning lights and alarms Red indicator on gauge assembly with alarm Front air pressure gauge (PSI) Low air pressure to activate warning lights and alarm Red indicator on gauge assembly with alarm Rear air pressure gauge (PSI) Low air pressure to activate warning lights and alarm Red indicator on gauge assembly with alarm Transmission oil temperature gauge (Fahrenheit) High transmission oil temperature activates warning lights and alarm Amber indicator on gauge assembly with alarm

Engine coolant temperature gauge (Fahrenheit)
 High engine temperature activates an engine warning light and alarm
 Red indicator on gauge assembly with alarm
 Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
 Low fluid (1/8 full)
 Amber indicator on gauge assembly with alarm
 All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance.

Indicator Lamps

To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

Low coolant
 Trac cntl (traction control) (where applicable)
 Check engine
 Check trans (check transmission)
 Aux brake overheat (Auxiliary brake overheat)
 Air rest (air restriction)
 Caution (triangle symbol)
 Water in fuel
 DPF (engine diesel particulate filter regeneration)
 Trailer ABS (where applicable)
 Wait to start (where applicable)
 HET (engine high exhaust temperature) (where applicable)
 ABS (antilock brake system)
 MIL (engine emissions system malfunction indicator lamp) (where applicable)
 SRS (supplemental restraint system) fault (where applicable)
 DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

Warning (stop sign symbol)
 Seat belt
 Parking brake
 Stop engine
 Rack down

The following green telltale lamps will be provided:

Left turn
 Right turn
 Battery on

The following blue telltale lamp will be provided:

High beam

Alarms

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for 3 to 5 seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

Indicator Lamp and Alarm Prove-Out

Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

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

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.

The following standard controls will be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position. The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

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

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided.

The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for 3 to 5 seconds. A green indicator lamp will be activated with vehicle ignition.

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

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and air conditioning control panel.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided.

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

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

Diagnostic Panel

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

The diagnostic panel will include the following:

Engine diagnostic port

Transmission diagnostic port

ABS diagnostic port

SRS diagnostic port (where applicable)

Command Zone USB diagnostic port

ABS diagnostic switch (blink codes flashed on ABS telltale indicator)

Diesel particulate filter regeneration switch (where applicable)

Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function.

The upper left section will display the outside ambient temperature.

The upper right section will display, along with other configuration specific information:

Odometer

Trip mileage

PTO hours

Fuel consumption

Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm.

The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

0509511 Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.

0673123 Light, Do Not Move Apparatus, W/in 3SR00FRR LED

"DO NOT MOVE APPARATUS" INDICATOR

A Whelen Model 3SR00FRR flashing red LED indicator light with a Whelen, Model 3FLANGEC chrome surface mount flange located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On".

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

Messages, Open Dr/DNMT, Color Dsply,

DO NOT MOVE TRUCK MESSAGES

Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)
- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)
- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail Not Stowed

Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.

0611681

Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX

SWITCH PANELS

The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliques. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver side overhead to allow for easy access. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout.

The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.

0555915

Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity

WIPER CONTROL

For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.

0002565

Hourmeter, Aerial Inside Cab

HOURLMETER - AERIAL DEVICE

An hourmeter for the aerial device will be provided and located within the cab display or instrument panel.

0002615

Switch, Aerial 12V Master

AERIAL MASTER

There will be a master switch for the aerial operating electrical system provided.

0002617

PTO switch, w/light - aerial

AERIAL PTO SWITCH

A PTO switch for the aerial with indicator light will be provided.

0820894

Wiring, Spare, 15 A 12V DC, Batt Dir, 1st NFPA1900/ULC

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on 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 15 amps at 12 volts DC.
 Power and ground will terminate on the driver's side of the engine tunnel.
 Termination will be with a 10-place bus bar with screws and removable cover.
 Wires will be sized to 125 percent of the protection.
 Battery direct loads cannot be Load Managed.

Wiring, Spare, 15 A 12V DC, Batt Dir,
2nd NFPA1900/ULC

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on 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 15 amps at 12 volts DC
Power and ground will terminate officer side dash area
Termination will be with heat shrinkable butt splicing
Wires will be sized to 125 percent of the protection
Battery direct loads cannot be Load Managed

0820904

Wiring, Spare, 15 A 12V DC 1st
NFPA1900/ULC

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.
The above wires will have the following features:
The positive wire will be connected from a switch located on the cab switch panel, through a relay.
The negative wire will be connected to ground.
Wires will be protected to 15 amps at 12 volts DC.
Power and ground will terminate behind officer seat.
Termination will be with a 10-place bus bar with screws and removable cover.
Wires will be sized to 125 percent of the protection.
The circuit(s) may be load managed when the parking brake is set.

0821298

Wiring, Spare, 12V DC, USB-A, USB-C
AlfredDireck Batt Dir 1st
NFPA1900/ULC

SPARE CIRCUIT

There will be three (3) pair of wires, including a positive and a negative, installed on 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 7.5 amps at 12 volts DC.
Power and ground will terminate in the switch panel One at switch panel 9, one at each rear forward facing seat next to EMS cabinet.
Termination will be a AlfredDireck QC4.0 PD & QC3.0 with the 60W PD USB-C port and 30W Quick Charge 3.0 USB-A port.
Wires will be sized to 125 percent of the protection.
Battery direct loads cannot be Load Managed

0566101

Recess, Dash Panel, Officer Side,
Vel/Imp

DASH PANEL RECESS

The dash panel across from the officer will be recessed to accommodate the mounting of miscellaneous items. The recess will be 7.25" down x 7.81" back and 20.88" wide.

0814201

Vehicle Information Center, 7" Color
Display, Touchscreen, MUX, CL714

INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.
The information center will have the following specifications:
Operate in temperatures from -40 to 158 degrees Fahrenheit
LCD optically bonded to hardened AR glass lens
Five weather resistant user interface switches
Grey with black accents
Sunlight Readable
Linux operating system
Minimum of 1000nits rated display
Display can be changed to an available foreign language
A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.
Programmed to read US Customary

General Screen Design

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used. If a caution or warning situation arises the following will occur:
An amber background/text color will indicate a caution condition
A red background/text color will indicate a warning condition
The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.
A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:
Vehicle Mitigation (if equipped)
Water Level (if the water level system includes compatible communications to the information center)
Foam Level (if the foam level system includes compatible communications to the information center)
Seat Belt Monitoring Screen
Tire Pressure Monitoring (if equipped)
Digital Speedometer

Active Alarms

On Scene Screen

This screen will display the following and will be auto activated with pump engaged (if equipped):

Battery Voltage
 Fuel
 Oil Pressure
 Coolant Temperature
 RPM
 Water Level (if equipped)
 Foam Level (if equipped)
 Foam Concentration (if equipped)
 Water Flow Rate (if equipped)
 Water Used (if equipped)
 Active Alarms

Virtual Buttons

There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

Page Screen

The page screen will display the following and allow the user to progress into other screens for further functionality:

Diagnostics
 Faults
 Listed by order of occurrence
 Allows to sort by system
 Interlock
 Throttle Interlocks
 Pump Interlocks (if equipped)
 Aerial Interlocks (if equipped)
 PTO Interlocks (if equipped)
 Load Manager

A list of items to be load managed will be provided. The list will provide a description of the load. The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.

The screen will indicate if a load has been shed (disabled) or not shed.

"At a glance" color features are utilized on this screen.

Systems

Command Zone
 Module type and ID number
 Module Version
 Input or output number
 Circuit number connected to that input or output
 Status of the input or output
 Power and Constant Current module diagnostic information
 Foam (if equipped)
 Pressure Controller (if equipped)
 Generator Frequency (if equipped)

Live Data

General Truck Data
 Maintenance
 Engine oil and filter
 Transmission oil and filter
 Pump oil (if equipped)
 Foam (if equipped)
 Aerial (if equipped)

Setup

Clock Setup
 Date & Time
 12 or 24 hour format
 Set time and date
 Backlight
 Daytime
 Night time
 Sensitivity

Unit Selection

Home Screen

Virtual Button Setup
 On Scene Screen Setup
 Configure Video Mode
 Set Video Contrast
 Set Video Color
 Set Video Tint
 Do Not Move

The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated

Driver Side Cab Door
 Passenger's Side Cab Door
 Driver Side Crew Cab Door
 Passenger's Side Crew Cab Door
 Driver Side Body Doors
 Passenger's Side Body Doors
 Rear Body Door(s)
 Ladder Rack (if applicable)
 Deck Gun (if applicable)
 Light Tower (if applicable)
 Hatch Door (if applicable)
 Stabilizers (if applicable)
 Steps (if applicable)
 Notifications

View Active Alarms
Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
Silence Alarms - All alarms are silenced
Timer Screen
HVAC (if equipped)
Tire Information (if equipped)
Ascendant Set Up Confirmation (if equipped)
Button functions and button labels may change with each screen.

0816633 Collision Mitigation, HAAS Alert (R2V), HA7

COLLISION MITIGATION
There will be a HAAS Alert®, Model HA 7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degrees Celsius to 85 degrees Celsius.
The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.
While responding with emergency lights on, the HA7 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.
While on scene with emergency lights on, the HA7 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.
The HA7 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.
Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.

0606249 Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor

VEHICLE DATA RECORDER
There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.
The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.
The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:
Vehicle Speed - MPH
Acceleration - MPH/sec
Deceleration - MPH/sec
Engine Speed - RPM
Engine Throttle Position - % of Full Throttle
ABS Event - On/Off
Seat Occupied Status - Yes/No by Position
Seat Belt Buckled Status - Yes/No by Position
Master Optical Warning Device Switch - On/Off
Internal clock syncs the time and date when a laptop is connected
Seat Belt Monitoring System
A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display and in the center overhead of the cab instrument panel. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:
Seat Occupied & Buckled = Green LED indicator illuminated
Seat Occupied & Unbuckled = Red LED indicator with audible alarm
No Occupant & Buckled = Red LED indicator with audible alarm
No Occupant & Unbuckled = No indicator and no alarm
The seat belt monitoring screen will become active on the Command Zone color display when:
The home screen is active:
and there is any occupant seated but not buckled or any belt buckled with an occupant.
and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated.
The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

0616382 Install Customer Provided GPS/Multimode Antenna(s)

GPS / MULTIMODE ANTENNA INSTALLATION
There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer.
Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.

0696439 Antenna Mount, Custom Chassis, Cable Routed to Instrument Panel Area

RADIO ANTENNA MOUNT
There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the right side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap will be installed on the mount.

Camera, Pierce, LS Mux, R Camera, SD, CL714

VEHICLE CAMERA SYSTEM

There will be a color vehicle camera system provided with the following:
 One (1) Standard Definition (SD) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.
 The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be not provided.
 The following components will be included:
 One (1) SV-CW134639CAI Camera
 All necessary cables

0814831

Not Required, Camera Switcher

Camera Switcher

A camera switcher is not required.

0896458

Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT

ELECTRICAL POWER CONTROL SYSTEM

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible. Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership. Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

Solid-State Control System

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include black housings, a power indicator and status indicator located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field programmable to accommodate changes to the vehicle's operating parameters
- To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:
- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g

IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)

Operating voltage from eight (8) volts to 32 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

Circuit Protection and Control Diagram

Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

On-Board Electrical System Diagnostics

The on-board information center will include the following diagnostic information:
 Text description of active warning or caution alarms
 Simplified warning indicators
 Amber caution indication with intermittent alarm
 Red warning indication with steady tone alarm
 Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU Module with WiFi

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will communicate through a white WiFi antenna allowing a line of site communication range of up to 300 feet with a roof mounted antenna. The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will

allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The TCU capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU information and update software in the device.

Indicator Light and Alarm Prove-Out System

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

Voltage Monitor System

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

Dedicated Radio Equipment Connection Points

There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment. The studs will consist of the following:

12-volt 40-amp battery switched power

12-volt 60-amp ignition switched power

12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

EMI/RFI Protection

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

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

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

There will be a software based vehicle tool provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone™ information center and/or wireless enabled devices to proactively alert of upcoming service intervals.

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

Electrical System, Velocity ESP,
Cummins, Paccar

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:

All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.

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.

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.

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).

All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

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

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

0089703	Batteries, (6) Interstate Grp 31, 950 CCA each, Threaded Stud	<p>BATTERY SYSTEM Six (6) 12 volt group 31 Interstate batteries that include the following features will be provided: 950 CCA (cold cranking amps) 195 reserve capacity High cycle Maintenance free Rating of 5700 CCA at 0 degrees Fahrenheit 1170 minutes of reserve capacity Threaded studs</p>
0008621	Battery System, Single Start, All Custom Chassis	<p>BATTERY SYSTEM There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel. MASTER BATTERY SWITCH There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system. An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.</p>
0123174	Battery Compartment, Imp/Vel	<p>BATTERY COMPARTMENTS The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays. JUMPER STUDS One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.</p>
0813848	Charger, Sngl Sys, IOTA, DLS-75, 75 amp, IQ4 Controller	<p>BATTERY CHARGER There will be an IOTA, Model DLS 75, 75 amp battery charger with IQ4 controller provided. The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.</p>
0814869	Location, Cab, Charger, Behind Driver Seat	<p>The battery charger will be located in the cab behind the driver seat.</p>
0813791	Panel, Charger Display, Kussmaul, 091-94-12, Batt Dir	<p>REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Model 091-94-12 universal display panel included. It will be wired directly to the chassis batteries.</p>

0782026	Shoreline, 20A 120V, Blue Sea Sure Eject 7851	<p>SHORELINE INLET There will be one (1) Blue Sea Sure Eject™ part number 7851, 20 amp 120 volt AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline will be connected to battery charger, air compressor and receptacles. The shoreline inlet cover color to be red. The connector body will be released from the inlet when the apparatus engine start button is activated. There will be a mating connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency</p>
0813015	Shoreline Location, Blue Sea	<p>SHORE LINE LOCATION The shoreline receptacle will be located on the driver side of cab, above wheel.</p>
0760950	SP Shoreline Inlet, 20A 120V Blue Sea Sure Eject 7851	<p>SHORELINE INLET There will be one (1) Blue Sea Sure Eject™ part number 7851, 20 amp 120 volt AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline will be next to other shoreline. The shoreline will be connected to Danhard AC. The shoreline inlet cover color to be blue. The connector body will be released from the inlet when the apparatus engine start button is activated. There will be a mating connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency</p>
0783395	Transfer Switch, Generator to Shoreline 30 Amp and Under	<p>GENERATOR TO SHORELINE TRANSFER SWITCH There will be an automatic transfer switch between the onboard generator and the shoreline inlet. The loads connected to the transfer switch will be power from the onboard generator when the generator is running.</p>
0590797	Cover, Protection Over Air Compressor, Painted Smooth Aluminum	<p>BATTERY CHARGER AIR COMPRESSOR COVER A removable cover will be fabricated and installed over the air compressor for protection. The cover will be made out of smooth aluminum and painted to match the cab interior.</p>
0538692	Cover, Protection over Battery Charger/Comp, Cab	<p>BATTERY CHARGER COVER A cover will be fabricated and installed over the cab mounted battery charger/compressor for protection. The cover will be painted the same color as the interior and contain cutouts for proper ventilation.</p>
0647728	Alternator, 430 amp, Delco Remy 55SI	<p>ALTERNATOR A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.</p>

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

System voltage monitoring.

A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

High Idle to activate before any electric loads are shed and deactivate with the service brake.

If enabled:

"Load Man Hi-Idle On" will display on the information center.

Hi-Idle will not activate until 30 seconds after engine start up.

Individual switch "on" indicator to flash when the particular load has been shed.

The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:

Load managed items list, with priority levels and item condition.

Individual load managed item condition:

ON = not shed

SHED = shed

SEQUENCER

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch.

When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

Cab Heater and Air Conditioning

Crew Cab Heater (if applicable)

Crew Cab Air Conditioning (if applicable)

Exhaust Fans (if applicable)

Third Evaporator (if applicable)

0783153

Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel

HEADLIGHTS

There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

the outside light on each side will contain a part number 055***1 low beam module

the inside light on each side will contain a part number 055***1 high beam module

the headlights to include chrome bezels

The low beam lights will be activated when the headlight switch is on.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

0648425

Light, Directional, Wln 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Imp/Vel/AXT/Qtm

DIRECTIONAL LIGHTS

There will be two (2) Whelen 600® series, LED combination directional/marker lights provided.

The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be clear.

0620054

Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts

INTERMEDIATE LIGHT

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

0648074

Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts

CAB CLEARANCE/MARKER/ID LIGHTS

There will be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.

Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.

Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.

Lights, Clearance/Marker/ID, Rear,
Truck-Lite 33050R LED 4Lts, Aerial

REAR CLEARANCE/MARKER/ID LIGHTING

There will be three (3) LED lights used as identification lights that are integral to the rear HiViz® scene light assembly (see rear work/scene) at the rear of the apparatus.

There will be two (2) Truck-Lite®, Model 33050R, LED lights recessed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

To indicate the overall width of the vehicle
One (1) each side of the vertical centerline

As near the top as practical

Red in color

To be visible from the rear

All at the same height

There will be two (2) Truck-Lite®, Model 33050R, LED lights recessed on the side of the apparatus as marker lights as close to the rear as practical per the following:

To indicate the overall length of the vehicle

One (1) each side of the vertical centerline

As near the top as practical

Red in color

To be visible from the side

All at the same height

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

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

Per FMVSS 108 and CMVSS 108 requirements.

0514453 Light, Marker End Outline, Rubber Arm, LED Marker Lamp

MARKER LIGHTS

There will be one (1) pair of amber and red LED marker lights with rubber arm, located rear corners. The amber lens will face the front and the red lens will face the rear of the truck. These lights will be activated with the running lights of the vehicle.

0804519 Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw w/Flange

REAR FMVSS LIGHTING

The rear stop/tail and directional lighting will include the following:

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

Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern.

The lens color(s) to be the same as the LEDs.

The lights to include chrome trim.

0806466 Lights, Backup, WIn M62BU, LED, For Tail Lt Housing

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

0889577 Bracket, License Plate & Light, P25 LED, Stainless Brkt

LICENSE PLATE BRACKET

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

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

0556853 Bezels, WIn, (2) M6 Chrome Pierce, For Mtg (3) WIn M6 Lts

LIGHTING BEZEL

There will be two (2) Whelen, Model M6FCV3P, three (3) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, and back up lights.

0081564 Alarm, Back-Up Warning, ECCO 505, 87db Constant

BACK-UP ALARM

An ECCO, Model 505, 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 at a constant 87db.

0769569 Lights, Perimeter Cab, Amdor AY-LB-12HW012 LED 4Dr

CAB PERIMETER SCENE LIGHTS

There will be four (4) Amdor, Model AY-LB42HW012, 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.

	Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts	<p>PUMP HOUSE PERIMETER LIGHTS There will be two (2) Amdor, Model AY-LB12HW012, 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>
0768765	Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Turntable Access	<p>BODY PERIMETER SCENE LIGHTS There will be two (2) Amdor, Model AY-LB12HW020, 350 lumens, 20.00" long, with white LED's, 12 volt lights provided. The lights will be mounted in the following locations: One (1) light under the driver's side turntable access steps One (1) light under the passenger's side turntable access steps The perimeter scene lights will be activated when the battery switch is on and the parking brake is applied.</p>
0896454	Enhanced Software for Perimeter Lts	<p>ENHANCED SOFTWARE FOR PERIMETER LIGHTS All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected. The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.</p>
0618256	Light, Visor, FRC, 12V SPA851-A28-*, LED MAX-S 1st	<p>12 VOLT LIGHTING There will be two (2) Fire Research Spectra MAX-S, Model SPA851-A28-*, 12 volt DC LED combination spot/flood light(s) provided on the front visor, one (1) on the driver's side and one (1) on the passenger's side with 8 degree outward bracket. The housing(s) painted parts of this light assembly to be white with a chrome bezel. The light(s) will be steady burning with the selected switch features. The light(s) will be controlled by the following: a switch at the driver's side switch panel and a switch at the passenger's side switch panel no additional switch location no additional switch location no additional switch location These light(s) may be load managed when the parking brake is applied.</p>
0807372	Lights, FRC, SPA260-Q20, 1st	<p>12 VOLT LIGHTING There will be one (1) Fire Research Model SPA260-Q20, Spectra Max 20,000 lumens 12 volt DC LED surface mount scene light(s) with chrome housings located on the cab, LS cab. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.</p>
0807374	Lights, FRC, SPA260-Q20, 2nd	<p>12 VOLT LIGHTING There will be one (1) Fire Research Model SPA260-Q20, Spectra Max 20,000 lumens 12 volt DC LED surface mount scene light(s) with chrome housings located on the cab, RS cab. The lights will be controlled by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.</p>
0807355	Lights, FRC, SPA260-Q20, 1st	<p>12 VOLT LIGHTING There will be one (1) Fire Research Model SPA260-Q20, Spectra Max, 20,000 lumen 12 volt DC LED surface mount scene light(s) with chrome trim located on the body, LS turntable compartment area. The lights will be controlled by the same control that has been selected for the driver's side scene light(s). The light(s) may be load managed when the parking brake is applied.</p>
0807359	Lights, FRC, SPA260-Q20, 2nd	<p>12 VOLT LIGHTING There will be one (1) Fire Research Model SPA260-Q20, Spectra Max, 20,000 lumen 12 volt DC LED surface mount scene light(s) with chrome trim located on the body, RS turntable compartment area. The lights will be controlled by the same control that has been selected for the passenger's side scene light(s). The light(s) may be load managed when the parking brake is applied.</p>
0721287	Lights, Hose Bed, Sides, Dual Strips, 40", 45 Ends	<p>HOSE BED LIGHTS There will be two (2) 40.00" long 12 volt DC light strips with white LED's provided to illuminate the hose bed per the following. One (1) light installed on the left side of the hose bed. One (1) light installed on the right side of the hose bed. There will be a 16 gauge bright stainless steel overhead cover with 45 degreed ends provided over the light to protect the light from the hose and the hose from damaging snags. The lights will be activated when the aerial device parking brake is applied.</p>

0645864	Lights, Rear Scene, FRC, SPA900-Q70	<p>REAR SCENE LIGHTS There will be two (2) Fire Research, Model SPA900-Q70, LED scene lights with 15 degree optics from vertical, installed at the rear of the apparatus, one each side rear body wall. The lights will be controlled by a switch at the driver's side switch panel and by a cup switch at the driver's side rear bulkhead.</p>
0709438	Lights, Walk Surf, FRP Flood, LED	<p>WALKING SURFACE LIGHT There will be Model FRP, 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body. The light(s) will be activated when the body step lights are on.</p>
0552526	Aerial, HD Ladder 105', PUC, Alum Body	
0554269	Body Skirt Height, 18"	
0618437	Tank, Water, 500 Gallon, Poly, Ascendant TA, PAL, 3" Notch, HB on Side, PUC	<p>WATER TANK It will have a capacity of 500 gallons and will be constructed of polypropylene plastic in an L-shape with a notch for hose storage. The joints and seams will be nitrogen welded inside and out. The tank will be baffled in accordance with the current edition of applicable NFPA standards. The baffles will have vent openings at both the top and bottom of each baffle to permit movement of air and water between compartments. The longitudinal partitions will be constructed of .38" polypropylene plastic and extend from the bottom of the tank through the top cover to allow positive welding. The transverse partitions extend from 4" off the bottom to the underside of the top cover. All partitions interlock and will be welded to the tank bottom and sides. The 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. It will be supported to keep it rigid during fast filling conditions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two 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. The sump will include a drain plug and the tank outlet. Tank will be installed in a fabricated "cradle" assembly constructed of structural steel. Sufficient crossmembers are provided to properly support bottom of tank. Crossmembers are constructed of steel bar channel or rectangular tubing. Tank "floats" 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 are provided to prevent an empty tank from bouncing excessively while moving vehicle. Tank mounting system is approved by the manufacturer.</p>
0003405	Overflow, 4.00" Water Tank, Poly	<p>Fill tower will be constructed of 0.50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a 0.25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p>
0028107	Not Required, Foam Cell Modification	
0003429	Not Required, Direct Tank Fill	
0751577	Hose Bed, Aluminum, Trough Style, 2G Aerial	<p>HOSE BED The hose bed will be fabricated of 0.125" thick 5052-H32 aluminum with a tensile strength of 31,000. The sides of the hose bed will not form any portion of the fender compartments. The hose bed will be located ahead of the ladder turntable between the tank and side body compartments. Hose removal will be at the rear of the body via "chutes" under the turntable on the right side. Each chute will be enclosed with a full height smooth aluminum door. There will be a lift and turn latch and a pneumatic cylinder at the top of the door (if applicable). The hose bed flooring will consist of removable aluminum grating with a top surface that is corrugated to aid in hose aeration. The grating slats will be 0.50" wide x 4.50" long with spacing between the slats for hose ventilation.</p>
0723547	Painted Hose Bed/Cargo Area	The hose bed/cargo area interior will be painted to match the lower body color.
0003492	Hose Bed Capacity, Special Amount, Ascendant, 100AAT, PAP, PAL	Hose capacity will be a minimum of 1000' of 5" on RS and under aerial, 300' of 3" LS turntable area.
0591017	Hose Restraint, Hose Bed, Aerial, Front Velcro Strap, Top	<p>AERIAL HOSE BED HOSE RESTRAINT The hose in the hose bed will be restrained by one (1) black nylon Velcro® strap at the top of the hose bed. The strap will be installed to the top of the hose bed side sheets.</p>

0670766	Running Boards, Flip Out, PUC, Aerial	<p>RUNNING BOARDS A running board will be provided on each side of the front body to allow access to the backboard/crosslay storage area. The running boards will be designed with a grip pattern punched into .125" bright aluminum treadplate material providing support, slip resistance, and drainage. The runningboard will have a flip out section design that allows easier access to the full width equipment area above. The flip out section will be tied to the "do not move truck indicator" with a sensor when it is flipped out. There will be a latch provided that secures the flip out section when not in use.</p> <p>HANDRAILS The handrails will be 1.25" diameter anodized aluminum extrusion, with a ribbed design, 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. - Two (2) handrails will be provided, one above each running board.</p>
0735733	Turntable Steps-Morton Cass, Swing Down,LS/RS,Ascend TA,PAL,PAP,Handhd Cut Outs	<p>TURNTABLE STEPS Steps to access the turntable from the left and right side will be provided just behind the compartmentation. There shall be no bottom flip step provided. The bottom step will have a step height not exceeding 24.00" from the ground to the top surface of the step at any time. All steps will have a height no greater than 14.00" from top surface to top surface. The steps will be a swing-down design, with the stepping area made of Morton Tread-Grip® channel. The stepwell will be lined with bright aluminum treadplate to act as scuffplates. The steps will be connected to the "Do Not Move Truck" indicator. A knurled aluminum handrail will be provided on each side of the access steps. A hand hold will be provided in the left and right side of each set of access steps.</p>
0892656	Lights, Step (6), P25 LED, Each Side	<p>STEP LIGHTS There will be three (3) white LED step lights with chrome housing provided for each set of aerial turntable access steps. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The step lights will be activated when the parking brake is applied.</p>
0690023	Wall, Rear, Smooth Aluminum	<p>SMOOTH ALUMINUM REAR WALL The rear wall will be smooth aluminum.</p>
0029503	Tow Eyes (2), Painted Lower Job Color, Aerial	<p>TOW EYES Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the torque box. The inner and outer edges of the tow eyes will be radiused. Each tow eye will be rated for 9000lb and painted to match the lower job color.</p>

COMPARTMENTATION

Compartmentation will be fabricated of 0.125" 5052 aluminum. The side compartments are an integral assembly with the rear fenders. Fully enclosed rear wheel housings will be provided to prevent rust pockets and for ease of maintenance. Due to the severe loading requirements of this aerial, a method of compartment body support suitable for the intended load will be provided. The backbone of the support system will be the chassis frame rail, which is the strongest component of the chassis and is designed for sustaining maximum loads. A support system will be used which will incorporate a floating substructure by using Neoprene Elastomer isolators to allow the body to remain rigid while the chassis goes through its natural flex. The isolators will have a broad range of proven viability in vehicular applications, be of a fail safe design, and allow for all necessary movement in three (3) transitional and rotational modes. This will result in a 500 lb equipment rating for each lower compartment of the body. The compartmentation in front of the rear axle will include a 3.00" steel support assemblies which are bolted to the chassis frame rails. A steel framework will be mounted to the body above these support assemblies connected to the support assemblies with isolators. There will be one (1) support assembly mounted to each chassis frame rail. The compartmentation behind the rear axle will include 3.00" steel support assemblies which are bolted to the chassis frame rails and extend underneath to the outside edge of the body. The support assembly will be coated to isolate the dissimilar metals before it is bolted to the body. There will be one (1) support assembly mounted to each chassis frame rail. Compartment flooring will be of the sweep out design with the floor higher than the compartment door lip. The compartment door openings are framed by flanging the edges in 1.75" and bending out again 0.75" to form an angle. Drip protection is provided over all door openings by means of bright aluminum extrusion or formed bright aluminum treadplate. Side compartment tops will be covered with bright aluminum treadplate with a 1.00" rolled over edge on the front, rear and outward side. The covers are fabricated in one (1) piece and have the corners welded. A bright aluminum treadplate cover will be provided on the front wall of each side compartment. All screws and bolts which protrude into a compartment will have acorn nuts at the ends to prevent injury. The body design has been fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, stress coating and strain gauging have been performed with special attention given to fatigue life and structural integrity of the compartment body and substructure.

AGGRESSIVE WALKING SURFACE

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

LOUVERS

All body compartments will have a minimum of one (1) set of louvers stamped into a wall to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers will be formed into the metal and not added to the compartment as a separate plate.

0063695 Compt, LS F/H F/D, Roll Drs, w/o Chute, Ascendant Tandem, 105', 100 HAL

LEFT SIDE COMPARTMENTATION

A full height roll-up door compartment ahead of the rear wheels will be 41.75" wide x 64.00" high x 24.25" deep inside with an clear door opening of 38.75" wide x 56.38" high. One (1) roll-up door compartment above the fender compartments and over the rear axles will be provided. The compartment will be 72.13" wide x 33.25" high x 24.25" deep inside with a clear door opening of 63.75" wide x 25.50" high. A compartment with a single pan polished stainless steel door will be located above the front stabilizer. The door will be hinged on the rear body side with a SouthCo C2 chrome raised trigger lever latch. The compartment will be approximately 18.00" wide x 23.00" high x 24.25" deep with a door opening of approximately 12.00" wide x 15.75" high.

0631983 Compt, LS Turntable, F/H, Roll Dr & Lift Dr, HB Under TT, Ascendant TA, 105'

A full height roll-up door compartment behind the rear wheels will be approximately 43.75" wide x 49.25" high x 21.25" deep inside the lower 29.75" and 12.00" deep in the upper portion. The clear door opening will be approximately 40.75" wide x 41.62" high. One (1) compartment below the turntable with a lift-up door will be approximately 39.38" wide x 18.38" high x 12.00" deep inside with a door opening of approximately 35.00" wide x 14.88" high. A trough style hose bed will be provided inboard of the compartments.

0023672 Compt, IPO Stairs, Not Required, LS

0063733 Compt, RS F/H, Roll Drs, Ascendant Tandem, 105 HDL, 100 HAL

RIGHT SIDE COMPARTMENTATION

A full height roll-up door compartment ahead of the rear wheels will be 41.75" wide x 64.00" high x 24.25" deep inside the lower 29.75" and 12.00" deep inside the upper portion with a clear door opening of 38.75" wide x 55.38" high. One (1) roll-up door compartment will be provided above the fender compartments and over the rear axles. The compartment will be 72.13" wide x 33.25" high x 12.00" deep inside with a clear door opening of 63.75" wide x 24.50" high. A compartment with a single pan polished stainless steel door will be located above the front stabilizer. The door will be hinged on the rear body side with a SouthCo C2 chrome raised trigger lever latch. The compartment will be 18.00" wide x 23.00" high x 12.00" deep with a door opening of 12.00" wide x 15.75" high.

0035382 Compt, RS Turntable, F/H, Roll Dr & Lift Dr, Ascendant Tandem, 105 HDL

A full height roll-up door compartment behind the rear wheels will be approximately 43.75" wide x 49.25" high x 21.25" deep inside the lower 29.75" and 12.00" deep in the upper portion. The clear door opening will be approximately 40.75" wide x 41.62" high. One (1) compartment below the turntable with a lift-up door will be approximately 39.38" wide x 18.38" high x 12.00" deep inside with a door opening of approximately 35.00" wide x 14.88" high.

0666813	Doors, Lap/Amdor Rollup, Aluminum, Side Compartments	<p>SIDE COMPARTMENT DOORS</p> <p>All hinged compartment doors will be lap style with double panel construction and fabricated of .09" 5052H32 aluminum. Doors will be a minimum of 1.50" thick. To provide additional door strength, a C section reinforcement will be installed between the outer and interior panels. Doors will be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core will be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment. All lap compartment doors will have polished stainless steel continuous hinge with a pin diameter of .25", that is bolted or screwed on with stainless steel fasteners. A dielectric substance will be applied to each hinge fastener.</p> <p>All door lock mechanisms will be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.</p> <p>Doors will be latched with recessed, polished stainless steel D ring handles and Eberhard 106 locks.</p> <p>To prevent corrosion caused by dissimilar metals, compartment door handles will not be attached to outer door panel with screws. A rubber gasket will be provided between the D ring handle and the door.</p> <p>ROLL-UP DOOR(S)</p> <p>There will be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand roll-up doors. Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.</p> <p>Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.</p> <p>The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.</p> <p>Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.</p> <p>A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.</p> <p>All injection molded roll-up door wear components will be constructed of Type 6 nylon.</p> <p>Each roll-up door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.</p> <p>The header for the roll-up door assembly will not exceed 4.00".</p> <p>A heavy-duty magnetic switch will be used for control of open compartment door warning lights.</p>
0540787	Stabilizer Compartment, Modified for 18" Stabilizer Penetration	<p>BODY MODIFICATION FROM STANDARD</p> <p>The compartment above the stabilizers (if applicable) will be decreased due to deeper stabilizer depth. The height of the compartment will decrease 4.00" and the compartment door will move up 4.00" higher. The stabilizer frame opening as well as the stabilizer pan will be increased in height by 6.00".</p>
0556162	Not Req'd, Compt Blister in Front of Rear Axle	
0018820	Bumper, Rear, 5" w/Treadplate Cover, Ascendant Tandem, PAP, PAL RMAP	<p>REAR BUMPER</p> <p>A 5.00" rear bumper will be furnished. Bumper will be constructed of steel framework and will be covered with polished aluminum treadplate. The bumper will be 4.00" deep x 5.00" high and will be spaced away from the body approximately 1.00". It will extend the full width of the body.</p>
0603711	Guard, Drip Pan, S/S, Rollup Door, Aerial	<p>DOOR GUARD</p> <p>There will be seven (7) compartment doors that will include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed on the left side rearward compartment, left side forward over the wheel compartment, left side forward compartment, right side rearward compartment, right side forward over the wheel compartment, right side forward compartment and rear compartment.</p>
0603083	Lights, Compt,Pierce LED,Dual Light Strips,Each Side Dr,Ascend TA,75'HAL,PAP,HDL	<p>COMPARTMENT LIGHTING</p> <p>There will be nine (9) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment(s).</p> <p>Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.</p> <p>Opening the compartment door will automatically turn the compartment lighting on.</p>

Shelf Tracks, Unpainted

MOUNTING TRACKS

There will be six (6) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS2 and RS3. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be unpainted with a natural finish.

0600289

Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial

ADJUSTABLE SHELVES

There will be eight (8) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum with a dual action finish with 2.00" sides. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location(s) will be determined at a later date.

0603763

Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides, 2G Aerial

SLIDE-OUT FLOOR MOUNTED TRAY

There will be four (4) floor mounted slide-out tray(s) provided. Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position. Each tray will be constructed of aluminum with a dual action finish. There will be two undermount-roller bearing type slides rated at 250 lb each provided. The pair of slides will have a safety factor rating of 2. To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117. To ensure years of easy operation, the slides will require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request. Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand. The location(s) will be RS1, RS4, LS1 and LS4.

0725642

Cabinet, Drawer Assembly, CTECH, Three Drawers, Up To 36" Wide, 24" Deep

DRAWER ASSEMBLY

A slide-out drawer assembly will be installed TBD. The clear dimensions of the first drawer starting at the top will be 5.00" with a face plate that is 6.00" high x 21.00" deep. The clear dimensions of the second drawer will be 8.75" with a face plate that is 9.00" high x 21.00" deep. The clear dimensions of the third drawer will be 8.75" with a face plate that is 9.00" high x 21.00" deep. Each drawer will be the same width and not exceed 36.00". The drawers will have a capacity of 250 pounds. The drawers will be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing will be 24.00" deep, and completely enclose the drawer. A full-length aluminum extruded rail will be provided at the top edge of each drawer. This rail will act as the latching mechanism as well as the handle for each drawer. There will be a total of one (1) provided.

0540335

Toolboard, Swing-out, Alum, .188", No Holes

SWING OUT TOOLBOARD

A swing out aluminum toolboard will be provided. It will be a minimum of .188" thick without holes in the board. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard. The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 pounds. The board will have positive lock in the stowed and extended position. The board will have a D-ring handle to secure it in the stowed position. The board will be mounted on adjustable tracks from front to back within the compartment. There will be One (1) toolboard(s) provided. The toolboard(s) will be with a brushed finish and installed LS2.

0762026

Compt, Top of Compt, Smooth Aluminum, Painted, Aerial

STORAGE COMPARTMENT(S)

There will be two (2) storage compartment(s) provided on top of the left and right side body compartment(s). There will be one (1) horizontally hinged lift-up door with a pneumatic lift cylinder on each end of the door with a socket and plunger with a chrome grab handle on each door. All doors will be hinged on the outside of the apparatus. The door(s) shall be the maximum size and may require the aerial device to be unbedded before opening. The size of each compartment will be approximately 124.00" long x 12.00" high x 23.00" wide and will be constructed of smooth aluminum and properly reinforced to sustain the weight of a firefighter. Each compartment will be welded to the top of the body compartment and painted to match the upper body paint color with painted seam trim. There will be a white LED strip light installed on the inside edge of the compartment that runs the full length of the compartment.

0813145	Holder, Plastic Sheeting, 1.25" Dia S/S Rod, Pin Lock Location	<p>PLASTIC SHEETING HOLDER A 1.25" diameter stainless steel tube connected on each end to a stanchion will be provided for a roll of plastic sheeting. The holder will be mounted in compartment LS upper compartment over wheel well. The stanchions will be set up so that the rod will be removable by pulling a pin that is located through the rod. Adjustable stops will be provided on either side of the rod to accommodate use of different size rolls. A quantity of one (1) will be provided.</p>
0004016	Rub Rail, Aluminum Extruded, Side of Body	<p>RUB RAIL Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" flanges turned outward for rigidity. The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.</p>
0802978	Fender Crowns, Rear, S/S, w/Removable Fender Liner, Aerial, 2G, Two Pair	<p>BODY FENDER CROWNS Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion. The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown. BODY FENDER LINER A aluminum painted to match the lower body color fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.</p>
0519849	Not Required, Hose, Hard Suction	<p>HARD SUCTION HOSE Hard suction hose will not be required.</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>
0804249	Compt, Equipment/Air Pack, Between Tandems, Bolt-In, Aerial	<p>EQUIPMENT STORAGE A total of two (2) compartment(s) will be provided and located on the left side and the right side, centered between the tandem rear wheels. The compartment(s) will be approximately 16.00" wide at the top x 8.00" wide at the bottom with tapered sides. The compartment(s) will be approximately 12.00" high x 26.00" deep. A drop down door with support cables and a Southco raised trigger C2 chrome lever latch will be provided for each compartment. The door will be polished stainless steel. Inside the compartment there will be a drain hole and black rubber matting. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p>
0806865	Compt, Air Bottle, Two Bottles, Fender Corner, Bolt-In, Tandem Aerials	<p>CORNER FENDER PANEL DOUBLE AIR BOTTLE STORAGE A total of two (2) air bottle compartments will be provided in the upper corner(s) of the fender located on the left side forward of the rear wheels. The air bottle compartment(s) will be in the form of a round tube (7.75" diameter maximum) and of adequate depth (26.00" maximum) to accommodate different size air bottles. The tubes will be mounted separately in a diagonal fashion, one above the other. A triangular shaped vertically hinged door and a Southco raised trigger C2 chrome lever latch will be provided for each compartment. The door will be polished stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting and a drain hole will be provided.</p>
0780893	Compt, Extinguisher (2), Fender Panel, Tri Door, Bolt-In, Ascend Single, TA Aerials	<p>TRIANGULAR EXTINGUISHER STORAGE A total of one (1) extinguisher storage compartment(s) will be provided on the right side behind the rear wheel. The triangular shaped compartment will be sized to fit two (2) extinguishers, each with a maximum diameter of 7.50" and an overall width of 11.00". A partition will be provided to separate the extinguishers. Inside the compartment, black Dura-Surf friction reducing material will be provided. The compartment will be furnished with a drain hole. A polished stainless steel, triangular shaped door with a Southco raised trigger C2 chrome lever latch will be provided to contain the extinguishers. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. EXTINGUISHER COMPARTMENT STRAP A strap will be provided in the extinguisher compartment to help contain the extinguisher when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>

Compt, Air Pack Fender Panel
Corner, Bolt-In, Tandem Aerials

AIR PACK STORAGE IN FENDER PANEL CORNER

An air pack compartment will be provided in the upper corner of a total of one (1) fender located on the left side forward of the rear wheels. The air pack compartment(s) will be tapered to match the profile of the space available in the fender. The compartment(s) will be approximately 15.50" wide at the top and 4.50" wide at the bottom for the wheel cutout. The compartment(s) will be 14.50" tall at the body side compartment and 5.00" tall at the wheel cutout. The compartment(s) will be 26.00" deep and have a drain hole. Inside the compartment, there will be black Dura-Surf friction reducing material.

A vertically hinged door with tapered corners and a Southco raised trigger C2 chrome lever latch will be provided for each compartment. The door will be polished stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

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| 0004218 | Ladder, 35' Duo-Safety 1200A 2-Sect | <p>EXTENSION LADDER
There will be one (1) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided.</p> |
| 0010406 | Ladder, 28' Duo-Safety 1200A 2-Section | <p>AERIAL EXTENSION LADDERS
There will be one (1) 28' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided and located in the aerial torque box.</p> |
| 0635956 | Ladder, 14' Duo-Safety 775-DR Roof | <p>ROOF LADDER
There will be one (1) 14' aluminum, Duo-Safety, Series 775-DR roof ladder(s) provided. The ladder(s) will have roof hooks on both ends.</p> |
| 0056478 | Ladder, 14' Duo-Safety 775A Roof | <p>ADDED ROOF LADDER
There will be one (1) 14' roof, aluminum, Series 775-A provided.</p> |
| 0542436 | Ladder, 16' Duo-Safety 875-DR Roof | <p>ADDED ROOF LADDER
There will be one (1) 16' roof, aluminum, Series 875-DR provided.</p> |
| 0004233 | Ladder, 14' Duo-Safety Fresno 701 | <p>AERIAL ATTIC EXTENSION LADDER
There will be one (1) 14' Fresno aluminum Duo-Safety Series 701 attic extension ladder(s) provided.</p> |
| 0004246 | Ladder, 10' Duo-Safety Folding, 585A | <p>AERIAL FOLDING LADDER
There will be one (1) 10' aluminum Duo-Safety Series 585-A folding ladder(s) provided and located in the aerial torque box.</p> |
| 0042207 | Ladders Stored in Torque Box, Gortite Roll, Ascendant TA, PAL, PAP | <p>GROUND LADDER STORAGE
The ground ladders are stored within the torque box and are removable from the rear. Ladders will be enclosed to prevent road dirt and debris from fouling or damaging the ladders. The ladders rest in full length stainless steel slides and are arranged in such a manner that any one ladder can be removed without having to move or remove any other ladder. A Gortite rollup door will be provided at the rear, double faced, aluminum construction, and an anodized satin finish. A polished stainless steel lift bar to be provided for the rear roll-up door. The latching mechanism will consist of a full length lift bar lock with latches on the outer extrusion of the door frame. A stainless plate with a 2-bend flange and a stainless steel hinge will be provided to secure the aerial ladder complement. The plate assembly will be mounted to the bottom of the entrance of the torque box ladder storage area. When the plate is vertical, it will secure the ladders and prevent them from migrating to the rear of the apparatus. When the plate is down and not securing the ladders, the rollup door can not close, which will activate the "Open Door Indicator Light" within the cab. The rollup door together with hinge friction will secure the plate in place during driving operations. A door guard will be provided to prevent tools inside the torque box from damaging the rollup door.</p> |
| 0602100 | Lights, Torque Box Ladder Storage, Pierce LED Strip Lights, 2 Lts | <p>LADDER STORAGE LIGHTING
There will be 21.00" white 12 volt DC LED strip lights in the torque box ladder storage compartment. One (1) light will be provided on each side of the ladder storage area. The lights will be activated when the ladder storage compartment door is opened.</p> |
| 0812235 | Ladder, Little Giant, Revolution 2.0 - Model 17, 13117 | <p>ADDITIONAL FOLDING LADDER
One (1) Revolution 2.0 Model 13117 Little Giant folding ladder will be provided. The stored dimensions will be 55.50" high x 23.75" wide x 9.25" deep. The weight will be 32 lbs. The ladder will be located RS4 vertical against rearward wall.</p> |

Little Giant/Werner Ladder Storage,
Vertical In Compartment

LITTLE GIANT LADDER STORAGE

Storage will be provided in RS4 compartment for a Little Giant ladder. The ladder will be stored vertically in the compartment rearward wall. A Velcro® strap will be provided to aid in restraint and removal of the Little Giant ladder. The ladder will be a Little Giant Revolution 2.0 Model 17 - 13117.

0008911

Pike Pole, 12' Fire Hooks Unlimited,
Fiberglass, APH-12, Gas Shut Off

PIKE POLES

There will be one (1) Fire Hooks Unlimited, Model APH-12, 12' pike pole(s) with fiberglass handles provided. The pike pole(s) will be located torque box.

0623273

Pike Pole, 8' Fire Hooks Unlimited,
New York Roof Hook, Steel, Gas
Shut Off,RH-8

8' PIKE POLE

There will be one (1) Fire Hooks Unlimited, New York Hook , 8' long roof hook with steel shaft and gas shut off end provided.

0587180

Pole, Pike 6' Fire Hooks Unlimited,
New York Roof Hook, Steel, RH-6,
Pry End

PIKE POLE 6 FT

There will be two (2) Fire Hooks Unlimited, Model RH-6, 6' pike pole(s) with steel shaft and chisel (pry) end provided and located torque box

0014343

Not Required, Pike Pole, 3'

0770578

Pike Pole Tubes, in Torque
Box/Ladder Storage, ABS

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE

There will be ABS tubing provided in the torque box/ladder storage area for a total of four (4) pike poles.
If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided.

0657484

Trough for D-Handled Pike Pole,
Aluminum

PIKE POLE STORAGE

Smooth aluminum U-shaped trough(s) for the storage of one (1) pike pole, with D-handle style grip, will be provided and installed in torque box.

0024388

No Steps Required, Front Of Body

Pump Operators Panel & Module,
Aluminum, Control Zone,
Ascendant/PAL/PAP PUC

PUC MODULE

The pump module will be separate from the hose body and compartments so that each may flex independently of the other. It will be a fabricated assembly of aluminum tubing, angles and channels which supports both the plumbing and the side running boards.

The pump module will be mounted on the chassis frame rails with standard body angles in four places to allow for chassis frame twist.

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

PUMP CONTROL PANELS (Left Side Control)

Pump controls and gauges will be located midship at the left side of the apparatus and properly identified.

The main pump operator's control panel will be completely enclosed and located in the forward section of the body compartment. There will be a roll up door to protect against road debris and weather elements. This roll-up door compartment will include a drip pan below the roll of the door. The pump operator's panels will be no more than 31.00" wide, and made in four (4) sections with the center section easily removable with simple hand tools. For the safety of the pump operator, there will be no discharge outlets or pump inlets located on the main pump operators panel.

Layout of the pump control panel will be ergonomically efficient and systematically organized. The upper section will contain the master gauges. This section will be angled down for easy visibility. The center section will contain the pump controls aligned in two horizontal rows. The pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable) will be located on or adjacent to the center panel, on the side walls for easy operation and visibility. The lower section will contain the outlet drains.

Manual controls will be easy moving 8" long lever style controls that operate in a vertical, up and down swing motion. These handles will have a 2.25" diameter knob and be able to lock in place to prevent valve creep under any pressure. Bright finish bezels will encompass the opening, be securely mounted to the pump operator's panel, and will incorporate the discharge gauge bezel. Bezels will be bolted to the panel for easy removal and gauge service. The driver's side discharges will be controlled directly at the valve. There will be no push-pull style control handles. Identification tags for the discharge controls will be recessed within the same bezel. The discharge identification tags will be color coded, with each discharge having its own unique color. All remaining identification tags will be mounted on the pump panel in chrome-plated bezels. All discharge outlets will be color coded and labeled to correspond with the discharge identification tag.

The pump panels for the discharge and intake ports will be located ahead of the pump module with no side discharge or intake higher than the frame rail. The pump panels will be easily removable with simple hand tools.

A recessed cargo area will be provided at the front of the body, ahead of the water tank above the plumbing.

PASSENGER SIDE PUC MODULE COMPARTMENT

A full height compartment with a roll-up door ahead of the front stabilizer will be provided, as convenient large storage compartment for often used items for the crew. The interior dimensions of this compartment will be 30.25" wide x 52.00" high x 25.13" 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 28.00" wide x 52.00 high.

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

This roll-up door compartment will include a drip pan below the roll of the door.

0520016

Not Required, Pumphouse Structure,
PUC

Pump, Pierce, 1500 GPM, Single Stage, PUC-NG

PUMP

Pump will be a Pierce, low profile, 1500 gpm single stage midship mounted centrifugal type, mounted below the cab. The pump will have a 15 percent reserve capacity to allow for extended time between pump rebuild. To ensure efficient pump/vehicle design the capacity to weight ratio will not be less than 1.5:1.

The pump casing will consist of three (3) discharge outlets, one (1) to each side in line with the impeller and one (1) to the rear. The pump casing will incorporate two (2) water strippers to maintain radial balance.

Pump will be the Class A type.

Pump will be certified to deliver the percentage of rated discharge from draft at pressure indicated below:

100 percent of rated capacity at 150 psi net pump pressure

70 percent of rated capacity at 200 psi net pump pressure

50 percent of rated capacity at 250 psi net pump pressure

The pump will have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:

135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source

Pump body will be fine-grained gray iron. Pump will incorporate a heater/cooling jacket integral to the pump housing.

The impeller will be high strength vacuum cast bronze alloy accurately machine balanced and splined to a 10 spline stainless steel pump shaft for precision fit, exceptional durability, and efficiency. Double replaceable reverse flow labyrinth type bronze wear ring design will help to minimize end thrust. The impeller will be a twisted vane design to create higher lift.

The pump will include o-ring gaskets throughout the pump.

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.

The pump will have a flat, patterned area on the top of the pump intake wye to allow standing for plumbing maintenance. The main inlet manifold will be 6.00" in diameter and will have a low profile design to facilitate low crosslays and high flows.

For ease of service, the pump housing, intake wye, impeller, mechanical seal, and gear case will be accessible from above the chassis frame by tilting the cab. Removal of the main inlet wyes will provide access to the impeller, mechanical seal, and wear ring.

The tank to pump line and the primary discharge line will be the only piping required to be removed for overhaul.

For ease of service and overhaul there will be no piping or manifolding located directly over the pump.

PUMP MOUNTING

Pump will be mounted to the chassis frame rails directly below the crew cab, to minimize wheelbase and facilitate service, using rubber isolators in a modified V pattern that include one (1) central mounted isolators located between the frame rails, and one (1) on each side outside the frame rails. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. Each isolator will be 2.55" in total outside diameter and will be rated at 490 lb. The pump will be completely accessible by tilting the cab with no piping located directly above the pump.

0515822

Seal, Mechanical, Silicon Carbide, PUC Pump

MECHANICAL SEALS

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.

0889382

Gear Case, Integrated Pump Transmission, PUC-NG, Paccar

PUMP GEAR CASE

The integrated pump transmission gear case will use a pressure-lubricated system to cool, lubricate, and filter the oil. The gear case will be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A sight glass, accessible by tilting the cab, will be provided for easy fluid level checks.

The gear case will consist of three (3) gears to drive the pump.

CLUTCH

There will be a heavy-duty hydraulic clutch mounted directly to the integrated pump transmission to engage and disengage the pump without gear clash. The clutch will be a multiple disc design for maximum torque. The clutch will be fully self-adjusting to provide automatic wear compensation, and consistent torque throughout the life of the clutch. Positive engagement and disengagement will be provided through a high efficient and dependable hydraulic system to assure superior performance.

LOW PRESSURE/HIGH TEMPERATURE LIGHTS

Lights will be provided to indicate when a high temperature or low pressure situation occurs. Lights will be provided next to the master gauges at the pump panel as well as on the control panel in the cab. A pair of lights will be provided in each location. One light will be provided to indicate high temperature. The second light will be provided to indicate a low pressure. All lights will be labelled accordingly.

Pumping Mode, Pump and Roll/Stationary, Basic, MUX, PUC

PUMPING MODE

Pump will provide for both pump and roll mode and stationary pumping mode. Stationary pumping mode will be accomplished by stopping the vehicle, setting the parking brake and engaging the water pump switch on the cab switch panel. The transmission will shift to "Neutral" range automatically when the parking brake is set. The "OK to Stationary Pump" indicator will also illuminate when the parking brake is set. If the vehicle is equipped with a suitable Husky foam system or Hercules CAFS system, these systems will be engaged from the cab switch panel as well. Pump and roll mode will be accomplished by the use of the main pump and will not require the use of a secondary pump. Pump and roll mode will use the same operation sequence as stationary pumping mode with a few additional steps. After the vehicle is setup for stationary pumping, the operator will leave the cab and setup the pump panel to discharge at the desired outlet(s). Upon returning to the cab, the operator will disengage the parking brake. An "OK to Pump & Roll" indicator will illuminate on the cab switch panel. First gear on the transmission gear selector will be selected by the operator for pump and roll operations. The operator as needed will apply the foot throttle. Pump and roll mode will be maintained unless the transmission shifts out of first gear. Stopping either stationary pumping mode or pump and roll mode will be accomplished by pressing the "Water Pump" switch down to disengage the pump. A pump pressure reading will be displayed in view of the driver.

0515829 Pump Shift, Sure-Shift

PUMP SHIFT

Pump will be engaged in not more than two steps, by simply setting the parking brake, which will automatically put the transmission into neutral, and activating a rocker switch in the cab. Switches in the cab will also allow for water, foam, or CAFS if equipped, and activate the appropriate system to preset parameters. The engagement will provide simple two-step operation, enhance reliability, and completely eliminate gear clash. The shift will include the indicator lights as mandated by NFPA. A direct override switch will be located behind a door in the lower pump operator's panel. The switch will automatically disengage when the door is closed. As the parking brake is applied, the pump panel throttle will be activated and deactivate the chassis foot throttle for stationary operation.

0515833 Transmission Lock-up, Not Req'd, Park to Neutral, Pump, PUC

TRANSMISSION LOCK UP

Transmission lock up is not required as transmission will automatically shift to neutral as soon as the parking brake is set.

0515835 Auxiliary Cooling System, PUC

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. A water-to-coolant heat exchanger will be used.

0014486 Not Required, Transfer Valve, Single Stage Pump

0746508 Valve(s), Relief Intake, Trident Air Max, Control Location

INTAKE RELIEF VALVE

One (1) Trident Air Max intake relief valve(s) will be installed on the suction side of the pump preset at 125 psig. The relief valve will have a working range of 50 psi to 350 psi. The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag. One (1) adjustable air regulator and pressure indicating gauge will be located on a common bezel on the left side pump panel to control the intake valve(s).

Controller, Pressure, Pierce LCD ,
PUC

PIERCE PRESSURE CONTROLLER

A Pierce electronic pressure controller will be provided.
A pressure transducer will be installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller. The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to Pressure Setting mode. In the RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within engine operation capabilities). In the pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow. A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed. Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing. A pump cavitation protection feature will also be provided which will return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds. Other safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle. The pressure controller LCD screen will be 4.20" in size with a minimum brightness of 750 nits. The LCD screen and LED intensity will automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed. The following information will be provided/displayed on the LCD screen:
Engine RPM
Check engine and stop engine warning indicators
Engine oil pressure
Engine coolant temperature
Water pump transmission temperature
Fuel Level
Water tank level
Battery voltage
Operating mode (RPM or pressure)
Pressure or RPM setting
On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs and support audible and visual warning alarms for the following conditions:
High battery voltage
Low battery voltage/engine off
Low battery voltage/engine running
High water pump temperature
Low fuel
Low engine oil pressure
High engine coolant temperature
Water tank out of water (visual alarm only)
No engine response (visual alarm only)
The pressure controller will store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu. The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.

0072153 Primer, Trident, Air Prime, Air Operated

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of applicable NFPA standards. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. One (1) priming control will open the priming valve and start the pump primer.

0799803 Direct Tank Fill, 0.75" Garden Hose, Round Handle Vlv, Loc Panel

GARDEN HOSE DIRECT TANK FILL

There will be a 0.75" direct tank fill terminating at the LS pump panel pump panel with a female garden hose swivel thread adapter and plug. A 0.75" round handle valve and plumbing will be provided. The direct tank fill will be plumbed to the water tank dome just above the height of the overflow pipe to eliminate head pressure while in use. A stainless steel elbow will be installed in the water tank dome, pointing down to prevent water from entering the over flow tube.

0044552 Line, 0.50" Recirculating w/Check Valve

RECIRCULATING LINE WITH CHECK VALVE

A 0.50" diameter recirculating line, from the pump to the water tank, will be furnished with a control installed at the pump operator's control panel. A check valve will be provided in this line to prevent the back flow of water from the tank to the pump if the valve is left in the open position.

0740963 SP Pump Oil Drain, Extended, Below

WATER PUMP OIL DRAIN EXTENDED

The oil drain for the water pump will be extended to access from below the truck. The extended oil drain will include a plug.

0658266	Thermal Relief Valve, w/Amber Warning Light and Alarm, PUC Pump	<p>THERMAL RELIEF VALVE A Pierce thermal relief valve will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C). The thermal protection system will include a amber warning light and audible alarm mounted on the pump operator panel. The discharge line will be 3/8 inch diameter tubing plumbed to ground.</p>
0780359	Manuals, Pump, (2) Total, Electronic Copies, Pierce PUC Pump	<p>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.</p>
0602496	Plumbing, Stainless Steel and Hose, Single Stage Pump, PUC	<p>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.</p>
0089437	Plumbing Without Foam System	
0517852	Inlets, 6.00" - 1250-2000 GPM, Pierce PUC Pump	<p>MAIN PUMP INLETS A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump. Main pump inlets will not be located on the main operator's panel and will maintain a low connection height by terminating below the top of the chassis frame rail.</p>
0014650	Pump Suction Tube(s), Short, All	<p>SHORT SUCTION TUBE(S) The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.</p>
0004646	Cap, Main Pump Inlet, Long Handle, NST, VLH	<p>MAIN PUMP INLET CAP The main pump inlets will have National Standard Threads with a long handle chrome cap. The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.</p>
0084610	Valves, Akron 8000 series- All	<p>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.</p>
0520002	Valve, Inlet(s) Recessed, Side Cntrl, PUC	<p>The location of the valve for the one (1) inlet will be recessed behind the pump panel.</p>
0004700	Control, Inlet, at Valve	<p>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.</p>
0004660	Inlet (1), Left Side, 2.50"	<p>LEFT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.</p>
0029147	Not Required, Inlet, Right Side	
0521137	Anode, Zinc, Pair, Pump Inlets, PUC	<p>ANODE, INLET A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.</p>

0092569	No Rear Inlet (Large Dia) Requested	
0064116	No Rear Inlet Actuation Required	
0092696	Not Required, Cap, Rear Inlet	
0009648	No Rear Intake Relief Valve Required on Rear Inlet	
0092568	No Rear Auxiliary Inlet Requested	
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	<p>INLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.</p>
0687424	Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, 3.00" Tank Outlet, Aerial PUC	<p>TANK TO PUMP The booster tank will have a 3.00" outlet and be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" full flow line valve with the control located at the operator's panel. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p>
0595508	Outlet, Tank Fill, 1.50", PUC	<p>TANK REFILL A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.</p>
0766941	Control, Outlets, Swing Handle, Elec Right Outlets Akron 9335 w/Press Disp, PUC	<p>DISCHARGE OUTLET CONTROLS The right side discharges will incorporate a quarter-turn ball valve and be controlled by Akron 9335 electric valve controllers provided on the pump operators panel. The electric controls must be of a true position feedback design, requiring no clutches in the motor or current limiting. The units must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate their corresponding valve actuator. The controllers will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option. In addition to the valve controls, the electric valve controllers will include a pressure display. All other outlets will have manual swing handles that operate in a vertical up and down motion. These handles will be able to lock in place to prevent valve creep under pressure.</p>
0516755	Outlet, Left Side, 2.50" (2), PUC	<p>LEFT SIDE DISCHARGE OUTLETS There will be two (2) discharges with a 2.50" valves on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter. Discharges will be located below the cab, and will be no higher than the top of the chassis frame rail. Discharges will not be located on the pump operator's panel. Lever controls will be provided at the valve.</p>
0055095	Not Required, Elbow, Left Side Outlets, 2.50"	
0092570	Not Required, Outlets, Left Side Additional	
0035094	Not Required, Elbow, Left Side Outlets, Additional	
0766761	Outlet, Right Side, 2.50", (1), Electric Akron 9335 Controller, PUC	<p>RIGHT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" MNST adapter. The discharge(s) will be located below the crew cab and will be no higher than the top of the chassis frame rail. There will be Akron 9335 electric valve controller(s) provided on the pump operators panel. The electric control(s) must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit(s) must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller(s) will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option. In addition to valve position, each controller will include a pressure display.</p>

0021134	Not Required, Elbow, Right Side Outlets, 2.50"	
0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0818640	Outlet, Large Diameter, Right Side, Akron Valve, PUC	<p>LARGE DIAMETER DISCHARGE OUTLET</p> <p>There will be an Akron 8800 4.00" flat ball valve with 4.00" plumbing terminating with a 4.00" MNST chrome adapter on the right side pump panel. The valve will be controlled with a(n) Akron 9335 with pressure located at the pump operator's panel.</p>
0681048	Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz, S/S Cable	<p>LARGE DIAMETER OUTLET ELBOWS</p> <p>The 4.00" outlet will be furnished with a 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap and stainless steel tie cable.</p>
0648906	Outlet, Front, 2.50" w/2.50" Plumbing	<p>FRONT DISCHARGE OUTLET</p> <p>There will be one (1) 2.50" discharge outlet piped to the front of the apparatus and located on the top of the right side of the front bumper. Plumbing will consist of 2.50" piping and flexible hose with a 2.50" full flow valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 2.50" NST with 90 degree stainless steel swivel. There will be automatic drains provided at all low points of the piping.</p>
0092575	Not Required, Outlet, Rear	
0045099	Not Required, Elbow, Rear Outlets	
0092574	Not Required, Outlet, Rear, Additional	
0085695	Not Required, Elbow, Rear Outlets, Large, Additional	
0092573	Not Required, Outlet, Hose Bed/Running Board Tray	
0752096	Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Vinyl Covered Cable	<p>DISCHARGECAPS/ INLET PLUGS</p> <p>Chrome plated, rocker lug, caps with vinyl covered cables 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 vinyl covered cables 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.</p>
0723038	Valve, 0.75" Bleeder, Discharges, "T" Swing Handle, No Snubbers	<p>OUTLET BLEEDER VALVE</p> <p>A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails. No snubber drain valves are acceptable.</p>
0029106	Not Required, Deluge Outlet	
0029302	No Monitor Requested	

0029304	No Nozzle Req'd	
0029107	No Deluge Mount	
0826319	Waterway Outlet & Control, Akron Valve, PUC	<p>AERIAL WATERWAY OUTLET The aerial waterway will be plumbed from the water pump to the aerial device waterway with 4.00" pipe and a 4.00" Akron valve. The valve will be controlled with a Pierce large handwheel with indicator located at the pump operator's panel.</p>
0739945	Crosslay Module, Full Width, Boom Compartment, Roll Up Doors, Aerial, PUC	<p>CROSSLAY MODULE The crosslay module will be full width of the rear body. The crosslay module will include a boom support compartment. The interior of the boom support compartment will be a DA finish. The forward, upper corners of the module will have full body corners. The crosslay module will be manufactured for installation of roll up doors on each side to include the boom support compartment with on common roll up door.</p>
0750897	Doors, Crosslay, Roll-up Amdor, Each End, Full Height, PUC	<p>ROLL-UP DOOR, CROSSLAY ENDS, PUC All compartment doors will be roll-up style double faced, aluminum construction, satin aluminum and manufactured by AMDOR™. The crosslay enclosure will be full width of the body. The track will be the flanged track with the screws installed to the rear of the track guide. The slats will be double wall box frame extrusion. The exterior surface will be flat and the interior surface will be concave to help loose equipment fall to the ground and prevent it from jamming the door. Between each slat will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Each door will have a 4.00" counter balance to assist in lifting. A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. The crosslays will have a drip pan below the roll of the door.</p>
0747660	Lights, Crosslay Compt, Forward LED, 2Lts	<p>CROSSLAY COMPARTMENT LIGHTING There will be two (2) 12 volt DC light strips with white LEDs and mechanical fasteners, provide behind the front door frame on the crosslay compartments per the following: One (1) strip light for the left side crosslay compartment door One (1) strip light for the right side crosslay compartment door The lights will be activated when the battery switch is on and the respective door is opened.</p>
0750916	Crosslays, (2) 1.50", W/Poly Trays, PUC	<p>CROSSLAY(S), LOWER There will be two (2) lower crosslays provided. 1.50" Crosslays There will be two (2) 1.50" crosslays plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe. The crosslays will be low mounted with the bottom of both crosslay trays no more than 11.00" above the frame rails for simple, safe reloading and deployment. There will be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel will be as far outbound as possible for ease of changing hose. Each crosslay will be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel. Each hose bed will be capable of carrying 200' of 1.75" double jacket hose . Crosslay Hose Trays A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>

	Crosslay, (1) 2.50", W/Poly Trays, PUC	<p>CROSSLAY(S), UPPER There will be one (1) upper crosslay provided.</p> <p>2.50" Crosslay There will be one (1) 2.50" crosslay plumbed with 2.50" welded or formed schedule 10 304L stainless steel pipe. There will be a 2.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that hose may be removed from either side of apparatus. The swivel will be as far outboard as possible for ease of changing hose. Each crosslay will be gated with a 2.50" quarter turn ball valve with the controls located at the pump operator's panel. Each hose bed will be capable of carrying 200' of 2.50" double jacket hose .</p> <p>Crosslay Hose Trays A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>
0749295	Tube, Aluminum, Pike Pole, Lower Crosslay Module, PUC	<p>PIKE POLE STORAGE A quantity of two (2) pike poles aluminum tubes will be provided and located one out each side in the lower crosslay module. Each tube will have a 1.38" notch, to accommodate a New York style pike pole. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.</p>
0749401	Mounting, Backboard, Upper Crosslay Module, Strap, PUC	<p>BACKBOARD STORAGE Mounting will be provide for One (1) backboard(s) located in the upper crosslay module. The backboard(s) will be enclosed and removable from either side of the truck. A Velcro® strap will be provided on each end of the storage. The backboard(s) to be stored will be 3" x 20" x 76".</p>
0044333	Not Required, Foam System	<p>FOAM SYSTEM A foam system will not be required on this apparatus.</p>
0012126	Not Required, CAF Compressor	
0552517	Not Required, Refill, Foam Tank	
0042573	Not Required, Foam System Demonstration	
0045465	Not Required, Foam Tanks	
0091110	Not Required, Foam Tank Drain	
0091079	Not Required, Foam Tank #2	
0091112	Not Required, Foam Tank #2 Drain	
0738072	Approval Dwg, Pump Panel(s), Not Required	
0032479	Pump Panel Configuration, Control Zone	<p>PUMP PANEL CONFIGURATION The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.</p>
0579545	Step, Slide-Out/Fold-Out, Pump Operator Platform, Aerial PUC	<p>PUMP OPERATOR'S PLATFORM A pull out, flip down platform will be provided at the pump operator's control panel. The front edge and the top surface of the platform will be made of DA finished aluminum with a Morton Cass insert. The platform will be approximately 13.75" deep when in the stowed position and approximately 22.00" deep when extended. The platform will be as wide as possible. The platform will lock in the retracted and the extended position. The sides, bottom and rear portions of the support assembly will be painted to match lower job color. The platform will be wired to the "step not stowed" indicator in the cab.</p>

	Light, Slide-Out Pump Operator Step, On Scene Solutions Access LED, Short Step	<p>PUMP OPERATOR'S PLATFORM PERIMETER LIGHT There will be an On Scene Solutions, Model Night Stick Access, 20.00" white 12 volt DC LED strip light provided to illuminate the ground area.</p>
0516975	Material, Pump Panels, Operators Brushed Stainless, Sides Brushed Stainless, PUC	<p>PUMP AND GAUGE PANEL The pump operator's panel and gauge panels will be constructed of stainless steel with a brushed finish. The side control panels will be constructed of stainless steel with a brushed finish for durability and ease of maintenance.</p>
0516978	Pump and Plumbing Access, Simple Tilt Service, PUC	<p>PUMP AND PLUMBING ACCESS Simple access to the plumbing will be provided through the front of the body area by raising the cab for complete plumbing service and valve maintenance. Access to valves will not require removal of operator panels or pump panels. Access for rebuilding of the pump will not require removal of more than the tank to pump line and a single discharge line. This access will allow for fast, easy valve or pump rebuilding, making for reduced out of service times. Steps will be provided for access to the top of the pump. Access to the pump will be provided by raising the cab. The pump will be positioned such that all maintenance and overhaul work can be performed above the frame and under the tilted cab. The service and overhaul work on the pump will not require the removal of operator panels or pump panels. Complete pump casing and gear case removal will require no more than removal of the intake and discharge manifolds, driveline, coolers and a single discharge line. The pump case and gear case will be able to be removed by lifting upward without interference from piping and be removable in less than 3 hours.</p>
0618458	Light, Pump Compt, WIn 3SC0CDCR LED White, PUC	<p>PUMP COMPARTMENT LIGHT There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the plumbing area. The light(s) will be activated by a toggle switch located in the pump compartment area.</p>
0516983	Gauges, Engine, Included With Pressure Controller, PUC	<p>Engine monitoring graduated LED indicators will be incorporated with the pressure controller.</p>
0005601	Throttle, Engine, Incl'd w/Press Controller	
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	<p>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.</p>
0549333	Indicators, Engine, Included with Pressure Controller	
0069390	Control, Air Horn At Pmp Pnl, Red Button	<p>AIR HORN BUTTON An air horn control button will be provided at the pump operator's control panel. This button will be red in color and properly labeled and put within easy reach of the operator.</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>
0511100	Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	<p>PRESSURE GAUGES The individual "line" pressure gauges for the discharges will be Class 1© intertube filled. They will be a minimum of 2.00" in diameter and have white faces with black lettering. Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut. Gauges will have a pressure range of 30"-0-400#. The individual pressure gauge will be installed as close to the outlet control as practical. This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p>

0539612	Gauge, Master Pump Flowmeter, FRC , PUC	<p>MASTER FLOWMETER A master pump flowmeter display will be provided the operator's panel. The flowmeter will contain solid state electronics with LED readout of total flow of the pump. An FRC X-FLC flow conditioner will be installed in the plumbing for better flow readings.</p>
0748780	Gauge, Water Level, Pierce, In pressure Controller, PUC Color Display, Lt Driver	<p>WATER LEVEL GAUGE An electric water level gauge will be incorporated in the pressure controller that registers water level by means of 9 LEDs. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight, and have a full 180-degree of clear viewing. To further alert the pump operator, the gauge will have a warning flash when the tank volume is less than 25%, and will have "Down Chasing LEDs when the tank is almost empty. The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell. There will be a water level gauge provided on the Command Zone™, color display in the cab. There will be a light driver module with this installation to power additional water level gauge(s) included on the apparatus.</p>
0604028	Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display	<p>ADDITIONAL WATER LEVEL GAUGE There will be two (2) additional Fire Research MaxVision model WLA280-A00 water tank remote indicators provided and installed one each side of crew cab. The indicators will show the volume of water in the tank on Ninety six (96) easy to see super bright Tri-color LEDs. The indicator case will be waterproof, manufactured of Polycarbonate material with an integrated lens. The remote indicator will indicate the level as a single color in Red for 25% or less, Amber color for up to 50% volume, Blue color for up to 75% volume and Green color for up to 100% volume. When the level reaches 25%, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three times. The flash rate will be determined by the main water tank sensor. It will have the program capability to adjust the brightness level for day time and night time viewing. The LEDs can also be programmed for different colors. This module will be activated when the pump is in gear.</p>
0006774	Not Required, Foam Level Gauge	
0653081	Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab & LED OH Chr Cvr	<p>SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING Illumination will be provided for controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment provided on it. External illumination will be a minimum of five (5) foot-candles on the face of the device. Internal illumination will be a minimum of four (4) footlamberts. The pump panels will be illuminated by two (2) Truck-Lite, Model 60354C, 6.00" x 2.00" oval white LED lights with Model 60700, grommets and chrome covers installed on the back of the cab, one (1) on the driver's side and one (1) on the passenger's side. The pump operator's panel will utilize the same LED strip lighting at the forward doorframe as all other compartment lighting. There will be a small white LED pump engaged indicator light installed overhead.</p>
0606694	Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	<p>AIR HORN SYSTEM Two (2) Hadley®, eTone, chrome air horns will be recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.</p>
0606835	Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	<p>Air Horn Location The air horns will be located on each side of the bumper, towards the outside.</p>
0757092	Control, Air Horn, Multi Select	<p>Air Horn Control The air horn(s) will be activated by the following:</p>
0757076	Control, Air Horn, Lanyard, RS	Right side lanyard. The lanyard to be a plastic coated braided cable.
0757077	Control, Air Horn, Lanyard, LS	Left side lanyard. The lanyard to be a plastic coated braided cable.
0525667	Siren, Wln 295SLSA1, 100 or 200 Watt	<p>ELECTRONIC SIREN A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided. This siren to be active when the battery switch is on and that emergency master switch is on.</p>
0510206	Location, Elect Siren, Recessed Overhead In Console	Electronic siren head will be recessed in the overhead console above the engine tunnel on the driver side.

0076156	Control, Elec Siren, Head Only	The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.
0601304	Speaker, (2) Wln, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	SPEAKERS There will be two (2) Whelen®, Model SA315P, black nylon composite, 100-watt, speakers with through bumper mounting brackets and polished stainless steel grille provided. Each speaker will be connected to the siren amplifier.
0601558	Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame, Inbrd (Pos 2/6)	The speakers will be recessed in each side of the front bumper, just outside of the frame rails.
0895310	Siren, Federal Q2B	AUXILIARY MECHANICAL SIREN There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus. The Q2B will be chrome finish. The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on. The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.
0006095	Siren, Mechanical, Mounted Above Deckplate	The mechanical siren will be mounted on the bumper deck plate. It will be mounted on the left side. A reinforcement plate will be furnished to support the siren.
0748305	Control, Mech Siren, Multi Select	MECHANICAL SIREN CONTROL The mechanical siren will be activated by the following:
0748282	Control, Mech Siren, Ft Sw LS	Left side foot switch.
0740391	Sw, Siren Brake, Momentary Chrome Push Button, RS	A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.
0734625	Control, Warning Lt Intensity, Wln, Photocell, Prk Brk	SWITCH FOR WARNING LIGHTS INTENSITY When parking brake is set, and a Whelen®, Model LCPHOTO photocell installed on the interior forward cab dash as near to the windshield as practical, is activated due to diminished ambient light, the designated Whelen® warning lights on the cab and the warning lights on the body will transition to a low power intensity. In order for the activation of low power mode of the warning lights, the dash mounted Whelen® photocell must sense diminished ambient light (approx. 50 LUX), the battery switch, the ignition switch, the emergency master switch, must be on, and the parking brake set. The low power intensity mode will be reset when any of the above conditions are not met.
0891858	Lightbar, Wln, Frdm V WCX, 2-21.5", RRWRR RRWRR, Lw Int	FRONT ZONE UPPER WARNING LIGHTS There will be two (2) 21.50" Whelen® Freedom™ IV VWCX1 LED lightbars mounted on the cab roof, one (1) on each side, above the left and right doors, facing forward. The left side lightbar will include the following: One (1) red flashing LED module in the outside end position. One (1) red flashing LED module in the outside front corner position. One (1) white flashing LED module in the outside front position. One (1) red flashing LED module in the inside front position. One (1) red flashing LED module in the inside front corner position. The right side lightbar will include the following: One (1) red flashing LED module in the inside front corner position. One (1) red flashing LED module in the inside front position. One (1) white flashing LED module in the outside front position. One (1) red flashing LED module in the outside front corner position. One (1) red flashing LED module in the outside end position. There will be clear lenses included on the lightbar. There will be a switch in the cab on the switch panel to control the lightbars. The light bar will have the low intensity mode wires connected to the controlling circuit. The white LEDs will be disabled when the parking brake is applied. These light bars will incorporate DVI. DVI stands for Dynamic Variable Intensity. It is an LED flash pattern that has a very calming effect on the eyes at night or in low ambient light conditions. A DVI flash, which has a very slow rise and fall envelope of intensity, is a very effective warning signal at night and is very comfortable on the eyes for the approaching cars and for EMS workers around the apparatus.

	<p>Light, GTT, 794* LED Opticom Emitter, Remote Mounted on Cab Roof</p>	<p>TRAFFIC LIGHT CONTROLLER There will be a GTT, Model 794* LED Opticom traffic light controller with national standard high priority remote mounted on the front edge of the cab left side. The Opticom traffic light controller will be activated by a cab switch with emergency master control. The Opticom traffic light controller will have no momentary activation switch. The Opticom traffic light controller will be disabled when the parking brake is applied.</p>
<p>0624466</p>	<p>SP Light, Front Zone, Wln M6# Split, 6RB* LED, 4lts Q Bezel</p>	<p>CAB FACE WARNING LIGHTS There will be four (4) Whelen, LED flashing warning lights installed on the cab face, above the headlights, mounted in a common bezel. One (1) Model M6#, 4.32" high x 6.75" long x 1.38" deep light installed in the driver's side outside position. The driver's side outside light to be red to the outside and blue to the inside. One (1) Model 6RB*, 4.19" high x 9.57" long x 3.44" deep light flashing in a semi circle flash pattern installed in the driver's side inside position. The driver's side front inside warning light to be red. One (1) Model 6RB*, 4.19" high x 9.57" long x 3.44" deep light flashing in a semi circle flash pattern installed in the passenger's side inside position. The passenger's side front inside warning light to be red. One (1) Model M6#, 4.32" high x 6.75" long x 1.38" deep light installed in the passenger's side outside position. The passenger's side outside light to be red to the outside and blue to the inside. The lights will include a lens that is clear. There will be a switch in the cab on the switch panel to control the lights. White LED's will be deactivated when the parking brake is applied. Red or Blue LED's in the inside positions be load managed when the parking brake is applied.</p>
<p>0653937</p>	<p>Flasher, Headlight Alternating</p>	<p>HEADLIGHT FLASHER The high beam headlights will flash alternately between the left and right side. There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on. The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.</p>
<p>0540692</p>	<p>Lights, Side Zone Lower, Wln M6*C LED, Clear Lens, 3pr, Ovr 25</p>	<p>SIDE ZONE LOWER LIGHTING There will be six (6) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following: Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red. Two (2) lights, one (1) each side of cab rearward of crew cab doors. The side middle lights to be red. Two (2) lights, one (1) each side located between the tandems. The side rear lights to be red. The lights will include clear lenses. There will be a switch in the cab on the switch panel to control the lights.</p>
<p>0896616</p>	<p>Lights, Door Interior Flash, 4 Dr Cab, Weldon 8401-0000-20 Strip Light</p>	<p>INTERIOR CAB DOOR WARNING LIGHTS There will be four (4) Weldon, Model 8401-0000-20, 16" long x 3/4" High x 5/8" deep amber 12 volt DC LED flashing strip lights provided. One (1) light on the left side cab door. One (1) light on the right side cab door. One (1) light on the right side crew cab door. One (1) light on the left side crew cab door. Each light will be located over the door window.. Each light will be activated when the battery switch is on, respective door is opened and the ignition switch is on. Each light will be installed so the flash pattern directs traffic away from the doors.</p>
<p>0815847</p>	<p>Connectors, Door Interior Flash, All Cabs, Weatherproof</p>	<p>ELECTRICAL CONNECTORS FOR WARNING LIGHTS The lights will be installed with a weatherproof insulated crimped connectors in order to provide ease of connection/disconnection of the circuit applied to.</p>
<p>0746427</p>	<p>Lights, Side, Wln M6* LED, Lw Int</p>	<p>SIDE WARNING LIGHTS There will be two (2) Whelen®, Model M6* LED flashing warning light(s) with chrome trim provided one each side forward high above crosslays. The color of the lights will be red. The lens color(s) to be clear. These lights will be activated with the Side Zone Lower warning lights. The light(s) will have the low intensity mode wire connected to the controlling circuit.</p>
<p>0743902</p>	<p>Lights, Side, Wln M6** LED, Trm Fet 2nd</p>	<p>SIDE WARNING LIGHTS There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided, in angled bumper corners. The light(s) to include red flashing LEDs. The warning light lens color(s) to be clear. There will be a switch in the cab on the switch panel to control the lights. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green and red LEDs may be load managed when the parking brake is applied.</p>

0672937	Lights, Side, W/in WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st	SIDE WARNING LIGHTS There will be four (4) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails one in each rub rail, forward and rearward of rear axle, each side of body. The lights will only be mounted with the rubber gasket if clearance allows it. The color of each light will be red LED with a clear lens. Each light will be provided with a chrome plated ABS flange. The light(s) will be activated with the side warning switch.
0746425	Lights, Rear Zn Lwr, W/in M6*, For Tail Lt Housing, Lw Int	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*, LED flashing warning lights located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be blue The lens color(s) to be clear. There will be a switch located in the cab on the switch panel to control the lights. The light(s) will have the low intensity mode wire connected to the controlling circuit.
0088745	Light, Rear Zone Up, W/in L31HRFN LED Beacon, Red LED	REAR/SIDE ZONE UPPER WARNING LIGHTS There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons. The color of the lights will be red LEDs with both domes clear.
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0791501	Light, Traffic Directing, W/in TAL65, 36" Long LED, Aerials	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The Whelen, Model TACTL5, control head will be included with this installation. The controller will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0530074	Location, TDL, On Top of Body Below Turntable w/Treadplate Box	This traffic directing light will be mounted on top of the body below the turntable with a treadplate box at the rear of the apparatus.
0529654	Location, Traf Dir Lt Controller, Heavy Duty Swivel Bracket Centered	The traffic directing light control head will be located within a heavy duty swivel bracket centered between the driver and passenger. This swivel bracket will enable the driver access as well as the passenger.
0006646	Electrical System, 120/240VAC, General Design	ELECTRICAL SYSTEM GENERAL DESIGN for ALTERNATING CURRENT The following guidelines will apply to the 120/240 VAC system installation: General Any fixed line voltage power source producing alternating current (ac) line voltage will produce electric power at 60 cycles plus or minus 3 cycles. Except where superseded by the requirements of the current edition of applicable NFPA standards, all components, equipment and installation procedures will conform to NFPA 70, National Electrical Code (herein referred to as the NEC). Line voltage electrical system equipment and materials included on the apparatus will be listed and installed in accordance with the manufacturer's instructions. All products will be used only in the manner for which they have been listed. Grounding Grounding will be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems will not be used. Only stranded or braided copper conductors will be used for grounding and bonding. An equipment grounding means will be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC. The grounded current carrying conductor (neutral) will be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor will be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC. In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure will be bonded to the vehicle frame by a copper conductor. This conductor will have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements will be permitted to be used. All power source system mechanical and electrical components will be sized to support the continuous duty nameplate rating of the power source. Operation Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, will be permanently attached to the apparatus at any point where such operations can take place. Provisions will be made for quickly and easily placing the power source into operation. The control will be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train will be equipped with a means to prevent the unintentional movement of the control device from its set position.

A power source specification label will be permanently attached to the apparatus near the operator's control station. The label will provide the operator with the following information:
Rated voltage(s) and type (ac or dc)

Phase

Rated frequency

Rated amperage

Continuous rated watts

Power source engine speed

Direct drive (PTO) and portable generator installations will comply with Article 445 (Generators) of the NEC.

Overcurrent protection

The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device will not exceed 144.00" (3658 mm) in length. For fixed power supplies, all conductors in the power supply assembly will be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit (90 degrees Celsius).

For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device will be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).

Wiring Methods

Fixed wiring systems will be limited to the following:

Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius)

or

Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius)

Electrical cord or conduit will not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring will be run as follows.

Separated by a minimum of 12.00" (305 mm), or properly shielded, from exhaust piping

Separated from fuel lines by a minimum of 6.00" (152 mm) distance

Electrical cord or conduit will be supported within 6.00" (152 mm) of any junction box and at a minimum of every 24.00" (610 mm) of continuous run. Supports will be made of nonmetallic materials or corrosion protected metal. All supports will be of a design that does not cut or abrade the conduit or cable and will be mechanically fastened to the vehicle.

Wiring Identification

All line voltage conductors located in the main panel board will be individually and permanently identified. The identification will reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends will be labeled showing function and wire size.

Wet Locations

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, will be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

All receptacles located in a wet location will be not less than 24.00" (610 mm) from the ground.

Receptacles on off-road vehicles will be a minimum of 30.00" (762 mm) from the ground.

The face of any wet location receptacle will be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle will be installed in a face up position.

Dry Locations

All receptacles located in a dry location will be of the grounding type. Receptacles will be not less than 30.00" (762 mm) above the interior floor height.

All receptacles will be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they will be so marked.

Listing

All receptacles and electrical inlet devices will be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages will be rated for the appropriate service.

Electrical System Testing

The wiring and associated equipment will be tested by the apparatus manufacturer or the installer of the line voltage system.

The wiring and permanently connected devices and equipment will be subjected to a dielectric voltage withstand test of 900-volts for one (1) minute. The test will be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switches in the circuit(s) closed. This test will be conducted after all body work has been completed.

Electrical polarity verification will be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

Operational Test per Current Edition NFPA Standard

The apparatus manufacturer will perform the following operation test and ensure that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order. The test will be witnessed and the results certified by an independent third-party certification organization.

The prime mover will be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.

The power source will be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current edition of applicable NFPA standards.

Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current edition of applicable NFPA standards will be applied to the low voltage electrical system during the operational test.

	<p>Generator, Harrison 3.0kW MSV 120V, Hydraulic, Digital Volt, Hz, Hour, Meter</p>	<p>GENERATOR The apparatus will be equipped with an alternating current (AC) electrical power system. The generator will be a Harrison, 3,000 watt (120 volts AC, 25 amps), Stinger, hydraulic driven unit. The generator will be driven by a transmission power take off unit, through a hydraulic pump and motor. The hydraulic engagement supply will be operational at any time (no interlocks). To properly monitor the generator performance, a digital voltage, frequency, hour meter will be provided.</p>
<p>0517171</p>	<p>Location, Hydraulic Generator, Cargo Area, Front of Body, PRM/PUC</p>	<p>GENERATOR LOCATION The generator will be mounted in the cargo area at the front of the body in as fits. The flooring in this area will be either reinforced or constructed, in such a manner, that it will handle the additional weight of the generator.</p>
<p>0096845</p>	<p>Starting Sw, Truck Engine Powered Gen, Cab and @ PP</p>	<p>GENERATOR START A switch will be located on the cab instrument panel and at the pump panel area to engage the generator. The single switch in both locations will engage the generator PTO and the electric field simultaneously.</p>
<p>0016757</p>	<p>Not Required, Remote Start, Generator</p>	
<p>0016740</p>	<p>Not Required, Fuel System</p>	
<p>0016767</p>	<p>Not Required, Oil Drain Extension, Generator</p>	
<p>0036738</p>	<p>Circuit Breaker Panel, Included With PTO Generator</p>	<p>CIRCUIT BREAKER PANEL The circuit breaker panel will be located high on the left wall of compartment LS3.</p>
<p>0016771</p>	<p>Not Required, Routing Exhaust, Generator</p>	
<p>0780309</p>	<p>Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, 4 place, Interior Cab</p>	<p>120 VOLT RECEPTACLE There will be two (2), 4-place receptacle box(es) with four (4) 15/20 amp 120 volt AC three (3) wire straight blade receptacles with interior stainless steel wall plate(s) installed behind the driver and officer seat on each outboard wall. The NEMA configuration for the receptacles will be 5-15R. The receptacle(s) will be powered from the shoreline inlet. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency</p>
<p>0779722</p>	<p>Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body</p>	<p>120 VOLT RECEPTACLE There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with an interior stainless steel wall plate, installed LS3 cetered on forward wall high and RS3 upper forward wall high. The NEMA configuration for the receptacle(s) will be 5-20R. The receptacle(s) will be powered from the shoreline inlet. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency</p>
<p>0783675</p>	<p>Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 2nd</p>	<p>120 VOLT RECEPTACLE There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with exterior flip up cover(s), installed Rear bulkhead as fits. The NEMA configuration for the receptacle(s) will be 5-20R. The receptacle(s) will be powered from the on board generator. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency</p>
<p>0519934</p>	<p>Not Required, Brand, Hydraulic Tool System</p>	
<p>0649753</p>	<p>Not Required, PTO Driven Hydraulic Tool System</p>	

**FOUR (4)-SECTION 105 FOOT AERIAL LADDER
CONSTRUCTION STANDARDS**

The ladder will be constructed to meet all of the requirements as described in the current edition of applicable NFPA standards.

The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.

These capabilities will be established in an unsupported configuration.

All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50% of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current NFPA standard.

All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20% of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current NFPA standard.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The aerial base pivot bearings will be maintenance free type bearings and require no external lubrication.

The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.

The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.

With the aerial device out of the cradle in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

The aerial device will be capable of operating with the maximum rated tip load in either of the two (2) following conditions:

- Conditions of high wind up to 50 mph
 - Conditions of icing, up to a coating of .25" over the entire aerial structure
- All of the design criteria must be supported by the following test data:
- Strain gage testing of the complete aerial device
 - Analysis of deflection data taken while the aerial device was under test load

The following standards for materials are to be used in the design of the aerial device:

- Materials are to be certified by the mill that manufactured the material
- Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification
- All welded structural components for the ladder will be traceable to their mill lots.

LADDER CONSTRUCTION

The ladder will be comprised of four sections.

The ladder will have the capability to support a minimum of 500 pounds at the tip in the unsupported configuration, based upon 360 degree rotation, up to full extension and from -8 degrees to +75 degrees.

The ladder (handrails, baserails, trusses, K-braces and rungs) will be constructed of high strength low alloy steel, minimum 70,000 pounds per square inch yield, with full traceability on all structural members.

Each section will be trussed diagonally, vertically and horizontally using welded steel tubing.

All ladder rungs will be round and welded to each section utilizing "K" bracing for torsional rigidity.

The inside width dimensions of the ladder will be:

- Base Section 39.00"
- Inner-Mid Section 32.25"
- Outer-Mid Section 26.62"
- Fly Section 21.62"

The height of the handrails above the centerline of the rungs will be:

- Base Section 26.75"
- Inner-Mid Section 22.87"
- Outer-Mid Section 20.25"
- Fly Section 17.50"

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground. The end of the fly section will be constructed in a manner that aids personnel who are climbing off the ladder.

The egress section will be designed to maintain the rated load of the aerial device. It will be bolted on for easy replacement.

VERTICAL HEIGHT

The ladder will extend to a minimum height of 105' above the ground at full extension and elevation. The measurement of height will be consistent with NFPA standards.

HORIZONTAL REACH

The rated horizontal reach will be a minimum of 100'. The measurement of horizontal reach will be consistent with NFPA standards.

TURNTABLE

The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position.

The turntable will be coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current NFPA standard.

The turntable platform will be approximately 95.00" wide x 84.50" long.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel

height of the vehicle. The handrails will be constructed from aluminum and have a slip resistant knurled surface.

A foot switch will be located at the turntable control console to allow hydraulic flow to the aerial device. The foot switch will be protected by a cover to prevent accidental activation. Activation of the foot switch is necessary for aerial operation.

ELEVATION SYSTEM

Two (2) double acting lift cylinders will be utilized to provide smooth precise elevation from 8 degrees below horizontal to 75 degrees above horizontal.

The lift cylinders will have a 6.00" internal diameter (bore), .50" wall thickness, 4.50" diameter cylinder rod and a 34.84" stroke.

The lift cylinders will be equipped with integral holding valves located on the cylinder to prevent the unit from falling should the charged lines be severed at any point within the hydraulic system. The lift cylinders will be mounted utilizing maintenance free spherical bearings on both ends of the cylinders. The bearings will help reduce pin wear.

Ladder tip speed is automatically decelerated when the angle is above 60 degrees, reducing "tip-lash".

The pivot pins will be stainless steel with greaseless bushings and will be 2.25" in diameter. All elevation pins will be stainless steel with greaseless ladder pivot pins.

EXTENSION/RETRACTION SYSTEM

A full hydraulic powered extension and retraction system will be provided using two (2) hydraulic cylinders and wire ropes.

Each cylinder is capable of operating the ladder in the event of a failure to the other.

The extension cylinder will have a 3.00" internal diameter (bore), 1.75" diameter rod and a 134.00" stroke.

Extension and retraction will be internally limited within the cylinders, eliminating excess strain on wire ropes, sheaves and the ladder structure.

Each of the cylinders, wire ropes and sheave assemblies will be completely independent of the other, so as to provide a safety factor wherein a failure of one assembly will not affect the function and operation of the other.

The extension cylinders will be equipped with integral holding valves to prevent the unit from retracting should the charged lines be severed at any point within the hydraulic system.

The extension cylinders will be mounted utilizing maintenance free spherical bearings.

The cylinders will also have internal deceleration valves to cushion the movement of the cylinder when approaching full extension or retraction.

The reeling of the wire rope will be such as to provide synchronized, simultaneous movement of all sections to full extension.

The extension/retraction wire ropes will be: 7-flex galvanized wire rope with stainless steel threaded ends and will have the following characteristics:

- Lower mid Section .50" diameter with 26,200lb nominal design strength
- Mid Section .38" diameter with 14,880lb nominal design strength
- Fly Section .31" diameter with 10,380lb nominal design strength

Wear pads that are made of polymer material will be used between the telescoping sections for maximum weight distribution, strength and smoothness of operation.

Adjustment screws will be provided on the wear pads to permit proper side alignment.

All sheaves will be plastic and greaseless and all sheave pins and pivot pins will be polished stainless steel.

ROTATION SYSTEM

A 46.00" diameter, external tooth, monorace, slewing ring bearing will be used for the rotation system. The gear teeth will be stub tooth form.

The bearing will provide 360 degree continuous rotation.

The turntable will be bolted to the bearing using 36 SAE Grade 8, .875" diameter bolts.

To secure the bearing to the torque box, 36 Grade 8, .875" diameter bolts will be used.

The turntable base and the torque box bearing plate will be machined flat, within .007" thereby providing even distribution of forces.

Two hydraulically driven planetary gear boxes will be used to provide infinite and minute rotation control throughout the entire rotational travel.

Each planetary gearbox will have a torque rating of 130,000 pounds per inch.

Each planetary gearbox will have a spring applied, hydraulically released disc type swing brake to provide positive braking of the turntable assembly.

ROTATION INTERLOCK

A permanently installed prevention mechanism will be provided as part of the rotation system to prevent the rotation of the aerial device to the side in which the stabilizers have not been fully deployed or are short-jacked.

The mechanism will allow full and unrestricted use of the aerial in the 180 degree area on the side(s) where the stabilizers have been fully deployed.

The system will also have a manual override to comply with NFPA.

TORQUE BOX

A "torsion box" subframe will be installed between the two (2) sets of stabilizers.

The torque box will be constructed of .312" thick (minimum) steel plate (50,000 pounds per square inch yield) with steel tubing reinforcement on each side of the box in the turntable area. The torque box subframe assembly is capable of withstanding all torsional and horizontal loads when the unit is on the stabilizers.

The torque box will be bolted to the chassis frame rails using 20 SAE Grade 8, .750" bolts with nuts.

LOAD CAPACITIES

The following load capacities will be established, with the stabilizers at full horizontal extension and placed in the down position, to level the truck and to relieve the weight from the tires and axles.

Capacities will be based upon full extension and 360 degree rotation.

A load chart, visible at the operator's station, will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension.

50 MPH WIND CONDITIONS/WATERWAY DRY

Degrees of

Elevation

-8 to 9

10 to 19

20 to 29

30 to 39
 40 to 49
 50 to 59
 60 to 69
 70 to 75
 Egress
 500
 500
 500
 500
 500
 500
 500
 500
 Fly
 -
 -
 -
 -
 250
 250
 750
 1000
 Upper Mid
 -
 -
 -
 250
 250
 500
 1000
 1000
 Lower Mid
 -
 -
 250
 250
 500
 750
 1000
 1000
 Base
 -
 250
 500
 500
 750
 1000
 1000
 1000
50 MPH WIND CONDITIONS/WATERWAY CHARGED
 Degrees of
 Elevation
 -8 to 9
 10 to 19
 20 to 29
 30 to 39
 40 to 49
 50 to 59
 60 to 69
 70 to 75
 Egress
 500
 500
 500
 500
 500
 500
 500
 500
 500
 Fly
 -
 -
 -
 -
 -
 250
 500
 750
 Upper Mid
 -
 -
 -
 -
 250
 500
 750
 1000

Lower Mid

-

-

-

250

500

750

1000

1000

Base

-

-

250

500

750

1000

1000

1000

Reduced loads at the tip can be redistributed in 250 lb. increments to the fly, mid, or base sections as needed.

The tip capacity will be reduced to zero when flowing water with the nozzle above the waterway centerline.

BOOM SUPPORT

A heavy duty boom support will be provided for support of the ladder in the travel position. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support.

000042	Boom Support, Rear of the Chassis Cab	The boom support will be located just to the rear of the chassis cab.
0758287	Light, Boom Support, CLC-1049-12-AL, 12" LED	<p>AERIAL BOOM SUPPORT LIGHT</p> <p>There will be one (1) Model CLC-1049-12-AL, 12" long, white LED strip light mounted on the boom support cradle. This light will be activated when the aerial master switch is activated.</p>
0799573	Boom Support Compt Included w/PUC Xlay Module Picked Separately, PUC	
0680820	Boom Panel, One, Sized to Match Opposite Side Box	<p>AERIAL BOOM PANEL</p> <p>There will be one boom panel provided on the base section on the left side of the aerial device while viewed from the turntable. This boom panel will be sized to match the storage box on the opposite side. The boom panel will be painted #10 white.</p> <p>The boom panel will be designed so no mounting bolts are in the face of the panel. This will keep the lettering surface free of holes.</p>
0526885	Indicator, Extension, Inside and Outside Handrails, Every 10'	<p>EXTENSION INDICATOR</p> <p>Extension markings and corresponding numerical indicators will be provided along each inside and outside top rail of the base section of the aerial every 10'. They will indicate various positions of extension up to full. Markings and indicators will be clearly visible to the console operator. To aid in visibility during hours of darkness, the markings and numerical indicators will be red reflective material.</p>
0723719	Steps, Folding, Four, Aerial Device, Trident	<p>FOLDING STEPS</p> <p>One (1) set of folding steps will be provided at the tip of the ladder. An additional set of folding steps will be provided at the base of the fly section. The steps will be bright finished with a black tread coating on the stepping surface. Each step will have no integrated light.</p>
0688232	Rung Covers, Aerial Device	<p>AERIAL DEVICE RUNG COVERS</p> <p>Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating.</p> <p>The rung covers will be glued to each rung and will be easily replaceable should the rung cover become damaged.</p> <p>The center portion of each rung cover will be black and the outside 2.00" edge at each side will be safety yellow.</p> <p>Under no circumstances will the rung covers be fastened to the rungs using screws or rivets.</p> <p>The rung covers will have a 10-year, limited warranty.</p>
0674963	Scabbard, Temporary Vent Saw Storage, No Depth Gauge, Aerial Ladder	<p>TEMPORARY SCABBARD AT END OF AERIAL</p> <p>There will be a total of one (1) vent saw scabbard(s) provided. The scabbard(s) will be mounted on the right side of the aerial tip. The scabbard(s) will be DA finished.</p>

Brackets Only, Roof/Wall Ladder,
Aerial Fly Section

LADDER STORAGE MOUNTING BRACKETS

There will be brackets that are DA finished provided near the end of the fly section of the aerial for mounting a roof ladder.
The mounting brackets will accommodate a 14' Duo-Safety 775-DR roof/wall ladder as determined by the type of aerial device and the available space.

0623645

Aerial Stability Test, Maximum Tip
Options

STABILITY TEST

An aerial stability test will be run on the apparatus using the maximum weight allowance for tip options.

0728980

Box, Stokes, w/Cover, Base Section,
In Place of Boom Panel, w/Door
Open Sw

STOKES STORAGE BOX

There will be one (1) aluminum storage box(es) provided at the base section of the aerial ladder on the right side of the aerial device while viewed from the turntable. The box(es) will be painted to match the aerial device with the face of the box painted job color. The box(es) will be located in place of the aerial boom panel and have a hinged cover with pair of butterfly latches to secure the stokes basket. The cover will have the same finish as the box. The cover will be tied in to the open door indicator circuitry when in the open position. The box(es) will have no louvers. The size of the stokes basket will be 84.00" long x 25.00" wide x 9.00" high. The maximum capacity of each box will be 75 lb.

0601972

Lights, Turntable Walkway, P25, LED

LIGHTS FOR TURNTABLE WALKWAY

There will be white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch.

0601949

Light, Turntable Console, TecNiq T-
10, LED Strip Light

TURNTABLE CONSOLE LIGHTING

There will be one (1), TecNiq Model T10, white LED light strip mounted in the turntable console cover to illuminate the controls located on both the upper and lower portion of the turntable control station. These lights will be activated by the aerial master switch.

0682164

Cover, Around Aerial Rotation
Bearing

ROTATION BEARING COVER

A cover will be fitted over the aerial rotation bearing and drive pinion gear(s). The cover will be aluminum treadplate and attached to the underside of the turntable deck.

TURNTABLE CONTROL STATION

There will be a turntable control station located on the left hand side of the turntable so the operator will be able to easily observe the ladder tip while operating the controls. The controls will permit the operator to regulate the speed of the aerial functions within safe limits (as determined by the manufacturer and NFPA standards). The controls will be clearly marked and lighted for nighttime operation. A hinged aluminum cover will be provided. The momentary foot switch located at the turntable control station will activate the aerial function controls. They are capable of being operated independently or simultaneously.

The following controls and indicator lights will be clearly identified, illuminated, and conveniently located for ease of operation and viewing:

- Elevation, extension/retraction, and rotation controls
- High idle switch
- Rung alignment indicator light
- Tip/Tracking lights switch
- Hydraulic system pressure gauge
- Indicator/Alarm test switch
- EPU switch
- Operator's load chart
- Stabilizer Not Fully Extended indicator light
- Monitor controls
- Aerial waterway flow meter

STABILIZER CONTROL STATION

There will be two (2) easily accessible control stations, one (1) for driver side stabilizers and one (1) for passenger side stabilizers, located at the rear of the apparatus.

The following controls and indicator lights will be clearly identified, illuminated, and conveniently located for ease of operation and viewing at each of the control stations except where otherwise noted:

- Left Rear Stabilizer Firm On Ground indicator light (driver side panel only)
- Left Rear Stabilizer Fully Extended Indicator light (driver side panel only)
- Left Rear Stabilizer In/Out switch (driver side panel only)
- Left Rear Stabilizer Up/Down switch (driver side panel only)
- Left Front Stabilizer Firm On Ground indicator light (driver side panel only)
- Left Front Stabilizer Fully Extended indicator light (driver side panel only)
- Left Front Stabilizer In/Out switch (driver side panel only)
- Left Front Stabilizer Up/Down switch (driver side panel only)
- Right Rear Stabilizer Firm On Ground indicator light (passenger side panel only)
- Right Rear Stabilizer Fully Extended indicator light (passenger side panel only)
- Right Rear Stabilizer In/Out switch (passenger side panel only)
- Right Rear Stabilizer Up/Down switch (passenger side panel only)
- Right Front Stabilizer Firm On Ground indicator light (passenger side panel only)
- Right Front Stabilizer Fully Extended indicator light (passenger side panel only)
- Right Front Stabilizer In/Out switch (passenger side panel only)
- Right Front Stabilizer Up/Down switch (passenger side panel only)
- Hydraulic emergency power switch
- High idle switch

Stabilizers, 105' HD Rear Mount
Steel Aerial, 14' Spread, 18" G Pen,
500# tip

STABILIZERS

The vehicle will come equipped with a stabilization system consisting of four (4) hydraulically operated out and down style stabilizers. This system will meet or exceed all requirements of the NFPA specifications related to stabilization and setup on sloped surfaces.

The stabilizer/leveling jacks will have a maximum spread of 14' measured from the centerline of the jack footpads when the beams are fully extended. The beams will be 6.88" wide x 9.00" high with 3/4" thick top and bottom plates and 1/2" thick sides of 100,000-PSI minimum yield strength steel. The cylinders will have pilot-operated check valves with thermal relief designed to insure that the beams will not drift out of the stowed position during travel. Wear pads will guide the stabilizers.

The horizontal extension cylinders will be totally enclosed within the beams and will incorporate telescoping hydraulic tubing to supply the jack cylinder hydraulic power. Stabilizer hydraulic hoses will remain stationary during operation of the stabilizers to prevent hose wear and potential failure. The cylinders will be equipped with decelerators to reduce the speed of extension and retraction when the beams are near the fully retracted and extended positions. The stabilizer extension hydraulic cylinders will have the following dimensions: 2.25" bore, 1.38" rod, and 39.25" stroke.

The vertical jack cylinders will be capable of 18.00" ground penetration. The cylinders will be supplied with pilot operated check valves on each jack cylinder to hold the cylinder in the stowed or working position, should a charged line be severed at any point in the hydraulic system. For safety, the integral holding valves will be located in the cylinder base end, NOT in the transfer tube. Vertical jack cylinder rods will be fully enclosed by a telescoping inner box to protect the cylinder rods from damage. The stabilizer jack hydraulic cylinders will have the following dimensions: 4.25" bore, 3.00" rod, and 34.88" stroke.

Each stabilizer jack will have a pan that will be a maximum of 14.00" wide so as to allow the extension of the stabilizer between parked cars or other obstacles. This pan will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back 90 degrees for added strength.

STABILIZER PADS

The stabilizer footpad will be 12.00" in diameter. The footpad will be attached to the jack cylinder rod by means of a machined ball at the end of the jack cylinder rod which mates to a socket machined into the footpad. The footpad will have the ability to pivot 20 degrees from horizontal in any direction to allow setup on uneven terrain.

AUXILIARY STABILIZER PADS

An auxiliary ground pad will be supplied for each stabilizer to provide additional load distribution on soft surfaces. The pads will be 31" x 26" and made from a lightweight composite material. The ground pressure will not exceed 75 pounds per square inch when the ground pads are used and the apparatus is fully loaded and the aerial device is carrying its rated capacity in any position. The pads will be stored in a double stacked configuration, two (2) behind each rear tandem axle in a single bracket.

STABILIZER CONTROLS

An electrically controlled hydraulic valve will power stabilizer movement. The valve can also be manually controlled in the event of electrical malfunction. Hydraulic power override controls will be incorporated into the valve. The manual override mechanism will be completely sealed within the valve assembly to prevent any possibility of corrosion.

The stabilizer controls will be located to provide the operator with a full view of each stabilizer being positioned. Each stabilizer control panel will include the following:

- In/out stabilizer beam control toggle switch
- Up/down stabilizer jack control toggle switch
- Emergency hydraulic power unit (EPU) control toggle switch
- High idle control toggle switch
- Stabilizer fully extended LED indicator lights
- Stabilizer planted LED indicator lights

As a safety device, an electrically actuated diverter valve will be provided. The hydraulic power will be diverted to the aerial ladder controls automatically the instant all stabilizer jacks are firmly planted on the ground. Once the aerial ladder is raised from the bedded position, the stabilizer hydraulic power is cut off so the stabilizers will not accidentally be moved while the aerial is being operated.

To aid in leveling the unit, two bubble type angle indicators will be located near the stabilizer controls. One indicator will show the angle of the truck from the front to rear and the other will show the side to side angle of the truck. The indicators will be color coded green to show when the truck has been properly leveled allowing the aerial device to be operated at full capacity.

A stabilizer deployment audible warning alarm will be provided at each side of the body, activated by the stabilizer movement.

A "Stabilizers Not Stowed" indicator light will be provided in the cab within view of the driver. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the vehicle if it is moved. The stabilizer system will also be wired to the "Do Not Move Truck" indicator light. This light will flash whenever the apparatus parking brake is not engaged and the stabilizers are not fully stowed.

0729051 Stabilizer Pan and Trim Material

STABILIZER PAN AND TRIM MATERIAL

The aerial stabilizer pans will be polished stainless steel and the aerial stabilizer trim will be polished stainless steel.

0530819 Not Required, Aerial Stabilizer Pins

STABILIZER PINS

The stabilizer jacks will not have holes for the stabilizer pins.

0809990 Doors, Stabilizer Control Box, Non-MUX Aerials

STABILIZER CONTROL BOX DOORS

Vertically hinged smooth aluminum doors will be provided over each stabilizer control box. The doors will be hinged along the inboard edge and be provided with a Southco C2 chrome raised trigger lever latch.

Stabilizer Placement, Cameras
w/Command Zone Color Display, 2
Sets

STABILIZER PLACEMENT

There will be four (4) cameras provided and installed on the body, one (1) directly above each stabilizer. The cameras will be activated with a switch in the cab and will provide a picture to specify the fully extended stabilizer position allowing the driver the ability to position the vehicle with the proper clearance for stabilizer deployment.

HYDRAULIC SYSTEM

All hose assemblies will be assembled and crimped by the hose manufactures certified technician. An assembly cell will be located on the premises where the technician can perform audits of the final aerial assembly for proper fitting torque and hose routing.

All manufacturing employees responsible for the installation of hydraulic components will be properly trained. Training will include: proper handling, installation, torque requirements, cleanliness and quality control procedures for hydraulic components.

Hoses used in the aerial hydraulic system will be of a premium quality hose with a high abrasion resistant cover. All pressure hoses will have a working pressure of 4000 psi. and a burst pressure rating of 16,000 psi.

The hydraulic oil will be a premium Multi-Vis product that will have a leading edge additive package, provide oxidation stability, be extremely shear stable, and have maximum anti-wear properties. All oil delivered to the manufacturing site will have a minimum ISO cleanliness level of 18/15/13.

Each aerial will be evaluated as to the region and climate where it will be used to determine the optimum viscosity and proper oil grade. Oil viscosity will be based on an optimum range of 80 to 1000 SUS during normal aerial use. Before shipment of the unit, an oil sample will be taken and analyzed to confirm the oil is within the allowable ISO grade tolerance.

The aerial hydraulic system will have a minimum oil cleanliness level of ISO 18/15/13 based on the ISO 4406:1999 cleanliness standard. Each customer will receive a certificate of actual cleanliness test results and an explanation of the rating system.

Each aerial will include an oil sample port, identified with a yellow dust cap and a label, for subsequent customer testing.

Ball valves will be provided in the hydraulic suction and return lines to permit component servicing without draining the oil reservoir.

The system hydraulic pressure will be displayed on a 2.5" liquid filled gauge, located on the control console.

The hydraulic system will be additionally protected from excessive pressure by a secondary pressure relief valve set at 3150 psi. In the event the main hydraulic pump compensator malfunctions, the secondary relief will prevent system damage.

HYDRAULIC CYLINDERS

All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.

Each cylinder will include integral safety holding cartridges.

Each cylinder will be designed to a minimum safety factor of 4:1 to failure.

All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.

HYDRAULIC PUMP

The hydraulic system will be supplied by a variable displacement, load and pressure compensating piston pump. The pump will meet the demands of all three (3) simultaneous aerial functions. The pump will provide proper flow for a single aerial function with the engine at idle speed. A switch will be provided on the control console to increase the engine speed for multiple function operation.

EMERGENCY PUMP

The aerial will be equipped with an emergency hydraulic pump, electrically driven from the truck batteries. The pump will be capable of running for 30 minutes for limited aerial functions to stow the unit in case of a main pump or truck system failure. A momentary switch will be located at the stabilizer and aerial control locations to activate the emergency pump.

AERIAL CONTROL VALVE

The aerial hydraulic control valve will be designed with special spool flows, limiting the oil flow for the designed function speed. The valve will be manually controlled and be located in the control console with the handles protruding through the operating surface for operation. The activation handles will be spaced a minimum of 3.5" for ease of operation.

OIL RESERVOIR

The oil reservoir will have a minimum capacity of 38 gallons. The oil fill location will be easily accessible and be labeled "Hydraulic Oil Only" and also indicate the grade of oil that is installed in the reservoir. The fill will have a desiccant breather filter with a water capacity of 4 fluid ounces and a 5 micron rating. A drain hose will be included and will terminate with a quarter turn ball valve. Two (2) suction ports will be provided, one (1) for the main hydraulic pump and one (1) for the emergency pump. The main suction will be slightly elevated off the bottom of the reservoir and include a 100 mesh suction strainer. The emergency suction port will be closer to the bottom of the reservoir to provide some reserve oil for emergency operation. A six (6) disc type magnetic drain will also be provided to collect any ferrous contaminants. A float type sending unit in the reservoir will provide an indication of oil level on an electric gauge mounted adjacent to the fill location.

HIGH PRESSURE FILTER

The pressure filter will be rated for 6,000 psi working pressure and generously sized for efficiency and capacity. A 90 psi bypass spring will be included to protect the element and hydraulic system during lower than normal system operating temperatures.

The 5Q filter element will be constructed of a micro glass medium, which has the highest capture efficiency, dirt holding capacity and life expectancy over other media such as cellulose and synthetic. The nominal rating will be 5 micron and have an efficiency rating of 99.3 % for 5 micron sized particles. The element will have a dirt holding capacity of not less than 35 grams.

RETURN FILTER

The return filter will be rated for 800 psi working pressure and generously sized for efficiency and capacity. A 25 psi bypass spring will be included to protect the element and hydraulic system during lower than normal system operating temperatures. The 5Q filter element will be constructed of a micro glass medium, which has the highest capture efficiency, dirt holding capacity and life expectancy over other media such as cellulose and synthetic. The nominal rating will be 5 microns and have an efficiency rating of 99.6% for 5 micron sized particles. The element will have a dirt holding capacity of not less than 40 grams.

HYDRAULIC SWIVEL

The aerial ladder will be equipped with a three (3) port, high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir through the rotation point to the aerial control bank. The hydraulic swivel will allow for 360 degree continuous rotation of the aerial.

ELECTRIC SWIVEL

The ladder will be equipped with an electric swivel to allow 360 degrees rotation of the aerial while connecting all electrical circuits through the rotation point. A minimum of 32 collector rings will be provided that are capable of supplying 20 amp continuous service. All collector rings will be enclosed and protected with desiccant plugs against condensation and corrosion. No oil or silicone will be used.

12-BIT ABSOLUTE ENCODER

The aerial ladder will be equipped with a 12-Bit Absolute Encoder which provides 4096 counts per shaft turn for position and direction reference.

The 12-Bit Absolute Encoder will provide a unique binary word to reference each position and direction for all 360 degrees of rotation.

If the power is interrupted for any reason, the 12-Bit Absolute Encoder will allow power to be returned to the system without having to re-zero the settings.

The 12-Bit Absolute Encoder will be an integral part of a micro-processor based control system.

ELECTRICAL SYSTEM

The aerial electrical system will be designed and manufactured in such a way that the power and signal protection and control compartments will contain circuit protection devices and power control devices. The power and signal protection and control components will be protected against corrosion, excessive heat, excessive vibration, physical damage, and water spray.

The aerial electrical system will be designed and manufactured to allow the following:

- All of the serviceable components will be readily accessible.
- Circuit protection devices will be utilized to protect each circuit.
- All circuit protection devices will be sized to prevent wire and component damage when subjected to extreme current overload.
- General protection circuit breakers will be Type-I automatic reset (continuously resetting) or Type-II (manual resetting) and conform to SAE requirements. When required, automotive type fuses conforming to SAE requirements will be utilized to protect electronic equipment.
- Power control relays and solenoids, when utilized, will have a direct current (dc) rating of 125% of the maximum current for which the circuit is protected.

The aerial electrical system will be designed and manufactured to allow the following:

- Toggle switches will be utilized that are certified for the outside conditions that fire apparatus experience.
- All wiring will be protected through conduit or loom.
- All wiring harnesses will be properly supported to eliminate harness damage through rubbing.
- An inductive proximity switch and illumination light will be incorporated into the boom support.
- The aerial master and aerial PTO can be engaged after the water pump has been engaged without having to bring the RPM back to idle.
- Standard cabling to the tip of the aerial will consist of one (1) 16/20 cable and one (1) 12/8 cable.

LEFT SIDE TORQUE BOX POWER DISTRIBUTION PANEL

A fuse and relay panel, located behind the left side stabilizer, will include the following:

- NEMA 4x rated weatherproof enclosure
- Relays, fuses, and circuit breakers for aerial and stabilizer interlocks and control switches

TURNTABLE LIGHTING

The turntable will be lighted for nighttime operation with a minimum of two (2) work lights activated by the aerial master switch.

TURNTABLE CONSOLE

The following switches and indicator lights will be standard on the turntable console:

- High idle on/off switch
- Tip/Tracking light switch
- Indicator and alarm test switch
- Emergency hydraulic power switch
- STABILIZERS NOT FULLY EXTENDED amber indicator light
- Rung alignment green indicator light

The turntable console will be lighted for nighttime operation with one (1) work light activated by the aerial master switch. A fuse panel will be located in the turntable console.

TURNTABLE OVERRIDE CONTROLS

The aerial manual override controls will be located in the turntable control console.

MASTER OVERRIDE CONTROLS

An emergency power switch will be located at the rear of the apparatus. The switch will activate the emergency power unit and allow control of the aerial or stabilizers based on the direction the switch is toggled.

A work light will be provided to illuminate the master override controls when the battery switch is active and the master override door is open.

BOOM SUPPORT

A Turck inductive proximity switch will be provided on the boom support to detect if the aerial device is fully stowed within the boom support.

STABILIZER INDICATOR

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed, to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move" indicator light, which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

CRADLE INTERLOCK SYSTEM

A cradle interlock system will be provided to prevent the lifting of the aerial from the nested position until the operator has positioned all the stabilizers in a load supporting configuration. A switch will be installed at the cradle to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

STABILIZER ALARM

An electronic warning device will be provided at each stabilizer to warn personnel that the stabilizers are being deployed. Each alarm will produce a fast pulsing 90 DBA signal and will cancel only when the stabilizer is put into a load bearing configuration.

STABILIZER SCENE LIGHTS

A 4.00" clear floodlight will be provided on each stabilizer to illuminate the surrounding area. The light will be actuated by the aerial master switch.

SP	Lights, Tip, FRC SRA110-07*, 4lts	<p>TIP LIGHT There will be four (4) Fire Research Model SRA110-07*, 7,000 lumens, 12 volt DC light with CD base Mount and white LEDs, and installed at the tip of the aerial device per the following. The left side tip light to include trapezoid optics. The left side lower tip light to include trapezoid optics. The right side lower tip light to include trapezoid optics. The right side tip light to include trapezoid optics. The painted parts to be white. The lights will be controlled with the tracking lights.</p>
0805150	Lights, Tracking, FRC SRA1**, 2lts	<p>TRACKING LIGHTS There will be two (2) Fire Research® Model SRA 1**, 7,000 lumens 12 volt DC lights with white LEDs, white housing(s) and yoke mount installed on the base section of the aerial device. The lights will be mounted below the top edge of the aerial device so the overall height of the apparatus is not affected. The lights will include the following: The left side tracking light to include trapezoid optics. The right side tracking light to include trapezoid optics. The tracking lights will be controlled by a switch located at the turntable and pump panel.</p>
0653677	Lighting, Rung, LED, TecNiq, 4 Section, Base, Lower/Upper Mid, Fly	<p>LIGHTING ON AERIAL LADDER There will be TecNiq, Model D02 LED rung lighting provided on both sides of the aerial ladder base, lower and upper mid, and fly sections. The lighting will be located adjacent to the ladder rungs along the lower rail of the ladder sections and will run the length of the ladder section. The color of the sections will be: The base section of the ladder to be blue. The lower mid section of the ladder to be blue. The upper mid section of the ladder to be blue. The fly section of the ladder to be blue and the last three (3) rungs to be red. The LED rung lighting will be activated when a switch within reach of the driver is activated and a switch at the turntable operator's panel is activated through the master battery switch. The lights may be load managed when the parking brake is applied.</p>
0540743	Lights, Stabilizer Warn (2) Sets, Wln M6°C LED, Clear Lens	<p>STABILIZER WARNING LIGHTS There will be our (4) Whelen®, Model M6°C, LED flashing warning lights with Whelen, Model M6FC, chrome flanges installed, one (1) on each stabilizer cover panel. The front stabilizer pan lights will be red LED with a clear lens The rear stabilizer pan lights will be red LED with a clear lens These warning lights will be activated by the same switch as the side warning lights.</p>
0068701	Lights, Grote Supernova LED, Stabilizer Beam, (2) Sets	<p>STABILIZER BEAM WARNING LIGHTS Two (2) 4.00" diameter red LED flashing lights will be mounted on each stabilizer, one (1) facing forward and one (1) facing rearward. The lights will be Grote Supernova 40 series LED lights. The lights will be recessed in the horizontal beam of the stabilizer. These warning lights will be activated with the aerial master switch.</p>
0601977	Lights, Stabilizer Scene, (2) sets, Truck-Lite 40227C, Incandescent	<p>STABILIZER SCENE LIGHTS There will be one (1) Truck-Lite, Model 40227C 4.00" incandescent, scene light installed under each stabilizer beam to illuminate the surrounding area. A total of four (4) lights will be installed. These lights will be activated by the aerial master switch.</p>
0633833	DC Power To Aerial Tip, 11.2 Amp @ 12 Volt DC	<p>DC POWER CABLE to TIP There will be a cable installed in the aerial device to provide 11.2 amps @ 12 volts DC to the tip of the aerial device.</p>
0737181	Intercom, 2-Way Fire Research ICA910 Hands Free	<p>2-WAY AERIAL COMMUNICATION SYSTEM There will be a Fire Research, Model ICA910, two-way intercom system provided. The control module with an LED volume display and push-button volume control will be located on the turntable operator console. A hands free module will be located at the aerial tip or platform and constantly transmit to the other module unless the control module push-to-talk button is pressed. Each intercom unit will be weatherproof.</p>
0540895	Not Required, Breathing Air to Tip, Aerial Ladder	
0024742	Not Required, Mask, Breathing Air To Tip	
0126600	Raised Pedestal, 3.00", Rear Mount Aerials, AXT, Velocity, Impel, Enf	<p>RAISED AERIAL PEDESTAL The aerial pedestal will be raised to accommodate the height of the cab.</p>

Lifting Eye Assembly, Rope Rescue Attachment, HDL

LIFTING EYE ASSEMBLY - ROPE RESCUE ATTACHMENT

A lifting eye assembly will be provided that is designed to evenly distribute load at the tip of the aerial. The egress will include attachment points for the lifting eye assembly. The lift eye assembly is retained by two (2) locking pins, one (1) at each end outboard side of the egress. Leveling is maintained by the lifting eye assembly rotating within the egress mounting.

0582168

Collision Avoidance, Align For Stowing, Including Monitor

COLLISION AVOIDANCE

The aerial device will be supplied with a collision avoidance control system. The collision avoidance control system will be calibrated so that the aerial device does not make contact with any part of the fire apparatus during normal operation. The collision avoidance system will also prevent the aerial device from being lowered into the cradle if the aerial monitor is not in the stowed position. The collision avoidance control system will consist of the following sensors: Single axis sensor to determine aerial device elevation. Angle sensors to determine turntable angle with reference to aerial device position. 13-bit absolute encoder integral to the swivel to determine aerial device rotation. The aerial ladder will be equipped with a 13-bit absolute encoder, which provides 8192 counts per shaft turn for position and direction reference. The 13-bit absolute encoder will provide a unique binary word to reference each position and direction for all 360 degrees of rotation. If the power is interrupted for any reason, the 13-bit absolute encoder will allow power to be returned to the system without having to re-zero the settings. The 13-bit absolute encoder will be an integral part of a microprocessor based control system. The collision avoidance control system will be divided up to a maximum of nine (9) control zones. Each zone will have its own independent rotation and elevation parameters. The collision avoidance control system will be equipped with a warning system that alerts the operator when the aerial device has reached the limits of each control zone. The warning system will sound when either the rotation or elevation movements reach the limits of the control zone. The warning system alarm and red light will be active whenever the ladder is in a restricted area and will then prevent aerial device movement. A green indicator light will activate when the aerial is in a position to be safely stowed.

COMMAND ZONE WARRANTY

The Command Zone components will be warranted against defective materials or workmanship for a period of **five (5) years** from the date of delivery to the original purchaser. The warranty will also include a standard repair time for covered components. A copy of the fire apparatus manufacturer's warranty will be included with the bid.

0530826

Turntable Access, ManSaver Bars, Yellow

AERIAL TURNTABLE MANSAYER™ BARS

Yellow ManSaver™ bars will be installed at the aerial turntable.

0026950

Waterway, 100'/105' HDL

WATER SYSTEM

A waterway system will be provided consisting of the following components and features: A 5.00" pipe connected to the water supply on one end and to a water swivel at the rotation point of the turntable. The water swivel will allow the ladder to rotate 360 degrees continuously while flowing water.

A 4.00" waterway swivel is to be routed through the rotation point swivel up to the heel pin swivel. The heel pin swivel will allow the water to flow to the ladder pipe while elevating the aerial ladder from -5 degrees to 75 degrees. The heel pivot pin is not integral with the waterway swivel at any point. The design of the waterway will allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

The integral telescopic water system will consist of a 4.50" diameter tube in the base section, a 4.00" diameter tube in the inner mid-section, 3.50" diameter tube in the outer mid-section and a 3.00" diameter tube in the fly section. The telescopic water pipes will be anodized aluminum. The rotational torque will have adequate power to rotate the ladder into a full 1000 gallon per minute water stream directed at 90 degrees to the side while maintaining the 500 pound tip load. The aerial will be capable of discharging up to 1000 gallons per minute at 100 pounds per square inch parallel to the ladder and 90 degrees to each side of center while maintaining the fully rated tip load.

An adjustable intake relief valve will be furnished to protect the aerial waterway from a pressure surge.

A 1.50" drain valve will be located at the lowest point of the waterway system.

WATERWAY SEALS

The waterway seals will be of type-B PolyPak design, composed of nitroxile seal and a nitrile wiper, which together offer maximum stability and extrusion resistance on the waterway. The seal will be capable of withstanding pressures up to 2000 psi, temperatures in excess of 250 degrees Fahrenheit and have resistance to all foam generating solutions. The seals will be internally lubricated.

The waterway seals will have automatic centering guides constructed of synthetic thermalpolymer. The guides will provide positive centering of the extendible sections within each other and the base section to insure longer service life and smoother operation.

0603173

Monitor, TFT Typhoon Y5-EB1A-L302 Electric, w/Extended Vertical Travel

AERIAL MONITOR

A Task Force Tips Model Y5-EB1A-L302 monitor with stow will be provided at the tip with a TFT 1500 gpm Model M-ERP1500. This monitor will allow for an additional 30 degrees of travel above horizontal at the aerial tip.

The monitor's functions will be controlled electrically from two (2) separate locations. One (1) control will be located at the control console and the other at the ladder tip.

If the aerial has a quick-lock waterway, a limit switch will be provided to disable the extended vertical travel when the monitor is locked to the lower ladder section.

There will be a courtesy light at the tip of the aerial to illuminate the controls.

0534379	Flowmeter, FRC, Waterway, PAL	<p>AERIAL WATERWAY FLOW METER A Fire Research Corporation Model DF430, digital flow indicator with a four (4) digit LED display will be provided for the aerial waterway at the turntable control station. The display will have a flow totalizer, programmable high and low flow warnings, and automatically adjust LED brightness for day/night viewing.</p>
0004836	Inlet, 5.00" at Rear w/ Pump, Ascendant Tandem, PAP, PAL	<p>REAR INLET A 5.00" NST inlet to the aerial waterway will be provided at the rear of the apparatus. It will be furnished with a 5.00" chrome plated adapter and a 5.00" chrome plated, long handle cap.</p>
0673128	Quick-Lock Waterway Locking System, 100' HDL, 105' HDL, ASL	<p>WATERWAY LOCKING SYSTEM The aerial ladder waterway monitor will be capable of being positioned at either the fly section or at the next lower section of the ladder. The monitor location will be changeable by the use of a single handle, located at the side of the ladder. The handle, attached to a cam bracket, will simply be moved forward to lock the monitor at the fly section and back to lock it to the previous section. There will be no pins to remove and reinstall. The monitor will be operational at all times, regardless of its position, without connecting or disconnecting electrical lines.</p>
0047897	Tools, Aerial	<p>TOOLS The following tools will be provided for retorquing of all specified bolts as recommended by the manufacturer: Torque Wrench All Required Extensions, Sockets and Adapters 4-to-1 Multiplier</p>
0559494	Manuals and Training, 3 Consecutive Days, Ascendant Ladder, PAL	<p>MANUALS Two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device will be provided with the apparatus at time of pick-up.</p>
		<p>INITIAL INSTRUCTION On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of three (3) consecutive days.</p>
0007150	Bag of Nuts and Bolts	<p>LOOSE EQUIPMENT The following equipment will be furnished with the completed unit: One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.</p>
0816502	NFPA Required Loose Equipment, Quint, NFPA/ULC 2024, Provided by Fire Dept	<p>NFPA LOOSE EQUIPMENT NFPA Required Loose Equipment Provided by Fire Department The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department: One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 107, <i>American National Standard for High-Visibility Safety Apparel and Accessories</i>, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band. Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. Four (4) ladder belts meeting the requirements of NFPA 2500.</p>
		<p>NFPA Loose Equipment That Shall be Considered: The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered: 800 ft (240 m) of 2.50" (65 mm) or larger fire hose 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose One (1) handline nozzle, 200 gpm min Two (2) handline nozzles, 95 gpm min One (1) playpipe with shutoff and 1", 1.125", and 1.25" tips Four (4) SCBA apparatus Four (4) SCBA spare cylinders One (1) first aid kit. Four (4) salvage covers, each a minimum size of 12 ft x 18 ft (3.6 m x 5.5 m). Four (4) combination spanner wrenches. Two (2) hydrant wrenches. One (1) double female 2.50" adapter with national hose (NH) thread. One (1) double male 2.50" adapter with national hose (NH) thread. One (1) rubber mallet, suitable for use on suction hose connections. One (1) 150 ft (45 m) light-use life safety rope meeting the requirements of NFPA 2500. One (1) 150 ft (45 m) general-use life safety rope meeting the requirements of NFPA 2500. One (1) automatic external defibrillator (AED).</p>

0816941	Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024	SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.
0027023	No Strainer Required	
0816939	Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816937	Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0007482	Not Required, Crowbars	
0007484	Not Required, Claw Tools	
0816998	Axe, Flathead, Provided by Fire Department	FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.
0817000	Axe, Pickhead, Provided by Fire Department	PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.
0007494	Not Required, Sledgehammers	

PAINT PROCESS

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

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.

Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

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 Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

Topcoats and primers will be chrome and lead free.

Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.

Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.

Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient.

Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.

Paint wastes are disposed of in an environmentally safe manner.

Empty metal paint containers will be recycled to recover the metal.

Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.

0709846

Paint, Two-Tone Color, Velocity/Impel **CAB TWO-TONE PAINT**

The cab will be painted two-tone, with the upper section painted #10 white and the lower section painted #90 red. There will be a standard two-tone cab paint break provided.

There will be a special cab shield designed and shown on the lettering and striping print.

0709845

Paint, Single Color, Body **BODY PAINT**

The body will be painted to match the lower section of the cab.

Paint Chassis Frame Assy, With
Liner, E-Coat, Standard

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with primer and gloss paint to match the lower job color before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be painted (unless otherwise stated in a secondary option) are:

- Frame rails
- Frame liners
- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Steel fuel tank
- Castings

Individual piece parts used in chassis and body assembly
Components treated with epoxy E-coat protection prior to paint:
Two (2) C-channel frame rails
Two (2) frame liners
The E-coat process will meet the technical properties shown.

0693798 Paint, Front Wheels

FRONT WHEELS PAINT

All wheel surfaces, inside and outside, will be provided with powder coat paint #90 red.

0806169 Paint, Rear Wheels, Tandem Axle,
TAK-4 T3

REAR WHEELS PAINT

All wheel surfaces, inside and outside, will be provided with powder coat paint #90 red.

0733739 Paint, Axle Hubs

AXLE HUB PAINT

All axle hubs will be painted to match lower job color.

0007234 Compartment, Unpainted, D/A
Finished

COMPARTMENT INTERIOR FINISH

The interior of the compartments will be dual action finished and not painted.

0795871 Aerial Ladder Paint

AERIAL DEVICE PAINT COLOR

The aerial device paint procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.
 2. Zinc Rich Primer - Zinc rich primer will be applied to the torque box and stabilizers.
 3. Primer/Surfacer Coats - A two (2) component epoxy primer/surfacer will be applied to the mechanically shot-blasted metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked with a two (2) component epoxy caulk before painting.
 4. Hand Sanding - The primer/surfacer coat of the outer surfaces of the hand rails and base rails will be lightly sanded to a smooth finish.
 5. Primer Coat - A two (2) component epoxy primer coat will be applied over the sanded primer.
 6. Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.
 7. Clear Coat - Two (2) coats of an automotive grade two (2) component urethane will be applied.
- Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.

The aerial device components will be painted as follows using the aforementioned seven (7) step finishing process:

Aerial device ladder sections and extension cylinders: white 10

Aerial turntable: white 10

Aerial control console: white 10

Aerial lift cylinders: white 10

Aerial rotation motor (where applicable): black

Aerial torque box, support structure and components below the rotation point: gloss black primer

Aerial stabilizers: black 101

Aerial egress (will be contrasting to the aerial ladder section color): #50 red

Aerial boom support: gloss black primer

0544133	Reflective Band, 1"-6"-1", Multi Color Band, Separate Color Cab/Body & Doors	REFLECTIVE STRIPES Three (3) reflective vinyl stripes will be provided across the front of the vehicle and along the sides of the cab and body. Where installed on a painted surface, the reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom. When installed on a roll-up door, the reflective band will consist of a 1.00" ruby red stripe at the top with a 1.00" gap then a 6.00" ruby red stripe with a 1.00" gap and a 1.00" ruby red stripe on the bottom.
0510041	Reflective across Cab Face, Imp/Vel	The reflective band provided on the cab face will be below the headlights on the fiberglass.
0583454	Stripe, Chevron, Rear, Diamond Grade, Aerial	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces will include the rear wall and aluminum doors. Rear compartment doors, stainless steel access doors, and the rear bumper will not be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0598754	Stripe, Reflective/Diamond Grade, 4.00" on Stabilizers	REFLECTIVE STRIPE ON STABILIZERS There will be a 4.00" wide fluorescent yellow green diamond grade reflective stripe provided on the forward and rear facing side of all aerial stabilizers.
0087342	Jog, "Z"-Shaped, In Reflective Stripe	"Z" JOG IN REFLECTIVE STRIPE There will be one (1) "Z"-shaped jog(s) provided in the reflective stripe design.
0567374	Stripe, Black Outline each Chevron Stripe @ Rear (Not Warranted)	REFLECTIVE STRIPE OUTLINE A black vinyl outline will be provided for each chevron stripe at the rear of the truck. There will be no warranty provided for this material.
0696574	Stripe, Black Outline each Chevron Stripe on Front Bumper	OUTLINE, REFLECTIVE STRIPE A black vinyl outline will be provided for each chevron stripe on the front bumper of the truck.
0671876	Stripe, Diamond Grade Chevron, Slide Out Tray, Front and Sides	SLIDE OUT TRAY DIAMOND GRADE CHEVRON STRIPING A series of alternating red diamond grade and fluorescent yellow green diamond grade reflective stripes will be applied to the front and sides of five (5) slide out tray(s) located all trays.
0670035	Stripe, Diamond Grade Chevron, Toolboard	TOOLBOARD DIAMOND GRADE CHEVRON STRIPING A series of alternating red diamond grade and fluorescent yellow green diamond grade reflective stripes will be applied to the one (1) toolboard(s) located toolboard.
0638073	SP Stripe, Slanted, on Rear Body Fenders, Diamond Grade	REFLECTIVE STRIPE ON REAR FENDERS There will be a 6.00" Red 983-72 and a Fluorescent Yellow-Green 983-23 Diamond Grade reflective stripe provided on the rear body fender panels. The striping will consist of a series of rearward slanted stripes on each side fender panel. There will be no striping installed on any air bottle or fuel fill doors.
0545179	Stripe, Diamond Grade, Chevron, Front Bumper	CHEVRON STRIPING ON THE FRONT BUMPER There will be alternating chevron striping located on the front bumper. The colors will be Red 983-72 and Fluorescent Yellow-Green 983-23 diamond grade. The size of the striping will be 6.00".
0552453	Stripe, Reflective, Chevron, Cab and Crew Cab Doors Interior, Diamond Grade	INVERTED "V" CHEVRON STRIPING ON CAB AND CREW CAB DOORS There will be alternating chevron striping located on the inside of each cab and crew cab door. The striping will consist of the following colors: The first color will be red diamond grade. The second color will be fluorescent yellow green diamond grade. The size of the striping will be 4.00".
0033179	Lettering Specifications, Reflective	
0686160	Lettering, Reflective, 3.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 3.00" high, with no outline or shade will be provided.

Exhibit A

0685989	Lettering, Reflective, 11.00", Each	LETTERING There will be reflective lettering, 11.00" high, with outline and shade provided. There will be three (3) letters provided.
0685992	Lettering, Reflective, 10.00", (1-20)	LETTERING One (1) to twenty (20) reflective lettering, 10.00" high, with outline and shade will be provided.
0685993	Lettering, Reflective, 10.00", Each	LETTERING There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be six (6) letters provided.
0685996	Lettering, Reflective, 9.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 9.00" high, with outline and shade will be provided.
0686007	Lettering, Reflective, 7.00", Each	LETTERING There will be reflective lettering, 7.00" high, with outline and shade provided. There will be four (4) letters provided.
0056505	Emblem, "Honoring America's Bravest" w/Helmet, Color Image, Std, Pair	EMBLEM There will be one (1) pair of emblems with the words "HONORING AMERICA'S BRAVEST 9-11-01" and a firefighter's helmet will be mounted cab window. The emblems will be color imaged.
0683720	Emblem, Maltese Cross, Reflective, 24"-26", Each	MALTESE CROSS INSTALLATION There will be one (1) maltese cross/es, comprised of reflective material, provided and installed inside cab applied to plate.
0755303	Artwork File, Provided on Custom USB Drive	ARTWORK ON CUSTOM USB DRIVE There will be a custom USB drive with department specific artwork files provided to the Fire Department. Stock artwork, or artwork developed exclusively by Pierce Manufacturing, and proprietary fonts will not be included on the USB drive.
0017273	Emblem, Maltese Cross, Gold Leaf, 12"-14", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of Maltese crosses, comprised of genuine gold leaf material, provided and installed cab door.
0769755	Emblem, Texas Flag Painted on Cab Grille, All Custom Chassis	CAB GRILLE DESIGN A Texas flag design will be painted on the cab grille.
0772003	Manual, Fire Apparatus Parts, USB Flash Drive, Custom	FIRE APPARATUS PARTS MANUAL There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided. The manual(s) will contain the following: Job number Part numbers with full descriptions Table of contents Parts section sorted in functional groups reflecting a major system, component, or assembly Parts section sorted in alphabetical order Instructions on how to locate parts Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies. Service Parts Internet Site The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

0772037	Manual, Chassis Service, USB Flash Drive, Custom	<p>CHASSIS SERVICE MANUALS There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit. The manual will contain the following sections: Job number Table of contents Troubleshooting Front Axle/Suspension Brakes Engine Tires Wheels Cab Electrical, DC Air Systems Plumbing Appendix The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.</p>
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	<p>CHASSIS OPERATION MANUAL The chassis operation manual will be provided on one (1) USB flash drive.</p>
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	<p>ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.</p>
0611136	Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	<p>THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.</p>
0735523	Warranty, Engine, Paccar MX13, 5 Year, WA0386	<p>ENGINE WARRANTY A Paccar five (5) year limited engine warranty will be provided. A limited warranty certificate is included with this proposal.</p>
0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	<p>STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.</p>
0595767	Warranty, Frame, 50 Year, Velocity/Impel, WA0038	<p>FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.</p>
0595698	Warranty, Axle, 3 Year, TAK-4, WA0050	<p>FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.</p>
0644874	Warranty, Axle, 3 Year, TAK-4, IRS, WA0249	<p>REAR AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY Pierce TAK-4® independent rear suspension will be provided with a three (3) year material and workmanship limited warranty. The manufacturer's warranty will provide that the independent rear suspension be free from any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service.</p>
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	<p>ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.</p>
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	<p>TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.</p>
0744240	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	<p>TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.</p>
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	<p>FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.</p>
0695416	Warranty, Pierce Camera System, WA0188	<p>CAMERA SYSTEM WARRANTY A Pierce fifty four (54) month warranty will be provided for the camera system.</p>

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.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.
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.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years . A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.
0889364	Warranty, Pump, Pierce, PUC-NG, 7 Year Parts, 1 Year Labor, WA0390	SEVEN (7) YEAR PARTS, ONE (1) YEAR LABOR The pump and its components will be provided with a seven (7) year parts and one (1) year labor limited warranty. The manufacturer's warranty will provide that the pump and its components will be free from failures caused by 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.
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.
0641372	Warranty, Foam System, Not Available	
0006999	Warranty, Structure, 20 Year, Aerial Device, WA0052	TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY The Pierce device limited warranty certificate, WA0052, is included with this proposal.
0687388	Warranty, Swivels, 5 Year, Aerial Device, WA0197	AERIAL SWIVEL WARRANTY An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be included with this proposal.
0685727	Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200	HYDRAULIC SYSTEM COMPONENTS WARRANTY Aerial hydraulic system components will be provided with a five (5) year material and workmanship limited warranty. HYDRAULIC SEAL WARRANTY Aerial hydraulic seals will be provided with a three (3) year material and workmanship limited warranty. A copy of the warranty certificates is included with this proposal.
0687327	Warranty, Waterway, 10 Year, Aerial Device, WA0198	AERIAL WATERWAY WARRANTY An Amity ten (10) year limited waterway warranty will be provided. A copy of the warranty certificate is included with this proposal.
0595860	Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047	FOUR (4) YEAR PRO-RATED PAINT AND CORROSION A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal.

	Warranty, Harrison Generator, 2 Year	<p>TWO (2) YEAR GENERATOR MATERIAL AND WORKMANSHIP WARRANTY A Harrison Hydra-Gen generator two (2) year limited warranty will be provided.</p>
0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	<p>TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.</p>
0595412	Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	<p>ONE (1) YEAR MATERIAL AND WORKMANSHIP The Pierce graphics fading and deterioration limited warranty limited warranty certificate, WA0168, is included with this proposal.</p>
0819254	Certification, Vehicle Stability, CD0196	<p>VEHICLE STABILITY CERTIFICATION The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal.</p>
0808574	Certification, Engine Installation, VEL, Paccar MX, 2027	<p>ENGINE INSTALLATION CERTIFICATION The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.</p>
0686786	Certification, Power Steering, CD0098	<p>POWER STEERING CERTIFICATION The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.</p>
0892701	Certification, Cab Integrity, Impel/Velocity FR, CD0190	<p>CAB INTEGRITY CERTIFICATION The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. Side Impact The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident. Roof Crush The same cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of ten (10) metric tons. Additional Roof Crush The same cab will be subjected to a roof crush force of 100,000 lb. (Four and a half times the load criteria of ECE 29) Frontal Impact The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420. Additional Frontal Impact The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area. There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.</p>
0548950	Certification, Cab Door Durability, Velocity/Impel, CD0001	<p>CAB DOOR DURABILITY CERTIFICATION Robust cab doors help protect occupants. Cab doors will survive a 200,000-cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.</p>
0548967	Certification, Windshield Wiper Durability, Impel/Velocity, CD0005	<p>WINDSHIELD WIPER DURABILITY CERTIFICATION Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i>. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.</p>

	Certification, Electric Window Durability, Velocity/Impel FR, CD0004	<p>ELECTRIC WINDOW DURABILITY CERTIFICATION Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.</p>
0549273	Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	<p>SEAT BELT ANCHOR STRENGTH Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p>
		<p>SEAT MOUNTING STRENGTH Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p>
0735950	Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	<p>PERFORMANCE CERTIFICATIONS Cab Air Conditioning Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.</p>
		<p>Cab Defroster Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. <i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i></p> <p>Cab Auxiliary Heater <i>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</i></p>
0545073	Amp Draw Report, NFPA Current Edition	<p>AMP DRAW REPORT The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.</p>
		<p>The manufacturer of the apparatus will provide the following: Documentation of the electrical system performance tests. A written load analysis, which will include the following: The nameplate rating of the alternator. The alternator rating under the conditions specified per: Current edition of applicable NFPA standards. The minimum continuous load of each component that is specified per: Current edition of applicable NFPA standards. Additional loads that, when added to the minimum continuous load, determine the total connected load. Each individual intermittent load. All of the above listed items will be provided by the bidder per the current edition of applicable NFPA standards.</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000050	105' BODY	
0000012	PIERCE CHASSIS	
0735525	PACCAR MX13 ENGINE	
0046396	EVS 4000 Series TRANSMISSION	
0520324	PIERCE PUMP, PUC	

POLY TANK

0028047

NO FOAM SYSTEM

0020006

SIDE CONTROL

0020007

AKRON VALVES

0020015

ABS SYSTEM

0755454

AERIAL MEDIUM



Option List

Customer:	Farmers Branch Fire Department	Bid Number:	1156
Representative	Ownby, Travis	Job Number:	
Organization:	Siddons-Martin Emergency Group	Number of Units:	1
Requirements Manager:		Bid Date:	03/15/2024
Description:	Farmers Branch 105 Quint	Stock Number:	
Body:	Aerial, HD Ladder 105', PUC, Alum Body	Price Level:	50 (Current: 50)
Chassis:	Velocity Chassis, Aerials, Tandem, PUC-NG (Big Block)	Lane:	Lane 1

Line	Option	Type	Option Description	Qty
1	0010012		No Boiler Plates requested	1
2	0018180		Single Source Compliance, Aerials	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0764706	SP	BMP Truck- Pre-Approval at Bid - Approved Option will be Required at Booking	1
7	0670275		Unit to be Similar in some Aspects, Excluding Pump Panel Fill in Blank - 40561 Midmount with switch panel layout, paint and graphics as best as possible	1
8	0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	1
9	0533351		Quint Fire Apparatus	1
10	0588612		Vehicle Certification, Aerial w/Pump	1
11	0681278		Agency, Apparatus Certification, Aerial w/Pump, U.L.	1
12	0816495		Certification, Vehicle Inspection Program, NFPA 1900	1
13	0620362		Consortium, HGAC	1
14	0537375		Unit of Measure, US Gallons	1
15	0030006		Bid Bond Not Requested	1
16	0816571		Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond, PPI Terms	1
17	0000007		Approval Drawing	1
18	0670758		Drawing, Compartment Layout, Aerial	1
19	0002928		Electrical Diagrams	1
20	0888813		Velocity Chassis, Aerials, Tandem, PUC-NG (Big Block)	1
21	0000110		Wheelbase	1
22	0000070		Wheelbase - 250 GVW Rating GVW rating - 76000	1
23	0000203		Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	1
24	0889469		Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal	1
25	0508846		Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity	1
26	0090914		Suspension, Front TAK-4, 24,000 lb, DLX/Qtm/AXT/Vel/Enf/SFR	1
27	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	1
28	0000322		Oil Seals, Front Axle	1
29	0804560		Tires, Front, Michelin, XZE (wb), 425/65R22.50, 20 ply, Fire Service Load Rating	1
30	0725046		Wheels, Front, 22.50" x 12.25", Steel, Hub Pilot, 24k	1
31	0625465		Axle, Rear, Oshkosh TAK-4 T3, 52,000 lb, Rear Steer, 2 Axle, AXT/Imp/Vel/Dash CF	1
32	0818717		Top Speed of Vehicle, 65 MPH/104 KPH, Non-NFPA/ULC 2024	1
33	0644945		Suspen, Rear, Oshkosh TAK-4, Independent, 52,000 lb	1
34	0000485		Oil Seals, Rear Axle	1
35	0618521		Driver Controlled Differential Locks, Both Axles, Oshkosh TAK-4 IRS/T3 Tandem	1
36	0636818		Tires, Rear, Michelin, XZY3 (wb), 445/65R22.5, 20 ply, (IRS) Tandem, FS Load Rating	1
37	0826900		Wheels, Rear, 22.50" x 13.00", Steel, Hub Pilot, Tandem, AWS/IRS	1
38	0568081		Tire Balancing, Counteract Beads	1
39	0620569		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle Qty, Tire Pressure Ind - 10	1
40	0801909		Lug Nut, Covers, Chrome	1
41	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
42	0002045		Mud Flap, Front and Rear, Pierce Logo	1
43	0617577		Chocks, Wheel, Worden HWG- SB, Super Gripper Qty, Pair - 01	1

Line	Option	Type	Option Description	Qty
44	0646364		Mounting Brackets, Chocks, Worden Safety, Model U815T Location, Wheel chock - LS forward of rear axle Qty, Pair - 01	1
45	0821337		ABS Wabco Brake System, Tandem Rear Axle, Tak-4, NFPA 1900/ULC	1
46	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
47	0581433		Brakes, Bendix, Cam, Rear, 16.50 x 7.00"	1
48	0735527		Air Compressor, Brake, Wabco 26.8 CI, Paccar	1
49	0000789		Brake Reservoirs, Five Paint Color, Air Tanks - Frame color	1
50	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
51	0000790		Brake Lines, Nylon	1
52	0617799		Inlet/Outlet, Air, w/Disconnect Fitting, 1/4 Turn Valve, Location Location - pump panel Qty, Air Coupling (s) - 1	1
53	0070810		All Wheel Lockup (Aerial/Tanker Chassis)	1
54	0010767		Moisture Ejector, Automatic, w/o Heat Location - wet side tank Qty, Auto. Moisture Eject - 1	1
55	0612549		Fittings, Compression Type, Entire Apparatus, Tandem Rear Axle	1
56	0808514		Engine, Paccar MX, 510HP, 1850 lb-ft W/OBD, EPA 2027, Velocity	1
57	0810929		Engine Contingency Adjustment	1
58	0001244		High Idle w/Electronic Engine, Custom	1
59	0735687		Engine Brake, Fully Integrated, Paccar MX13 Engine Switch, Engine Brake - MX13	1
60	0733852		Clutch, Fan, Air Actuated, Paccar, VEL	1
61	0584898		Shutoff Valves, Cab & Crew Cab Heater, w/Labels	1
62	0734434		Air Intake, Water & Ember Screen, Paccar, VEL	1
63	0814375		Exhaust System, Horizontal, Right Side Exhaust, Diffuser - Aluminized Steel (Standard) Exhaust, Material/Finish - Aluminized Steel (Standard) Location, Diffuser Termination - 2.00" Past Rub Rail (Standard) Tip, Exhaust - Straight Tip (Standard)	1
64	0734440		Radiator, VEL, Paccar	1
65	0511425		Cooling Hoses, Rubber	1
66	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
67	0001129		Lines, Fuel	1
68	0734402		DEF Tank, 7.3 Gallon, LS Fill, Under Cab, Paccar, VEL	1
69	0552793		Not Required, Fuel Priming Pump	1
70	0552712		Not Required, Shutoff Valve, Fuel Line	1
71	0699437		Cooler, Chassis Fuel, Not Req'd.	1
72	0690880		No Selection Required From This Category	1
73	0887546		Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	1
74	0625331		Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	1
75	0517604		Transmission Programming, Park to Neutral, PUC	1
76	0684459		Transmission Oil Cooler, Modine, External	1
77	0001375		Driveline, Spicer 1810	1
78	0734211		Steering, Sheppard M110 w/Tilt, TAK-4, Paccar Pump, w/Cooler, Paccar	1
79	0001544		Not Required, Steering Assist Cylinder on Front Axle	1
80	0509230		Steering Wheel, 4 Spoke without Controls	1
81	0690274		Logo/Emblem, on Dash Text, Row (1) One - Farmers Text, Row (2) Two - Branch Text, Row (3) Three - Fire	1
82	0606460		Bumper, 19" Extended, Painted, Reinforced, Imp/Vel	1
83	0616491		Tray, Hose, Center, 19" Bumper, Outside Air Horns, Rolled Edge, Imp/Vel Grating, Bumper extension - Grating, Rubber Capacity, Bumper Tray - 21) 150' of 1.75"	1
84	0633479		Hose Restraint, Bumper Tray, Velcro Straps, Pair Qty, Pair - 01	1
85	0510226		Lift & Tow Package, Imp/Vel, AXT, Dash CF	1
86	0032932		Tow Eyes, Painted, Extended Out Front of Bumper	1

Line	Option	Type	Option Description	Qty
87	0532853		Recess, Side Zone Warning Light, In Side of Extended Bumper Material, Brkt, Recess Lt Bumper - Painted Smooth Aluminum	1
88	0692444		Recess, Front/Side Warning Light, In Angled Corner of Extended Bumper Material, Brkt, Recess Lt Bumper - Painted Smooth Aluminum	1
89	0698960		Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	1
90	0668313		Cab, Velocity FR, 7010 Raised Roof w/Notch, PUC	1
91	0890953		Engine Tunnel, Spray Insulation, Impel/Velocity FR, w/T3 Rear Axle	1
92	0887600		Cab Insulation, Impel/Velocity FR	1
93	0677478		Rear Wall, Exterior, Cab, Aluminum Treadplate	1
94	0122466		Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	1
95	0123176		Grille, Bright Finished, Front of Cab, Velocity	1
96	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab Material Trim/Scuffplate - c) S/S, Polished	1
97	0527032		Trim, S/S Band, Across Cab Face, Rect Lights, Velocity Material Trim/Scuffplate - c) S/S, Polished Turnsignal Covers - Polished S/S Covers	1
98	0087357		Molding, Chrome on Side of Cab	1
99	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1
100	0667937		Door, Full Height, Velocity FR 4-Door Cab, Raised Roof Key Model, Cab Doors - 751 Cab, Exterior Door Handle, Finish - 4-Door, Chrome/Black	1
101	0655511		Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	1
102	0667905		Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velocity FR	1
103	0667902		Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	1
104	0670028		Electric Door Locks, Cab Doors, DS Bumper Conceal Switch Loc, Imp/Vel	1
105	0555485		Steps, 4-Door Full Tilt Cab, Imp/Vel	1
106	0770200		Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab Color, Handrail Light - Red Control, Handrail Light - Parking Brake	1
107	0892637		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step Color, Trim - Chrome Housing	1
108	0002140		Fenders, S/S on Cab	1
109	0586564		Window, Side of C/C, Fixed, w/EMS Cabinet, Imp/Vel	1
110	0552935		Trim, Cab Side Windows, Velocity	1
111	0012090		Not Required, Windows, Front/Side of raised roof	1
112	0509286		Not Required, Windows Rear of Crew Cab, Imp/Vel	1
113	0558334		Not Required, Trim, Cab Rear Windows, No Rear Windows	1
114	0123686		Drip Rail, Cab Roof, Impel/Velocity/Veloc SLT	1
115	0664063		Shelf, Equipment Mounting, Aluminum, Lip, Full Width Location - full width over both rear facing EMS cabinets and the engine tunnel Material Finish, Cab Interior - Painted Lip - 1.00"	1
116	0664381		Bracket, PAC, Ironslok, PN K5003 Location - on back of the engine tunnel over the fluid access door Qty, - 01	1
117	0798684		Work Surface, 3/16" Alum, Full Engine Tunnel, Vel/Imp FR Material Finish, Cab Interior - Painted	1
118	0657250		Tray, Slideout, Alum, Sides, MDT Bracket, Recessed Dash, Officer	1
119	0748671		Cab Interior, Vinyl, Velocity FR, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	1
120	0667943		Cab Interior, Paint Color, Impel/Velocity FR Color, Cab Interior Paint - i) fire smoke gray	1
121	0509532		Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	1
122	0894651		HVAC, Heavy-Duty, Velocity FR, w/PACCAR, CARE Paint Color, A/C Condenser - Painted to Match Cab Roof HVAC System, Filter Access - Removable Panel Auxiliary Cab Heater - Both	1
123	0603570	SP	A/C Unit, Danhard, 120 Volt AC, 13500 BTU, Location, Painted Cover, Notched Roof Location, AC Evaporator - Forward Facing, Center, Ceiling Mounted	1
124	0639675		Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf Sun Visor Retention - No Retention	1

Line	Option	Type	Option Description	Qty
125	0548173		Grab Handles, Driver and Passenger Door Post, Imp/Vel	1
126	0583938		Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3" LED, Trim Qty, - 01	1
127	0122516		Fluid Check Access, Imp/Vel Latch, Door, Storage - Southco C2 Black Flush	1
128	0583042		Side Roll and Frontal Impact Protection	1
129	0622618		Seating Capacity, 5 Seats	1
130	0697005		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety, PRIMARY	1
131	0587668		Seat, Officer, Pierce PS6, Base, SCBA, Safety, PRIMARY	1
132	0510037		Radio Compartment, Below Officer Seat, Imp/Vel	1
133	0823633		Cabinet, Rear Facing, LS, 21 W x 28 H x 24 D, Web, Imp/Vel Light, Short Cabinet - Pierce, Interior, Left Side Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip Louvers, Cabinet - 0-No Louvers Fastener, Web, Cab Cabinet - Seat Belt Buckle, Top, Orange Strap	1
134	0102783		Not Required, Seat, Rr Facing C/C, Center	1
135	0826946		Cabinet, Rear Facing, RS, 19 W x 28 H x 26.5 D, Web, Imp/Vel Light, Short Cabinet - Pierce, Interior, Right Side Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip Louvers, Cabinet - 0-No Louvers Fastener, Web, Cab Cabinet - Seat Belt Buckle, Top, Orange Strap	1
136	0818870		Seat, Fwd Fcng C/C, LS Otbrd, PS6, SCBA, Foldup, 17" Btm,Safety,3" Inbrd,PRIMARY	1
137	0637508		Seat, Fwd Fcng C/C, Ctr, (1) Pierce PS6, Base, SCBA, 17" Btm, Safety, SECONDARY	1
138	0820885		Seat, Fwd Fcng C/C, RS Otbrd, PS6, SCBA, Foldup, 17" Btm,Safety,3" Inbrd,PRIMARY	1
139	0766467		Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray Qty, - 05	5
140	0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats Qty, - 04	4
141	0690610		Embroidery, Seats, Cab and Crew Cab Qty, Seats Embroidery - 5 Seats	1
142	0603867		Seat Belt, ReadyReach Seat Belt Color - Orange	1
143	0604864		Seat Belt Height Adjustment, 5 Seats, Imp/Vel, Dash CF	1
144	0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	1
145	0647647		Lights, Dome, FRP Dual LED 4 Lts Color, Dome Lt - Red & White Color, Dome Lt Bzl - Black Control, Dome Lt White - Door Switches and Lens Switch Control, Dome Lt Color - Lens Switch	1
146	0615448		Lights, Dome, WIn, 60C0EJCS White LED, Bat Dir and Bat Charger Location - PS crew cab ceiling to light up EMS cabinet access area Qty, - 01	1
147	0896451		Enhanced Software for Cab and Crew Cab Dome Lts	1
148	0631776		Not Required, Overhead Map Lights	1
149	0804719		Handlts, (4) Streamlight, Fire Vulcan, 44451, C4 LED, Tail Lts, 12v, Orange Location, Portable Hand Light - wire coiled under each seat and two coiled inside center console for mounting at final	1
150	0695283		Handlight, Streamlight, Survivor, 90503, C4 LED, 12v, Orange, Steady Charge Qty, Lights - 04 Location, Lights - In the ceiling above each seat position. The driver and officer light should be as close as possible to the AC plenum so the firefighter does not hit the light climbing in the cab.	4
151	0568369		Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	1
152	0509511		Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	1
153	0673123		Light, Do Not Move Apparatus, WIn 3SR00FRR LED Alarm, Do Not Move Truck - No Alarm	1
154	0509042		Messages, Open Dr/DNMT, Color Dsply,	1

Line	Option	Type	Option Description	Qty
155	0611681		Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX Location, Emerg Sw Pnl's - Driver's Side Overhead	1
156	0555915		Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	1
157	0002565		Hourmeter, Aerial Inside Cab	1
158	0002615		Switch, Aerial 12V Master	1
159	0002617		PTO switch, w/light - aerial	1
160	0820904		Wiring, Spare, 15 A 12V DC 1st NFPA1900/ULC Qty, - 01 12vdc power from - On w/ignition powered switch & relay Wire termination - 10-Place Bus Bar w/Cover Location, Spare Wiring - Behind Officer Seat	1
161	0820894		Wiring, Spare, 15 A 12V DC, Batt Dir, 1st NFPA1900/ULC Location, Wiring - Engine Tunnel - Driver's Side 12vdc power from - Battery direct Wire termination - 10-Place Bus Bar w/Cover	1
162	0820897		Wiring, Spare, 15 A 12V DC, Batt Dir, 2nd NFPA1900/ULC Location, Wiring - Officer Dash 12vdc power from - Battery direct Wire termination - Butt Splice	1
163	0821298		Wiring, Spare, 12V DC, USB-A, USB-C AlfredDireck Batt Dir 1st NFPA1900/ULC Qty, - 03 12vdc power from - Battery direct Location - One at switch panel 9, one at each rear forward facing seat next to EMS cabinet	3
164	0566101		Recess, Dash Panel, Officer Side, Vel/Imp	1
165	0814201		Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714 System Of Measurement - US Customary	1
166	0816633		Collision Mitigation, HAAS Alert (R2V), HA7 Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	1
167	0606249		Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	1
168	0616382		Install Customer Provided GPS/Multimode Antenna(s) Qty, - 01	1
169	0696439		Antenna Mount, Custom Chassis, Cable Routed to Instrument Panel Area Qty, - 01 Location, Antenna Mount - Right Side	1
170	0817058		Camera, Pierce, LS Mux, R Camera, SD, CL714 Camera System Audio - Not Provided	1
171	0814831		Not Required, Camera Switcher	1
172	0896458		Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT Color, Antenna - White Antenna Module Housings - Black Housing with Power and Status Ind	1
173	0896456		Prognostics, Electrical System	1
174	0730603		Electrical System, Velocity ESP, Cummins, Paccar	1
175	0089703		Batteries, (6) Interstate Grp 31, 950 CCA each, Threaded Stud	1
176	0008621		Battery System, Single Start, All Custom Chassis	1
177	0123174		Battery Compartment, Imp/Vel	1
178	0813848		Charger, Sngl Sys, IOTA, DLS-75, 75 amp, IQ4 Controller	1
179	0814869		Location, Cab, Charger, Behind Driver Seat	1
180	0813791		Panel, Charger Display, Kussmaul, 091-94-12, Batt Dir	1
181	0782026		Shoreline, 20A 120V, Blue Sea Sure Eject 7851 Qty, - 01 Connection, Shoreline - battery charger, air compressor and receptacles Color, Cover, BI Sea Inlet - Red	1
182	0813015		Shoreline Location, Blue Sea Location, Shoreline(s) - DS Cab Side	1
183	0760950	SP	Shoreline Inlet, 20A 120V Blue Sea Sure Eject 7851 Location - next to other shoreline Qty, - 01 Connection, Shoreline - Danhard AC Color, Cover, BI Sea Inlet - Blue	1
184	0783395		Transfer Switch, Generator to Shoreline 30 Amp and Under	1
185	0590797		Cover, Protection Over Air Compressor, Painted Smooth Aluminum	1
186	0538692		Cover, Protection over Battery Charger/Comp, Cab	1

Line	Option	Type	Option Description	Qty
187	0647728		Alternator, 430 amp, Delco Remy 55SI	1
188	0092582		Load Manager/Sequencer, MUX	1
			Enable/Disable Hi-Idle - e)High Idle enable	
189	0783153		Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	1
			Color, Headlight Bez - Chrome Bezel	
190	0648425		Light, Directional, WIn 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Imp/Vel/AXT/Qtm	1
			Color, Lens, LED's - c)clear	
191	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
192	0648074		Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	1
193	0742878		Lights, Clearance/Marker/ID, Rear, Truck-Lite 33050R LED 4Lts, Aerial	1
194	0514453		Light, Marker End Outline, Rubber Arm, LED Marker Lamp	1
			Location, Lights - rear corners	
			Qty, Lights, Pair - 1	
195	0804519		Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw w/Flange	1
			Color, Lens, LED's - Match	
			Color, Trim - Chrome Trim	
			Flash Pattern, Directional Lts - Steady On (Arrow)	
196	0806466		Lights, Backup, WIn M62BU, LED, For Tail Lt Housing	1
197	0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt	1
			Color, Trim - Chrome Housing	
198	0556853		Bezels, WIn, (2) M6 Chrome Pierce, For Mtg (3) WIn M6 Lts	1
199	0081564		Alarm, Back-Up Warning, ECCO 505, 87db Constant	1
200	0769569		Lights, Perimeter Cab, Amdor AY-LB-12HW012 LED 4Dr	1
201	0769559		Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts	1
202	0768765		Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Turntable Access	1
			Control, Perimeter Lts - Parking Brake Applied	
203	0896454		Enhanced Software for Perimeter Lts	1
204	0618256		Light, Visor, FRC, 12V SPA851-A28-*, LED MAX-S 1st	2
			Qty, - 02	
			Location, driver's/passenger's/center - 1DS & 1PS 8 Deg Out	
			Switch, Lt Control 1 DC,1 - DS & PS Switch Panel	
			Switch, Lt Control 2 DC,2 - e) No Control	
			Switch, Lt Control 3 DC,3 - d) No Control	
			Switch, Lt Control 4 DC,4 - d) No Control	
			Light, Visor, Flash - Steady Burning	
			Color, FRC/Rom Lt Housing - FRC, White Chrome Face	
205	0807372		Lights, FRC, SPA260-Q20, 1st	1
			Location - LS cab	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS and Cab Sw Panel PS	
			Color, Trim - Chrome Housings	
206	0807374		Lights, FRC, SPA260-Q20, 2nd	1
			Location - RS cab	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS and Cab Sw Panel PS	
			Color, Trim - Chrome Housings	
207	0807355		Lights, FRC, SPA260-Q20, 1st	1
			Location - LS turntable compartment area	
			Qty, - 01	
			Control, Scene Lts - DS Scene Lts	
			Color, Trim - Chrome Trim	
208	0807359		Lights, FRC, SPA260-Q20, 2nd	1
			Location - RS turntable compartment area	
			Qty, - 01	
			Control, Scene Lts - PS Scene Lts	
			Color, Trim - Chrome Trim	
209	0721287		Lights, Hose Bed, Sides, Dual Strips, 40", 45 Ends	1
			Control, Hose Bed Lts - Park Brk	
210	0645864		Lights, Rear Scene, FRC, SPA900-Q70	1
			Location, Lights - one each side rear body wall	
			Control, Rear Scene Lts - Cab Switch Panel DS and Body Switch, DS	
			Rear Bulkhead	
211	0709438		Lights, Walk Surf, FRP Flood, LED	1

Line	Option	Type	Option Description	Qty
212	0552526		Aerial, HD Ladder 105', PUC, Alum Body	1
213	0554269		Body Skirt Height, 18"	1
214	0618437		Tank, Water, 500 Gallon, Poly, Ascendant TA, PAL, 3" Notch, HB on Side, PUC	1
215	0003405		Overflow, 4.00" Water Tank, Poly	1
216	0028107		Not Required, Foam Cell Modification	1
217	0003429		Not Required, Direct Tank Fill	1
218	0751577		Hose Bed, Aluminum, Trough Style, 2G Aerial	1
			Location, driver's/passenger's/center - Right Side	
			Door, Material & Finish, Access - smooth aluminum	
			Latch, Door, Access - lift and turn latch	
219	0723547		Painted Hose Bed/Cargo Area	1
			Paint Color, Hose Bed Interior - Match Lower Body	
220	0003492		Hose Bed Capacity, Special Amount, Ascendant, 100AAT, PAP, PAL	1
			Capacity, Hosebed - 1000' of 5" on RS and under aerial, 300' of 3" LS turntable area	
221	0591017		Hose Restraint, Hose Bed, Aerial, Front Velcro Strap, Top	1
222	0670766		Running Boards, Flip Out, PUC, Aerial	1
223	0735733		Turntable Steps-Morton Cass, Swing Down,LS/RS,Ascend TA,PAL,PAP,Handhld Cut Outs	1
			Step, Flip - No Flip Step	
224	0892656		Lights, Step (6), P25 LED, Each Side	1
			Control, Scene Lts - Park Brake	
			Color, Trim - Chrome Housing	
225	0690023		Wall, Rear, Smooth Aluminum	1
226	0029503		Tow Eyes (2), Painted Lower Job Color, Aerial	1
227	0013641		Construction, Compt, Alum, Ascendant Tandem, PAL	1
228	0063695		Compt, LS F/H F/D, Roll Drs, w/o Chute, Ascendant Tandem, 105', 100 HAL	1
			Hinge Location - Rear of Body	
			Door, Material & Finish, Stabilizer - Polished Stainless Steel	
			Latch, Door, Access - SouthCo C2 chrome raised	
229	0631983		Compt, LS Turntable, F/H, Roll Dr & Lift Dr, HB Under TT, Ascendant TA, 105'	1
230	0023672		Compt, IPO Stairs, Not Required, LS	1
231	0063733		Compt, RS F/H, Roll Drs, Ascendant Tandem, 105 HDL, 100 HAL	1
			Hinge Location - Rear of Body	
			Door, Material & Finish, Stabilizer - Polished Stainless Steel	
			Latch, Door, Access - SouthCo C2 chrome raised	
232	0035382		Compt, RS Turntable, F/H, Roll Dr & Lift Dr, Ascendant Tandem, 105 HDL	1
233	0023673		Compt, IPO Stairs, Not Required, RS	1
234	0666813		Doors, Lap/Amdor Rollup, Aluminum, Side Compartments	6
			Qty, Door Accessory - 06	
			Color, Roll-up Door - AMDOR Satin Aluminum	
			Latch, Roll-up Door - Non-Locking Liftbar	
235	0540787		Stabilizer Compartment, Modified for 18" Stabilizer Penetration	1
236	0556162		Not Req'd, Compt Blister in Front of Rear Axle	1
237	0018820		Bumper, Rear, 5" w/Treadplate Cover, Ascendant Tandem, PAP, PAL, RMAP	1
238	0603711		Guard, Drip Pan, S/S, Rollup Door, Aerial	7
			Qty, Door Accessory - 07	
			Location, Door Guard/Drip Pan - LS1, LS3 Over Wheel, LS4, RS1, RS3 Over Wheel, RS4 and B1	
239	0603083		Lights, Compt,Pierce LED,Dual Light Strips,Each Side Dr,Ascend TA,75'HAL,PAP,HDL	9
			Qty, - 09	
			Location, Compartment Lights - All Body Compts	
240	0687135		Shelf Tracks, Unpainted	6
			Qty, Shelf Track - 06	
			Location, Shelf Track - LS1, LS2, LS3, RS1, RS2 and RS3	
241	0600289		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial	8
			Qty, Shelf - 08	
			Material Finish, Shelf - DA Finish	
			Location, Shelves/Trays, Predefined - * Locations To Be Determined At A Later Date	
242	0603763		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides, 2G Aerial	4
			Qty, - 04	
			Location, Tray Slide-Out, Floor Mounted - RS1, RS4, LS1 and LS4	

Line	Option	Type	Option Description	Qty
242			Material Finish, Tray - DA Finish	
243	0725642		Cabinet, Drawer Assembly, CTECH, Three Drawers, Up To 36" Wide, 24" Deep	1
			Qty, - 01	
			Location - TBD	
			Size, Drawer Height 1 (Top) - 5.00"	
			Size, Drawer Height 2 - 8.75"	
			Size, Drawer Height 3 - 8.75"	
244	0540335		Toolboard, Swing-out, Alum, .188", No Holes	1
			location - LS2	
			Qty - 1	
			Location, Pivot - Front	
			Mounting, Toolboard - Adjustable Frt-back	
			Finish, Pegboard/Toolboard - Brushed Finish	
245	0762026		Compt, Top of Compt, Smooth Aluminum, Painted, Aerial	2
			Qty, - 02	
			Location, driver's/passenger's/center - Left & Right	
			Latch, Door, Storage - Grab Handle/Socket & Plunger	
			Height - 12.00"	
			Door Size - Max size	
			Door Quantity - 1 Door with cylinders	
			Compt Installation - Welded, Painted Seam Trim	
			Light, Compt - Pierce LED	
			Width, Aerial Compt Boxes - 23.00" wide	
			Length, Aerial Compt Boxes - 124.00" long	
246	0813145		Holder, Plastic Sheeting, 1.25" Dia S/S Rod, Pin Lock Location	1
			Location - LS upper compartment over wheel well	
			Qty, - 01	
			Location, - through	
247	0004016		Rub Rail, Aluminum Extruded, Side of Body	1
248	0802978		Fender Crowns, Rear, S/S, w/Removable Fender Liner, Aerial, 2G, Two Pair	1
			Material Finish, Fender Liner - Painted Aluminum Lower Body	
249	0519849		Not Required, Hose, Hard Suction	1
250	0527021		Handrails Located @ Front Body	1
251	0804249		Compt, Equipment/Air Pack, Between Tandems, Bolt-In, Aerial	2
			Qty, - 02	
			Door Finish, Fender Compt - Polished	
			Location, Fender Compt - LS and RS	
			Latch, Air Bottle Compt - Southco C2 Chrome Raised	
			Insert, Air Bottle Compt - Rubber Matting	
			Door Type - drop down with support cable	
252	0806865		Compt, Air Bottle, Two Bottles, Fender Corner, Bolt-In, Tandem Aerials	2
			Qty, Air Bottle Comp - 2	
			Door Finish, Fender Compt - Polished	
			Location, Fender Compt - Double - LS Fwd	
			Latch, Air Bottle Compt - Southco C2 Chrome Raised	
			Insert, Air Bottle Compt - Rubber Matting	
			Door Type - vertically hinged	
253	0780893		Compt, Extinguisher (2), Fender Panel, Tri Door, Bolt-In, Ascend Single, TA Aerials	1
			Qty, - 01	
			Location, Air Bottle - (1) RS Behind Rr Wheel	
			Door Finish, Fender Compt - Polished	
			Latch, Air Bottle Compt - Southco C2 Chrome Raised	
			Insert, Air Bottle Compt - Dura-Surf Lining	
254	0804248		Compt, Air Pack Fender Panel Corner, Bolt-In, Tandem Aerials	1
			Qty, - 01	
			Door Finish, Fender Compt - Polished	
			Location, Fender Compt - Single - LS Fwd	
			Latch, Air Bottle Compt - Southco C2 Chrome Raised	
			Insert, Air Bottle Compt - Dura-Surf Lining	
			Door Type - vertically hinged	
255	0004218		Ladder, 35' Duo-Safety 1200A 2-Sect	1
			Qty, - 1	
256	0010406		Ladder, 28' Duo-Safety 1200A 2-Section	1
			Qty, - 1	
			Location, Extension Ladder - torque box	

Line	Option	Type	Option Description	Qty
257	0635956		Ladder, 14' Duo-Safety 775-DR Roof Qty, - 01	1
258	0056478		Ladder, 14' Duo-Safety 775A Roof Qty, - 1	1
259	0542436		Ladder, 16' Duo-Safety 875-DR Roof Qty, - 01	1
260	0004233		Ladder, 14' Duo-Safety Fresno 701 Qty, - 1	1
261	0004246		Ladder, 10' Duo-Safety Folding, 585A Qty, - 01	1
262	0042207		Location, Folding Ladder Aerial - torque box Ladders Stored in Torque Box, Gortite Roll, Ascendant TA, PAL, PAP Color, Roll-up Door, Gortite - Satin finish Latch, Roll-up Door, Gortite - Non-Locking, Rear	1
263	0602100		Lights, Torque Box Ladder Storage, Pierce LED Strip Lights, 2 Lts	1
264	0812235		Ladder, Little Giant, Revolution 2.0 - Model 17, 13117 Location - RS4 vertical against rearward wall	1
265	0802284		Little Giant/Werner Ladder Storage, Vertical In Compartment Ladder, Make/Model - Little Giant Revolution 2.0 Model 17 Location Within Compartment - rearward wall Location, Compartment, Predefined - RS4	1
266	0008911		Pike Pole, 12' Fire Hooks Unlimited, Fiberglass, APH-12, Gas Shut Off Qty, - 1 Location - torque box	1
267	0623273		Pike Pole, 8' Fire Hooks Unlimited, New York Roof Hook, Steel, Gas Shut Off, RH-8 Qty, - 01	1
268	0587180		Pole, Pike 6' Fire Hooks Unlimited, New York Roof Hook, Steel, RH-6, Pry End Qty, - 02 Location - torque box	2
269	0014343		Not Required, Pike Pole, 3'	1
270	0770578		Pike Pole Tubes, in Torque Box/Ladder Storage, ABS Qty, - 04	4
271	0657484		Trough for D-Handled Pike Pole, Aluminum Location - in torque box Qty, Pike Pole Tubes - 01	1
272	0024388		No Steps Required, Front Of Body	1
273	0553873		Pump Operators Panel & Module, Aluminum, Control Zone, Ascendant/PAL/PAP PUC	1
274	0520016		Not Required, Pumphouse Structure, PUC	1
275	0889385		Pump, Pierce, 1500 GPM, Single Stage, PUC-NG	1
276	0515822		Seal, Mechanical, Silicon Carbide, PUC Pump	1
277	0889382		Gear Case, Integrated Pump Transmission, PUC-NG, Paccar	1
278	0721196		Pumping Mode, Pump and Roll/Stationary, Basic, MUX, PUC	1
279	0515829		Pump Shift, Sure-Shift	1
280	0515833		Transmission Lock-up, Not Req'd, Park to Neutral, Pump, PUC	1
281	0515835		Auxiliary Cooling System, PUC	1
282	0014486		Not Required, Transfer Valve, Single Stage Pump	1
283	0746508		Valve(s), Relief Intake, Trident Air Max, Control Location Qty - 1 Pressure Setting - 125 psig Intake Relief Valve Control - Left Side Pump Panel	1
284	0724463		Controller, Pressure, Pierce LCD , PUC Pressure Governor Throttle Control - Clockwise Pressure Governor Default Mode - Pressure Setting	1
285	0072153		Primer, Trident, Air Prime, Air Operated	1
286	0799803		Direct Tank Fill, 0.75" Garden Hose, Round Handle Vlv, Loc Panel location - LS pump panel	1
287	0044552		Line, 0.50" Recirculating w/Check Valve	1
288	0740963	SP	Pump Oil Drain, Extended, Below	1
289	0658266		Thermal Relief Valve, w/Amber Warning Light and Alarm, PUC Pump Location, Thermal Relief Discharge - Ground	1
290	0780359		Manuals, Pump, (2) Total, Electronic Copies, Pierce PUC Pump	1
291	0602496		Plumbing, Stainless Steel and Hose, Single Stage Pump, PUC	1

Line	Option	Type	Option Description	Qty
292	0089437		Plumbing Without Foam System	1
293	0517852		Inlets, 6.00" - 1250-2000 GPM, Pierce PUC Pump	1
294	0014650		Pump Suction Tube(s), Short, All	1
295	0004646		Cap, Main Pump Inlet, Long Handle, NST, VLH	1
296	0084610		Valves, Akron 8000 series- All	1
297	0520002		Valve, Inlet(s) Recessed, Side Cntrl, PUC	1
			Qty, Inlets - 1	
298	0004700		Control, Inlet, at Valve	1
299	0004660		Inlet (1), Left Side, 2.50"	1
300	0029147		Not Required, Inlet, Right Side	1
301	0521137		Anode, Zinc, Pair, Pump Inlets, PUC	1
302	0092569		No Rear Inlet (Large Dia) Requested	1
303	0064116		No Rear Inlet Actuation Required	1
304	0092696		Not Required, Cap, Rear Inlet	1
305	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
306	0092568		No Rear Auxiliary Inlet Requested	1
307	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
308	0687424		Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, 3.00" Tank Outlet, Aerial PUC	1
309	0595508		Outlet, Tank Fill, 1.50", PUC	1
310	0766941		Control, Outlets, Swing Handle, Elec Right Outlets Akron 9335 w/Press Disp, PUC	1
311	0516755		Outlet, Left Side, 2.50" (2), PUC	1
312	0055095		Not Required, Elbow, Left Side Outlets, 2.50"	1
313	0092570		Not Required, Outlets, Left Side Additional	1
314	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
315	0766761		Outlet, Right Side, 2.50", (1), Electric Akron 9335 Controller, PUC	1
			Qty, Discharges - 01	
316	0021134		Not Required, Elbow, Right Side Outlets, 2.50"	1
317	0092571		Not Required, Outlets, Right Side Additional	1
318	0089584		Not Required, Elbow, Right Side Outlets, Additional	1
319	0818640		Outlet, Large Diameter, Right Side, Akron Valve, PUC	1
			Outlet, Large Diameter, Plumbing - 4.00"	
			Outlet, Large Diameter, NST Adapter - 4.00" MNST	
			Outlet, Large Diameter, Valve Actuation - PUC Akron 9335 w/PSI	
320	0681048		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz, S/S Cable	1
321	0648906		Outlet, Front, 2.50" w/2.50" Plumbing	1
			Fitting, Outlet - 2.50" NST with 90 degree swivel	
			Drain, Front Outlet - Automatic	
			Location, Front, Single - top of right bumper	
322	0092575		Not Required, Outlet, Rear	1
323	0045099		Not Required, Elbow, Rear Outlets	1
324	0092574		Not Required, Outlet, Rear, Additional	1
325	0085695		Not Required, Elbow, Rear Outlets, Large, Additional	1
326	0092573		Not Required, Outlet, Hose Bed/Running Board Tray	1
327	0752096		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Vinyl Covered Cable	1
328	0723038		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle, No Snubbers	1
329	0029106		Not Required, Deluge Outlet	1
330	0029302		No Monitor Requested	1
331	0029304		No Nozzle Req'd	1
332	0029107		No Deluge Mount	1
333	0826319		Waterway Outlet & Control, Akron Valve, PUC	1
			Outlet, Waterway (Aerial), Valve Actuation - Pierce large handwheel	
334	0739945		Crosslay Module, Full Width, Boom Compartment, Roll Up Doors, Aerial, PUC	1
335	0750897		Doors, Crosslay, Roll-up Amdor, Each End, Full Height, PUC	1
			Color, Roll-up Door - AMDOR Satin Aluminum	
			Latch, Roll-up Door - Non-Locking Liftbar	
			Drip Pan - Drip Pan Required	
336	0747660		Lights, Crosslay Compt, Forward LED, 2Lts	1
337	0750916		Crosslays, (2) 1.50", W/Poly Trays, PUC	1
			Crosslay/Deadlay/Speedlay Capacity 1 - 200' of 1.75" double jacket hose	
338	0750900		Crosslay, (1) 2.50", W/Poly Trays, PUC	1
			Crosslay/Deadlay/Speedlay Capacity 1 - 200' of 2.50" double jacket hose	

Line	Option	Type	Option Description	Qty
339	0749295		Tube, Aluminum, Pike Pole, Lower Crosslay Module, PUC Qty, Pike Pole Tubes - 02 Location, Tube - one out each side Width, Notch, Pike Pole Tube - 1.38", NY Notch	2
340	0749401		Mounting, Backboard, Upper Crosslay Module, Strap, PUC Size, Backboard - 3" x 20" x 76" Qty - 1	1
341	0044333		Not Required, Foam System	1
342	0012126		Not Required, CAF Compressor	1
343	0552517		Not Required, Refill, Foam Tank	1
344	0042573		Not Required, Foam System Demonstration	1
345	0045465		Not Required, Foam Tanks	1
346	0091110		Not Required, Foam Tank Drain	1
347	0091079		Not Required, Foam Tank #2	1
348	0091112		Not Required, Foam Tank #2 Drain	1
349	0738072		Approval Dwg, Pump Panel(s), Not Required	1
350	0032479		Pump Panel Configuration, Control Zone	1
351	0579545		Step, Slide-Out/Fold-Out, Pump Operator Platform, Aerial PUC	1
352	0667186		Light, Slide-Out Pump Operator Step, On Scene Solutions Access LED, Short Step	1
353	0516975		Material, Pump Panels, Operators Brushed Stainless, Sides Brushed Stainless, PUC	1
354	0516978		Pump and Plumbing Access, Simple Tilt Service, PUC	1
355	0618458		Light, Pump Compt, WIn 3SC0CDCR LED White, PUC Qty, - 01	1
356	0516983		Gauges, Engine, Included With Pressure Controller, PUC	1
357	0005601		Throttle, Engine, Incl'd w/Press Controller	1
358	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	1
359	0549333		Indicators, Engine, Included with Pressure Controller	1
360	0069390		Control, Air Horn At Pmp Pnl, Red Button	1
361	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
362	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
363	0539612		Gauge, Master Pump Flowmeter, FRC , PUC	1
364	0748780		Gauge, Water Level, Pierce, In pressure Controller, PUC Color Display, Lt Driver	1
365	0604028		Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display Location - one each side of crew cab Qty, - 02 Activation, Water Level G - pg) pump in gear	2
366	0006774		Not Required, Foam Level Gauge	1
367	0653081		Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab & LED OH Chr Cvr	1
368	0606694		Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	1
369	0606835		Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	1
370	0757092		Control, Air Horn, Multi Select	1
371	0757077		Control, Air Horn, Lanyard, LS Lanyard - Plastic Coated Braided Cable	1
372	0757076		Control, Air Horn, Lanyard, RS Lanyard - Plastic Coated Braided Cable	1
373	0525667		Siren, WIn 295SLSA1, 100 or 200 Watt	1
374	0510206		Location, Elect Siren, Recessed Overhead In Console Location, Elec Siren - Overhead, Above Eng Tunnel DS	1
375	0076156		Control, Elec Siren, Head Only	1
376	0601304		Speaker, (2) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt Connection, Speaker - siren head	1
377	0601558		Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame, Inbrd (Pos 2/6)	1
378	0895310		Siren, Federal Q2B Finish, Q2B Siren - Chrome	1
379	0006095		Siren, Mechanical, Mounted Above Deckplate Location, Siren, Mech - a) Left	1
380	0748305		Control, Mech Siren, Multi Select	1
381	0748282		Control, Mech Siren, Ft Sw LS	1
382	0740391		Sw, Siren Brake, Momentary Chrome Push Button, RS	1
383	0734625		Control, Warning Lt Intensity, WIn, Photocell, Prk Brk	1

Line	Option	Type	Option Description	Qty
384	0891858		Lightbar, WIn, Frdm V WCX, 2-21.5", RRWRR RRWRR, Lw Int Filter, Whl Freedom Ltbrs - No Filters	1
385	0691544		Light, GTT, 794* LED Opticom Emitter, Remote Mounted on Cab Roof Location - left side Opticom Priority - b) High Opticom Activation - Cab Switch & E-Master Momentary Opticom Activation - no activation	1
386	0624466	SP	Light, Front Zone, WIn M6# Split, 6RB* LED, 4lts Q Bezel Color, Lens, LED's - c)clear Color, Lt DS Front Inside - r) DS Front Inside Red Color, Lt PS Front Inside - r) PS Front Inside Red Color, Lt DS Frnt Out Spl - b) Red and Blue Color, Lt PS Frnt Out Spl - b) Red and Blue	1
387	0653937		Flasher, Headlight Alternating Headlt flash deactivation - a)w/high beam	1
388	0540692		Lights, Side Zone Lower, WIn M6*C LED, Clear Lens, 3pr, Ovr 25 Location, Lights Front Side - b)each side bumper Color, Lt Side Front - Red Color, Lt Side Middle - Red Color, Lt Side Rear - Red Location, Lights Mid Side - Rearward of Crew Cab Doors Location, Lights Rear Side - Between Tandem	1
389	0896616		Lights, Door Interior Flash, 4 Dr Cab, Weldon 8401-0000-20 Strip Light Control, Door Int Flash - Ignition Switch Location, Light, Door Int Flash - Over Window	1
390	0815847		Connectors, Door Interior Flash, All Cabs, Weatherproof	1
391	0743902		Lights, Side, WIn M6** LED, Trm Fet 2nd Location, Lights - in angled bumper corners Qty, - 02 Color, Lights, Warning - Red Flashing Color, Lens, LED's - Clear Color, Trim - Chrome Trim	2
392	0746427		Lights, Side, WIn M6* LED, Lw Int Location, Lights - one each side forward high above crosslays Qty, - 02 Color, Lights, Warning - gla) red Color, Lens, LED's - Clear Color, Trim - Chrome Trim	2
393	0672937		Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st Location, Lights - one in each rub rail, forward and rearward of rear axle, each side of body Qty, - 04 Color, Lights, Warning - gla) red Control, Light - b) side warning	4
394	0746425		Lights, Rear Zn Lwr, WIn M6*, For Tail Lt Housing, Lw Int Color, Lens, LED's - Clear Color, Lt DS Rear - r) DS Rear Lt Red Color, Lt PS Rear - b) PS Rear Lt Blue	1
395	0088745		Light, Rear Zone Up, WIn L31HRFN LED Beacon, Red LED Color, Dome, Rear Warning - j) both domes clear	1
396	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
397	0791501		Light, Traffic Directing, WIn TAL65, 36" Long LED, Aerials Activation, Traffic Dir L - Aux Flash with Emergency Master	1
398	0530074		Location, TDL, On Top of Body Below Turntable w/Treadplate Box	1
399	0529654		Location, Traf Dir Lt Controller, Heavy Duty Swivel Bracket Centered	1
400	0006646		Electrical System, 120/240VAC, General Design	1
401	0888016		Generator, Harrison 3.0kW MSV 120V, Hydraulic, Digital Volt, Hz, Hour, Meter Generator Interlocks - No Interlocks	1
402	0517171		Location, Hydraulic Generator, Cargo Area, Front of Body, PRM/PUC Location, Generator - as fits	1
403	0096845		Starting Sw, Truck Engine Powered Gen, Cab and @ PP	1
404	0016757		Not Required, Remote Start, Generator	1
405	0016740		Not Required, Fuel System	1
406	0016767		Not Required, Oil Drain Extension, Generator	1

Line	Option	Type	Option Description	Qty
407	0036738		Circuit Breaker Panel, Included With PTO Generator	1
			Location, Circuit Breaker Panel - LS3, Left Wall High	
408	0016771		Not Required, Routing Exhaust, Generator	1
409	0780309		Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, 4 place, Interior Cab	2
			Qty, - 02	
			Location 1 - behind the driver and officer seat on each outboard wall	
			AC Power Source - Shoreline	
			Cover, Receptacle - Interior SS Wall Plate(s)	
410	0779722		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body	2
			Qty, - 02	
			Location 1 - LS3 cetered on forward wall high and RS3 upper forward wall high	
			AC Power Source - Shoreline	
			Cover, Receptacle - Interior SS Wall plate	
411	0783675		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 2nd	2
			Location, Receptacles - Rear bulkhead as fits	
			Qty, - 02	
			AC Power Source - Generator	
			Cover, Receptacle - Exterior Flip Up Duplex Cover(s)	
412	0519934		Not Required, Brand, Hydraulic Tool System	1
413	0649753		Not Required, PTO Driven Hydraulic Tool System	1
414	0673137		Aerial, 105' Heavy Duty Ladder (500 dry/500 water)	1
415	0000042		Boom Support, Rear of the Chassis Cab	1
416	0758287		Light, Boom Support, CLC-1049-12-AL, 12" LED	1
417	0799573		Boom Support Compt Included w/PUC Xlay Module Picked Separately, PUC	1
418	0680820		Boom Panel, One, Sized to Match Opposite Side Box	1
			Location, Aerial Device - left side	
			Paint Color, Predefined - #10 white	
419	0526885		Indicator, Extension, Inside and Outside Handrails, Every 10'	1
			Color - 2) red	
420	0723719		Steps, Folding, Four, Aerial Device, Trident	1
			Coating, Step - black	
			Light, Aerial Device Folding Step - no integrated light	
			Finish, Aerial Device Folding Step - bright finish	
421	0688232		Rung Covers, Aerial Device	1
			Rung Cover Color - Safety Yellow	
422	0674963		Scabbard, Temporary Vent Saw Storage, No Depth Gauge, Aerial Ladder	1
			Qty, - 01	
			Location, Aerial Device - right side of tip	
423	0623645		Aerial Stability Test, Maximum Tip Options	1
424	0678539		Brackets Only, Roof/Wall Ladder, Aerial Fly Section	1
			Finish - DA Finish	
			Roof Ladder, Make/Model - 14' Duo-Safety 775-DR	
425	0728980		Box, Stokes, w/Cover, Base Section, In Place of Boom Panel, w/Door Open Sw	1
			Qty, - 01	
			Finish - Painted, Aerial Device/Job Color Boom Panel	
			Latch, Door, Storage - Butterfly Latch, Pair	
			Location, Aerial Device - right side	
			Louvers - no louvers	
			Size, Stokes Basket, Predefined - 84"L x 25"W x 9"H	
426	0601972		Lights, Turntable Walkway, P25, LED	1
427	0601949		Light, Turntable Console, TecNiq T-10, LED Strip Light	1
428	0682164		Cover, Around Aerial Rotation Bearing	1
			Material - treadplate	
429	0120787		Control Stations, PAL, Four Stabilizers	1
430	0593562		Stabilizers, 105' HD Rear Mount Steel Aerial, 14' Spread, 18" G Pen, 500# tip	1
			Material, Stabilizer Pad - Composite	
431	0729051		Stabilizer Pan and Trim Material	1
			Stabilizer Panels - polished stainless steel	
			Stabilizer Trim - polished stainless steel	
432	0530819		Not Required, Aerial Stabilizer Pins	1
433	0809990		Doors, Stabilizer Control Box, Non-MUX Aerials	1
			Latch, Door, Storage - Southco C2 Chrome Raised	
			Hinge Location - Inboard	

Line	Option	Type	Option Description	Qty
433			Door, Material & Finish, Stabilizer - Smooth aluminum	
434	0615057		Stabilizer Placement, Cameras w/Command Zone Color Display, 2 Sets	1
435	0121266		Hydraulic System, PAL	1
436	0096295		Swivels, w/Encoder, PAL, 32 Collector Rings	1
437	0120778		Electrical System, 105' PAL	1
438	0804781		Aerial Scene Lts Separated into Aerial Tip Category and Aerial Tracking Category	1
439	0805441	SP	Lights, Tip, FRC SRA110-07*, 4lts	1
			Color, Lt Housing - White	
			Scene Lt Optics LH Fly - Trapezoide Left	
			Scene Lt Optics RH Fly - Trapezoide Right	
			Scene Lt Optics LH Fly Low - Trapezoide Left	
			Scene Lt Optics RH Fly Low - Trapezoide Right	
440	0805150		Lights, Tracking, FRC SRA1**, 2lts	1
			Location, Sw, Arl DC Lts - x) 2 locations	
			Color, FRC/Rom Lt Housing - White Housings	
			Mount, FRC - Yoke Mount SRA100	
			Scene Lt Optics LH Base - Left Trapizoide	
			Scene Lt Optics RH Base - Right Trapezoide	
441	0653677		Lighting, Rung, LED, TecNiq, 4 Section, Base, Lower/Upper Mid, Fly	1
			Control, Aerial Rung Lighting - DS Sw Panel and Turntable Sw w/Master Batt Sw	
			Color, Lt Aerial Fly Sect - Blue & (3) Red	
			Color, Lt Aerial Base Sect - Blue	
			Color, Lt Aerial Lower Mid Sect - Blue	
			Color, Lt Aerial Upper Mid Sect - Blue	
442	0540743		Lights, Stabilizer Warn (2) Sets, WIn M6*C LED, Clear Lens	1
			Color, Lt Rr Stabilzr Pan - r) Pan Light Red	
			Color, Lt Fr Stabilzr Pan - r) Pan Light Red	
443	0068701		Lights, Grote Supernova LED, Stabilizer Beam, (2) Sets	1
444	0601977		Lights, Stabilizer Scene, (2) sets, Truck-Lite 40227C, Incandescent	1
445	0633833		DC Power To Aerial Tip, 11.2 Amp @ 12 Volt DC	1
446	0737181		Intercom, 2-Way Fire Research ICA910 Hands Free	1
447	0540895		Not Required, Breathing Air to Tip, Aerial Ladder	1
448	0024742		Not Required, Mask, Breathing Air To Tip	1
449	0126600		Raised Pedestal, 3.00", Rear Mount Aerials, AXT, Velocity, Impel, Enf	1
450	0597280		Lifting Eye Assembly, Rope Rescue Attachment, HDL	1
451	0582168		Collision Avoidance, Align For Stowing, Including Monitor	1
452	0530826		Turntable Access, ManSaver Bars, Yellow	1
453	0026950		Waterway, 100'/105' HDL	1
454	0603173		Monitor, TFT Typhoon Y5-EB1A-L302 Electric, w/Extended Vertical Travel	1
			Nozzle, Monitor 1 PAL - TFT M-ERP1500 Electric 1500 gpm	
455	0534379		Flowmeter, FRC, Waterway, PAL	1
456	0004836		Inlet, 5.00" at Rear w/ Pump, Ascendant Tandem, PAP, PAL	1
457	0673128		Quick-Lock Waterway Locking System, 100' HDL, 105' HDL, ASL	1
458	0047897		Tools, Aerial	1
459	0559494		Manuals and Training, 3 Consecutive Days, Ascendant Ladder, PAL	1
460	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
461	0816502		NFPA Required Loose Equipment, Quint, NFPA/ULC 2024, Provided by Fire Dept	1
462	0816941		Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024	1
463	0027023		No Strainer Required	1
464	0816939		Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	1
465	0816937		Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	1
466	0007482		Not Required, Crowbars	1
467	0007484		Not Required, Claw Tools	1
468	0816998		Axe, Flathead, Provided by Fire Department	1
469	0817000		Axe, Pickhead, Provided by Fire Department	1
470	0007494		Not Required, Sledgehammers	1
471	0741569		Paint Process / Environmental Requirements, Appleton	1
472	0709846		Paint, Two-Tone Color, Velocity/Impel	1
			Paint Color, Upper Area, Predefined - #10 White	
			Shield, Cab - Special Shield	
			Paint Color, Lower Area, Predefined - #90 Red	

Line	Option	Type	Option Description	Qty
472			Paint Break, Cab - Standard Two-Tone Cab Break	
473	0709845		Paint, Single Color, Body	1
			Paint, Body - Match Lower Cab	
474	0646901		Paint Chassis Frame Assy, With Liner, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Lower Job Color	
475	0693798		Paint, Front Wheels	1
			Paint, Wheels - Powder Coat Red #90	
476	0806169		Paint, Rear Wheels, Tandem Axle, TAK-4 T3	1
			Paint, Wheels - Powder Coat Red #90	
477	0733739		Paint, Axle Hubs	1
			Paint, Axle Hub - Lower Job Color	
478	0007234		Compartment, Unpainted, D/A Finished	1
479	0795871		Aerial Ladder Paint	1
			Paint Color, Aerial Device - White 10	
			Paint Color, Egress - #50 Red	
			Paint Color, Turntable - White 10	
			Paint Color, Boom Support - gloss black primer	
			Paint Color, Cylinders - white 10	
			Paint Color, Aerial Torque Box - gloss black primer	
			Paint Color, Aerial Stabilizers - black 101	
			Paint Color, Aerial Rotation Motor - Black	
			Paint Color, Aerial Control Console - white 10	
480	0544133		Reflective Band, 1"-6"-1", Multi Color Band, Separate Color Cab/Body & Doors	1
			Color, Reflect Band - A - a) white	
			Color, Reflect Band - B - l) white	
			Color, Reflect Band - C - w) white	
			Color, Reflect Door - A - c) ruby red	
			Color, Reflect Door - B - n) ruby red	
			Color, Reflect Door - C - y) ruby red	
481	0510041		Reflective across Cab Face, Imp/Vel	1
482	0583454		Stripe, Chevron, Rear, Diamond Grade, Aerial	1
			Color, Rear Chevron DG - fluorescent yellow green	
483	0598754		Stripe, Reflective/Diamond Grade, 4.00" on Stabilizers	1
			Color, Reflect Band - A - p) fluorescent yellow green diamond grade	
484	0087342		Jog, "Z"-Shaped, In Reflective Stripe	1
			Qty, - 1	
485	0696574		Stripe, Black Outline each Chevron Stripe on Front Bumper	1
486	0567374		Stripe, Black Outline each Chevron Stripe @ Rear (Not Warranted)	1
487	0671876		Stripe, Diamond Grade Chevron, Slide Out Tray, Front and Sides	5
			Location - all trays	
			Color, Reflect Band - A - p) fluorescent yellow green diamond grade	
			Qty, - 05	
488	0670035		Stripe, Diamond Grade Chevron, Toolboard	1
			Location - toolboard	
			Color, Reflect Band - A - p) fluorescent yellow green diamond grade	
			Qty, - 01	
489	0638073	SP	Stripe, Slanted, on Rear Body Fenders, Diamond Grade	1
			Size, Chevron Striping - 06	
			Color, Chevron DG - Red 983-72	
			Color, Chevron DG - B - Fluorescent Yellow-Green 983-23	
490	0545179		Stripe, Diamond Grade, Chevron, Front Bumper	1
			Size, Chevron Striping - 06	
			Color, Chevron DG - Red 983-72	
			Color, Chevron DG - B - Fluorescent Yellow-Green 983-23	
491	0552453		Stripe, Reflective, Chevron, Cab and Crew Cab Doors Interior, Diamond Grade	1
			Color, Reflect Band - A - p) fluorescent yellow green diamond grade	
			Size, Chevron Striping - 04	
			Color, Reflect Chev - A - r) red diamond grade	
492	0033179		Lettering Specifications, Reflective	1
493	0686160		Lettering, Reflective, 3.00", (21-40)	1
			Outline, Lettering - No Outline or Shade	
494	0685996		Lettering, Reflective, 9.00", (21-40)	1
			Outline, Lettering - Outline and Shade	

Line	Option	Type	Option Description	Qty
495	0685993		Lettering, Reflective, 10.00", Each	6
			Qty, Lettering - 06	
			Outline, Lettering - No Outline or Shade	
496	0685992		Lettering, Reflective, 10.00", (1-20)	1
			Outline, Lettering - Outline and Shade	
497	0685989		Lettering, Reflective, 11.00", Each	3
			Qty, Lettering - 03	
			Outline, Lettering - Outline and Shade	
498	0686007		Lettering, Reflective, 7.00", Each	4
			Qty, Lettering - 04	
			Outline, Lettering - Outline and Shade	
499	0056505		Emblem, "Honoring America's Bravest" w/Helmet, Color Image, Std, Pair	1
			Qty, - 1	
			Location, Emblem - cab window	
500	0683720		Emblem, Maltese Cross, Reflective, 24"-26", Each	1
			Qty, - 01	
			Location, Emblem - inside cab applied to plate	
501	0755303		Artwork File, Provided on Custom USB Drive	1
502	0017273		Emblem, Maltese Cross, Gold Leaf, 12"-14", Pair	1
			Qty, - 01	
			Location, Emblem - cab door	
503	0769755		Emblem, Texas Flag Painted on Cab Grille, All Custom Chassis	1
504	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	1
			Qty, - 01	
505	0772037		Manual, Chassis Service, USB Flash Drive, Custom	1
			Qty, - 01	
506	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
507	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
508	0611136		Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	1
509	0735523		Warranty, Engine, Paccar MX13, 5 Year, WA0386	1
510	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
511	0595767		Warranty, Frame, 50 Year, Velocity/Impel, WA0038	1
512	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
513	0644874		Warranty, Axle, 3 Year, TAK-4, IRS, WA0249	1
514	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
515	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
516	0744240		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
517	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
518	0695416		Warranty, Pierce Camera System, WA0188	1
519	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
520	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
521	0685945		Warranty, Transmission Cooler, WA0216	1
522	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
523	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
524	0693126		Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	1
525	0889364		Warranty, Pump, Pierce, PUC-NG, 7 Year Parts, 1 Year Labor, WA0390	1
526	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
527	0641372		Warranty, Foam System, Not Available	1
528	0006999		Warranty, Structure, 20 Year, Aerial Device, WA0052	1
529	0687388		Warranty, Swivels, 5 Year, Aerial Device, WA0197	1
530	0685727		Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200	1
531	0687327		Warranty, Waterway, 10 Year, Aerial Device, WA0198	1
532	0595860		Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047	1
533	0725636		Warranty, Harrison Generator, 2 Year	1
534	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
535	0595412		Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	1
536	0819254		Certification, Vehicle Stability, CD0196	1
537	0808574		Certification, Engine Installation, VEL, Paccar MX, 2027	1
538	0686786		Certification, Power Steering, CD0098	1
539	0892701		Certification, Cab Integrity, Impel/Veloccity FR, CD0190	1
540	0548950		Certification, Cab Door Durability, Velocity/Impel, CD0001	1
541	0548967		Certification, Windshield Wiper Durability, Impel/Veloccity, CD0005	1

Line	Option	Type	Option Description	Qty
542	0667411		Certification, Electric Window Durability, Velocity/Impel FR, CD0004	1
543	0549273		Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	1
544	0735950		Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	1
545	0545073		Amp Draw Report, NFPA Current Edition	1
546	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
547	0799248		Appleton/Florida BTO	1
548	0000050		105' BODY	1
549	0000012		PIERCE CHASSIS	1
550	0735525		PACCAR MX13 ENGINE	1
551	0046396		EVS 4000 Series TRANSMISSION	1
552	0520324		PIERCE PUMP, PUC	1
553	0020009		POLY TANK	1
554	0028047		NO FOAM SYSTEM	1
555	0020006		SIDE CONTROL	1
556	0020007		AKRON VALVES	1
557	0020015		ABS SYSTEM	1
558	0755454		AERIAL MEDIUM	1

Siddons Martin Emergency Group, LLC
3500 Shelby Lane
Denton, TX 76207
GDN P115891
TXDOT MVD No. A115890



September 9, 2024

Daniel Latimer, Chief
FARMERS BRANCH FIRE DEPARTMENT
13333 HUTTON DR
FARMERS BRANCH, TX 75234

Proposal For: 2028 Farmers Branch Pumpers

Siddons-Martin Emergency Group, LLC is pleased to provide the following proposal to FARMERS BRANCH FIRE DEPARTMENT. Unit will comply with all specifications attached and made a part of this proposal. Total price includes delivery FOB FARMERS BRANCH FIRE DEPARTMENT and training on operation and use of the apparatus.

Description	Amount
Qty. 2 - 869 - Pierce-Custom Velocity Pumper, PUC	
(Unit Price - \$1,205,887.00)	
Delivery within 48-49 months of order date	
QUOTE # - SMEG-0003988-0	
Vehicle Price	\$2,411,774.00
Chassis Prepay Discount	(\$34,842.00)
Multi Truck Discount	(\$8,000.00)
Full Prepay Discount	(\$292,032.00)
TFT Intakes (4)	\$10,834.00
Pierce - Dash CF - #27544 trade	(\$18,675.00)
Pierce - Dash CF - #25316 trade	(\$14,750.00)
869 - UNIT TOTAL	\$2,054,309.00
SUB TOTAL	\$2,054,309.00
BuyBoard 651-21 (FIRE)	\$1,500.00
TOTAL	\$2,055,809.00

Price guaranteed through October 30, 2024. Prepay discounts for 100% prepay. Trade in vehicles must be kept in good working order and are to be traded after training and in-service is completed on new vehicles after acceptance.

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

Persistent Inflationary Environment Notification: If the Producer Price Index of Components for Manufacturing [www.bls.gov

Series ID: WPUID6112] (the "PPI") has increased at a compounded annual growth rate greater than 5.0% from the date of acceptance of this proposal letter (the "Order Month") and 14 months prior to the anticipated Ready for Pickup Date (the "Evaluation Month"), then the proposal price may be increased by an amount equal to any increase exceeding 5.0% for the time period between the Order Month and the Evaluation Month. Siddons Martin and Pierce will provide documentation of such increase and the updated price for the customer's approval before proceeding with completion of the order along with an option to cancel the order.

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

Late Fee: A late fee of .033% of the sale price will be charged per day for overdue payments beginning ten (10) days after the payment is due for the first 30 days. The late fee increases to .044% per day until the payment is received. In the event a prepayment is received after the due date, the discount will be reduced by the same percentages above increasing the cost of the apparatus.

Cancellation: In the event this proposal is accepted and a purchase order is issued then cancelled or terminated by Customer before completion, Siddons-Martin Emergency Group may charge a cancellation fee. The following charge schedule based on costs incurred may be applied:

- (A) 10% of the Purchase Price after order is accepted and entered by Manufacturer;
- (B) 20% of the Purchase Price after completion of the approval drawings;
- (C) 30% of the Purchase Price upon any material requisition.

The cancellation fee will increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. Siddons-Martin Emergency Group endeavors to mitigate any such costs through the sale of such product to another purchaser; however, the customer shall remain liable for the difference between the purchase price and, if applicable, the sale price obtained by Siddons-Martin Emergency Group upon sale of the product to another purchaser, plus any costs incurred by Siddons-Martin to conduct such sale.

Acceptance: In an effort to ensure the above stated terms and conditions are understood and adhered to, Siddons-Martin Emergency Group, LLC requires an authorized individual from the purchasing organization sign and date this proposal and include it with any purchase order. Upon signing of this proposal, the terms and conditions stated herein will be considered binding and accepted by the Customer. The terms and acceptance of this proposal will be governed by the laws of the state of Texas. No additional terms or conditions will be binding upon Siddons-Martin Emergency Group, LLC unless agreed to in writing and signed by a duly authorized officer of Siddons-Martin Emergency Group, LLC.

Sincerely,



Travis Ownby

I, _____, the authorized representative of FARMERS BRANCH FIRE DEPARTMENT, agree to purchase the proposed and agree to the terms of this proposal and the specifications attached hereto.

Signature & Date

CONTRACT PRICING WORKSHEET

Buy Board Contract 651-21

for motor vehicles only

Contract No.: **651-21**

Date: 9/9/2024

Agency:	Farmers Branch Fire Department	Contractor:	Siddons-Martin Emergency Group
Contact:	Shannon Langford	Prepared:	Jeff Doran
Phone:	972-919-2647	Phone:	281-442-6806
Fax:	N/A	Fax:	
Email:	shannon.langford@farmersbranchtx.gov	Email:	jdoran@siddons-martin.com

Prod. Code:	12	Description:	Velocity PUC Pumper
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A. Product Item Base Unit Price Per Contractor's Buy Board Contract: \$ 959,701.00

B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.

Description	Cost	Description	Cost
Subtotal From Additional Sheet(s):			\$ 266,823.00
Subtotal B:			\$ 266,823.00

Total Published Options \$ 1,226,524.00

C. Unpublished Options - Itemize below / attach additional sheet(s) if necessary.

Description	Cost	Description	Cost
Subtotal From Additional Sheet(s):			\$ (15,224.50)
Subtotal C:			\$ (15,224.50)

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B). -1%

D. Other Cost Items Not Itemized Above (e.g. Installation, Freight, Delivery, Etc.)

Description	Cost	Description	Cost
Subtotal D:			\$ -

E. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C+D) \$ 1,211,299.50

Quantity Ordered:	2	X Subtotal of A + B + C + D:	1211299.5	=	Subtotal E:	\$ 2,422,599.00
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F. Buy Board Fee Calculation (From Current Fee Tables) Subtotal F: \$ 1,500.00

Description	Cost	Description	Cost
Chassis Pre-Payment Discount	\$ (34,842.00)	Multi Truck Discount	\$ (8,000.00)
100% Pre-Payment Discount	\$ (292,023.00)	Trade In	\$ (33,425.00)
Subtotal of column	\$ (326,865.00)	Subtotal of Column	\$ (41,425.00)
Subtotal G:			\$ (368,290.00)

Delivery Date: **48 - 49 Months** H. Total Purchase Price (E+F+G): \$ 2,055,809.00

Option Number	Qty	Description	Published Options	Unpublished Options
102	1	Add Frame Liner Custom	\$2,981.00	
107	1	upgrade to 27,000# rear axle	\$7,185.00	
121	1	Tire Chains - Rear Axle	\$6,341.00	
143	1	Additional Air Tanks	\$558.00	
145	1	Brake fittings compression type	\$2,641.00	
154	1	Engine EPA Compliance upgrade	\$29,728.00	
180	1	Bumper warning light recess	\$1,396.00	
183	1	Line-x type Bumper Coating front or rear	\$878.00	
190	1	Electric Door locks	\$1,762.00	
192	1	Handrail with LED Lighting per 2	\$824.00	
200	1	Cab Windows Factory Tint per 2	\$1,303.00	
216	1	110 Volt cab A/C	\$3,790.00	
223	3	EMS Compartment in Cab	\$13,740.00	
231	1	Raised roof, custom cab	\$3,430.00	
251	1	Full height Cab doors - Raised Roof	\$3,251.00	
274	1	Install Customer GPS	\$554.00	
287	1	Spare 12 volt power (each)	\$228.00	
289	3	12 volt USB Connection	\$975.00	
295	1	Camera System Rear only	\$2,062.00	
318	1	Auto-eject 20 amp	\$784.00	
321	1	Transfer switch	\$1,003.00	
323	1	Batteries 6 total	\$1,769.00	
338	4	12 volt LED Scene - C	\$12,412.00	
339	2	12 volt LED Flood Brow light A	\$5,732.00	
384	1	PUC Flip-out steps	\$1,390.00	
391	1	Catwalk-Hatch Compartment, Each	\$5,131.00	
402	2	Full Height - Depth Compartments	\$16,562.00	
404	1	LED Compartment Lighting base upgrade lighting	\$3,027.00	
422	4	Adjustable Comp. shelves	\$1,164.00	
428	1	Adjustable slide-out tray	\$1,036.00	
435	2	Slide-out floor tray	\$2,410.00	
438	1	Swing-out tool board	\$3,398.00	
448	3	Compartment Partition	\$1,617.00	
449	1	Hopper - Absorbent	\$2,519.00	
457	1	SCBA Cylinder storage in fender panel single (each)	\$1,013.00	
459	2	SCBA Cylinder storage in fender panel triple (each)	\$3,884.00	
461	1	Extinguisher Compartment	\$1,182.00	
473	1	Thermal Relief	\$1,825.00	
482	1	Add Large Diameter Side Discharge	\$8,201.00	
485	1	2.5" Discharge front bumper	\$4,463.00	
488	1	Preconnect 2.5 or 3" plumbing - Speed or Cross	\$5,989.00	
494	1	Extenda-gun	\$9,238.00	
506	1	Hose Reel, Under Cab w/ 100' Hose	\$6,454.00	
564	1	LED Emergency Lighting C	\$19,317.00	
584	1	Additional Speaker	\$958.00	
597	1	Upgrade Lightbar - A	\$5,152.00	
602	1	Traffic Directing light bar "A"	\$2,228.00	
616	1	Hydraulic 3.6 kw	\$18,031.00	
646	6	Electrical Receptacle duplex (per each) 15 or 20 amp	\$3,072.00	
710	1	Two-tone cab paint	\$4,348.00	
731	1	Graphics Upgraded 4	\$11,891.00	
820	8	Each Portable Hand Light w/ Mounting Brackets	\$1,800.00	
727519	1	Slide Out Work Surface, With Tool Storage, Adj. Height, Dry Erase, 6" Sides		\$2,949.00
889382	1	Gear Case, Integrated Pump Transmission, PUC-NG, Paccar		\$31,220.00
911362	1	Contract Discount		-\$49,393.50
163B	1	ESC/ABS/ATC	\$9,060.00	
227A	1	Heavy Duty HVAC	\$5,136.00	
		Base Bid	\$ 959,701.00	

Published Options	\$	266,823.00	
Total with Published Options	\$	1,226,524.00	
Unpublished Options	\$	(15,224.50)	-1.24%
Total Options including Fee	\$	1,211,299.50	



Option List

Customer: Farmers Branch Fire Department
Representative Ownby, Travis
Organization: Siddons-Martin Emergency Group
Requirements Manager:
Description: Farmers Branch 2024 Pumper
Body: Pumper, PUC, Aluminum
Chassis: Velocity Chassis, PUC-NG (Big Block)

Bid Number: 869
Job Number:
Number of Units: 2
Bid Date: 07/27/2022
Stock Number:
Price Level: 50 (Current: 50)
Lane:

Line	Option	Type	Option Description	Qty
1	0010012		No Boiler Plates requested	1
2	0661794		Single Source Compliance	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0670275		Unit to be Similar in some Aspects, Excluding Pump Panel	1
			Fill in Blank - 36278	
7	0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	1
8	0533347		Pumper/Pumper with Aerial Device Fire Apparatus	1
9	0588611		Vehicle Certification, Pumper	1
10	0661778		Agency, Apparatus Certification, Pumper/Tanker, U.L.	1
11	0816495		Certification, Vehicle Inspection Program, NFPA 1900	1
12	0620362		Consortium, HGAC	1
13	0537375		Unit of Measure, US Gallons	1
14	0030006		Bid Bond Not Requested	1
15	0816571		Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond, PPI Terms	1
16	0000007		Approval Drawing	1
17	0082910		Drawing, Compartment Layout, Standard Pumper Body	1
18	0002928		Electrical Diagrams	1
19	0888810		Velocity Chassis, PUC-NG (Big Block)	1
20	0000110		Wheelbase	1
			Wheelbase - 191.50	
21	0000070		GVW Rating	1
			GVW rating - 49,800	
22	0000203		Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	1
23	0889469		Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal	1
24	0508848		Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Imp/Vel	1
25	0030264		Suspension, Front TAK-4, 19,500 lb, Qtm/AXT/Imp/Vel/Enf/SFR	1
26	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	1
27	0000322		Oil Seals, Front Axle	1
28	0887562		Tires, Front, Michelin, X Multi HL Z , 385/65R22.50, LRL	1
29	0890369		Wheels, Front, 22.50" x 12.25", Steel, Hub Pilot	1
30	0530466		Axle, Rear, Meritor RS26-185, 27,000 lb, Imp/Vel	1
31	0544253		Top Speed of Vehicle, 68 MPH /109 KPH	1
32	0010556		Suspen, Rear, Reyco, Spring, 27,000 lb	1
33	0000485		Oil Seals, Rear Axle	1
34	0031836		Tires, Rear, Michelin, XZE*, 12R22.50, 16 ply, Single	1
35	0654806		Wheels, Rear, Accuride, 22.50" x 8.25", Steel, Hub Pilot, Single	1
36	0568081		Tire Balancing, Counteract Beads	1
37	0620570		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	1
			Qty, Tire Pressure Ind - 6	
38	0801909		Lug Nut, Covers, Chrome	1
39	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
40	0001960		Axle Hub Covers, Rear, S/S, High Hat (Pair)	1
41	0002045		Mud Flap, Front and Rear, Pierce Logo	1
42	0760616		Chains, Onspot Automatic Tire, Custom, Locking Switch	1
43	0759633		Switch, Rocker Style, Tire Chains, MUX Chassis	1
44	0617577		Chocks, Wheel, Worden HWG- SB, Super Gripper	1
			Qty, Pair - 01	

Line	Option	Type	Option Description	Qty
45	0646364		Mounting Brackets, Chocks, Worden Safety, Model U815T Location, Wheel chock - LS forward rear axle Qty, Pair - 01	1
46	0820509		ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/ULC	1
47	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
48	0000730		Brakes, Meritor, Cam, Rear, 16.50 x 7.00"	1
49	0735527		Air Compressor, Brake, Wabco 26.8 CI, Paccar	1
50	0000785		Brake Reservoirs, Three Paint Color, Air Tanks - Frame color	1
51	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
52	0000790		Brake Lines, Nylon	1
53	0617799		Inlet/Outlet, Air, w/Disconnect Fitting, 1/4 Turn Valve, Location Location - pump panel Qty, Air Coupling (s) - 1	1
54	0000845		Air Tank, Additional for Extra Capacity Paint Color, Air Tanks - Frame color	1
55	0010767		Moisture Ejector, Automatic, w/o Heat Location - wet side tank Qty, Auto. Moisture Eject - 1	1
56	0615609		Fittings, Compression Type, Entire Apparatus, Single Rear Axle	1
57	0808514		Engine, Paccar MX, 510HP, 1850 lb-ft W/OBD, EPA 2027, Velocity	1
58	0810929		Engine Contingency Adjustment	1
59	0001244		High Idle w/Electronic Engine, Custom	1
60	0735687		Engine Brake, Fully Integrated, Paccar MX13 Engine Switch, Engine Brake - MX13	1
61	0733852		Clutch, Fan, Air Actuated, Paccar, VEL	1
62	0019654		Shutoff Valves, Cab & Crew Cab Heater	1
63	0734434		Air Intake, Water & Ember Screen, Paccar, VEL	1
64	0814375		Exhaust System, Horizontal, Right Side Exhaust, Diffuser - Aluminized Steel (Standard) Exhaust, Material/Finish - Aluminized Steel (Standard) Location, Diffuser Termination - 2.00" Past Rub Rail (Standard) Tip, Exhaust - Straight Tip (Standard)	1
65	0734440		Radiator, VEL, Paccar	1
66	0511425		Cooling Hoses, Rubber	1
67	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
68	0001129		Lines, Fuel	1
69	0734402		DEF Tank, 7.3 Gallon, LS Fill, Under Cab, Paccar, VEL	1
70	0552793		Not Required, Fuel Priming Pump	1
71	0552712		Not Required, Shutoff Valve, Fuel Line	1
72	0699437		Cooler, Chassis Fuel, Not Req'd.	1
73	0690880		No Selection Required From This Category	1
74	0887546		Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	1
75	0625331		Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	1
76	0517604		Transmission Programming, Park to Neutral, PUC	1
77	0684459		Transmission Oil Cooler, Modine, External	1
78	0001375		Driveline, Spicer 1810	1
79	0734211		Steering, Sheppard M110 w/Tilt, TAK-4, Paccar Pump, w/Cooler, Paccar	1
80	0001544		Not Required, Steering Assist Cylinder on Front Axle	1
81	0509230		Steering Wheel, 4 Spoke without Controls	1
82	0690274		Logo/Emblem, on Dash Text, Row (1) One - Farmers Text, Row (2) Two - Branch Text, Row (3) Three - Fire	1
83	0536235		Bumper, 19" Extended, Steel Painted, Imp/Vel	1
84	0616492		Tray, Hose, Center, 19" Bumper, Outside Air Horns, Imp/Vel Grating, Bumper extension - Grating, Rubber Capacity, Bumper Tray - 21) 150' of 1.75"	1
85	0633479		Hose Restraint, Bumper Tray, Velcro Straps, Pair Qty, Pair - 01	1
86	0510226		Lift & Tow Package, Imp/Vel, AXT, Dash CF	1
87	0032932		Tow Eyes, Painted, Extended Out Front of Bumper	1

Line	Option	Type	Option Description	Qty
88	0532853		Recess, Side Zone Warning Light, In Side of Extended Bumper Material, Brkt, Recess Lt Bumper - Painted Smooth Aluminum	1
89	0692444		Recess, Front/Side Warning Light, In Angled Corner of Extended Bumper Material, Brkt, Recess Lt Bumper - Painted Smooth Aluminum	1
90	0698960		Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	1
91	0668310		Cab, Velocity FR, 7010 Raised Roof, PUC	1
92	0601652		Engine Tunnel, X12-15, MX13, Spray Insulation, Velocity FR	1
93	0887600		Cab Insulation, Impel/Velocity FR	1
94	0677478		Rear Wall, Exterior, Cab, Aluminum Treadplate	1
95	0122466		Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	1
96	0123176		Grille, Bright Finished, Front of Cab, Velocity	1
97	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab Material Trim/Scuffplate - c) S/S, Polished	1
98	0527032		Trim, S/S Band, Across Cab Face, Rect Lights, Velocity Material Trim/Scuffplate - c) S/S, Polished Turnsignal Covers - Polished S/S Covers	1
99	0087357		Molding, Chrome on Side of Cab	1
100	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1
101	0667937		Door, Full Height, Velocity FR 4-Door Cab, Raised Roof Key Model, Cab Doors - 751 Cab, Exterior Door Handle, Finish - 4-Door, Chrome/Black	1
102	0655511		Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	1
103	0667905		Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velocity FR	1
104	0667902		Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	1
105	0670028		Electric Door Locks, Cab Doors, DS Bumper Conceal Switch Loc, Imp/Vel	1
106	0555485		Steps, 4-Door Full Tilt Cab, Imp/Vel	1
107	0770200		Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab Color, Handrail Light - Red Control, Handrail Light - Parking Brake	1
108	0892637		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step Color, Trim - Chrome Housing	1
109	0002140		Fenders, S/S on Cab	1
110	0586564		Window, Side of C/C, Fixed, w/EMS Cabinet, Imp/Vel	1
111	0552935		Trim, Cab Side Windows, Velocity	1
112	0012090		Not Required, Windows, Front/Side of raised roof	1
113	0509286		Not Required, Windows Rear of Crew Cab, Imp/Vel	1
114	0558334		Not Required, Trim, Cab Rear Windows, No Rear Windows	1
115	0786278		Window Tint, Crew Cab Door, Right Side, Medium Gray	1
116	0786293		Window Tint, Upper Crew Cab Door, Left Side, Medium Gray	1
117	0786289		Window Tint, Crew Cab Door, Left Side, Medium Gray	1
118	0786285		Window Tint, Upper Crew Cab Door, Right Side, Medium Gray	1
119	0775133		Insulation, Cab C/C Floor, Spray, AXT, Imp/Vel FR, Qtm	1
120	0123686		Drip Rail, Cab Roof, Impel/Velocity/Veloc SLT	1
121	0798684		Work Surface, 3/16" Alum, Full Engine Tunnel, Vel/Imp FR Material Finish, Cab Interior - Painted	1
122	0664063		Shelf, Equipment Mounting, Aluminum, Lip, Full Width Location - Full width over the top of the rear-facing EMS cabinets and engine tunnel Material Finish, Cab Interior - Painted Lip - 1.00"	1
123	0664381		Bracket, PAC, Ironslok, PN K5003 Location - on back of the engine tunnel over the fluid access door Qty, - 01	1
124	0657250		Tray, Slideout, Alum, Sides, MDT Bracket, Recessed Dash, Officer	1
125	0748671		Cab Interior, Vinyl, Velocity FR, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	1
126	0667943		Cab Interior, Paint Color, Impel/Velocity FR Color, Cab Interior Paint - i) fire smoke gray	1
127	0509532		Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	1
128	0894651		HVAC, Heavy-Duty, Velocity FR, w/PACCAR, CARE Paint Color, A/C Condenser - Painted to Match Cab Roof HVAC System, Filter Access - Removable Panel	1

Line	Option	Type	Option Description	Qty
128			Auxiliary Cab Heater - Both	
129	0789101		Air Conditioning, Coleman-Mach 8, Roughneck, 120V, 15K Cool Only, Cab Roof,White	1
			Thermostat - Coleman A/C Cool Only	
130	0639675		AC Power Source - Gen to Shoreline Transfer Switch Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf	1
			Sun Visor Retention - No Retention	
131	0548173		Grab Handles, Driver and Passenger Door Post, Imp/Vel	1
132	0583938		Lights, Engine Compt, Custom, Auto Sw, WIn 3SCOCDRCR, 3" LED, Trim Qty, - 01	1
133	0122516		Fluid Check Access, Imp/Vel	1
			Latch, Door, Storage - Southco C2 Black Flush	
134	0583042		Side Roll and Frontal Impact Protection	1
135	0622619		Seating Capacity, 4 Seats	1
136	0697005		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety, PRIMARY	1
137	0587668		Seat, Officer, Pierce PS6, Base, SCBA, Safety, PRIMARY	1
138	0510037		Radio Compartment, Below Officer Seat, Imp/Vel	1
139	0823633		Cabinet, Rear Facing, LS, 21 W x 28 H x 24 D, Web, Imp/Vel	1
			Light, Short Cabinet - Pierce, Interior, Right Side	
			Material Finish, Shelf - Painted - Cab Interior	
			Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip	
			Louvers, Cabinet - 0-No Louvers	
			Fastener, Web, Cab Cabinet - Seat Belt Buckle, Top, Bar, No Strap	
140	0102783		Not Required, Seat, Rr Facing C/C, Center	1
141	0826946		Cabinet, Rear Facing, RS, 19 W x 28 H x 26.5 D, Web, Imp/Vel	1
			Light, Short Cabinet - Pierce, Interior, Left Side	
			Material Finish, Shelf - Painted - Cab Interior	
			Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip	
			Louvers, Cabinet - 0-No Louvers	
			Fastener, Web, Cab Cabinet - Seat Belt Buckle, Top, Bar, No Strap	
142	0628855	SP	Seat, Fwd Fcng C/C, LS Otbrd, PS6, Base, SCBA, Safety,17" Btm,3" Inbrd,SECONDARY	1
143	0891718	SP	Cabinet, Forward Facing, Center, 36 W x 51 H x 24 D, 2" Web, Strap, WW, Imp/Vel	1
			Type of fastener - seat belt buckle	
			False Floor, EMS Cabinet - No False Floor	
			Restraint Location - Bottom (towards the ground)	
			Light, Short Cabinet - Amdor, Interior, Red, Right Side	
			Material Finish, Shelf - Painted - Cab Interior	
			Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip	
			Louvers, Cabinet - 0-No Louvers	
			Color, Strap, Interior - Orange	
144	0628851	SP	Seat, Fwd Fcng C/C, RS Otbrd, Pierce PS6, Base, SCBA, Safety,17",3" IB,SECONDARY	1
145	0766467		Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE	4
			Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	
			Qty, - 04	
146	0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats	3
			Qty, - 03	
147	0690610		Embroidery, Seats, Cab and Crew Cab	1
			Qty, Seats Embroidery - 4 Seats	
148	0603867		Seat Belt, ReadyReach	1
			Seat Belt Color - Orange	
149	0604867		Seat Belt Height Adjustment, 4 Seats, Imp/Vel, Dash CF	1
150	0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	1
151	0647647		Lights, Dome, FRP Dual LED 4 Lts	1
			Color, Dome Lt - Red & White	
			Color, Dome Lt Bzl - Black	
			Control, Dome Lt White - Door Switches and Lens Switch	
			Control, Dome Lt Color - Lens Switch	
152	0615448		Lights, Dome, WIn, 60C0EJCS White LED, Bat Dir and Bat Charger	1
			Location - PS crew cab ceiling to light up EMS cabinet access area	
			Qty, - 01	
153	0896451		Enhanced Software for Cab and Crew Cab Dome Lts	1
154	0631776		Not Required, Overhead Map Lights	1

Line	Option	Type	Option Description	Qty
155	0804719		Handlts, (4) Streamlight, Fire Vulcan, 44451, C4 LED, Tail Lts, 12v, Orange Location, Portable Hand Light - wiring coiled under each rear seat and two coiled inside center console to be mounted at final	1
156	0695283		Handlight, Streamlight, Survivor, 90503, C4 LED, 12v, Orange, Steady Charge Qty, Lights - 04 Location, Lights - In the ceiling above each seat position. The driver and officer light should be as close as possible to the AC plenum so the firefighter does not hit the light climbing in the cab.	4
157	0568369		Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	1
158	0509511		Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	1
159	0673123		Light, Do Not Move Apparatus, WIn 3SR00FRR LED Alarm, Do Not Move Truck - No Alarm	1
160	0509042		Messages, Open Dr/DNMT, Color Dsply,	1
161	0611681		Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX Location, Emerg Sw Pnls - Driver's Side Overhead	1
162	0555915		Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	1
163	0820894		Wiring, Spare, 15 A 12V DC, Batt Dir, 1st NFPA1900/ULC Location, Wiring - next to the receptacle on each interior wall at the rear facing seat position 12vdc power from - Battery direct Wire termination - 10-Place Bus Bar w/Cover	1
164	0820904		Wiring, Spare, 15 A 12V DC 1st NFPA1900/ULC Qty, - 01 12vdc power from - Battery switched Wire termination - 15 amp power point plug Location, Spare Wiring - panel #15	1
165	0820919		Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 1st NFPA1900/ULC Qty, - 03 12vdc power from - Ignition power Location - one at switch panel 9 on officer side dash and two in rear at forward facing EMS cabinet one each side up high	3
166	0820897		Wiring, Spare, 15 A 12V DC, Batt Dir, 2nd NFPA1900/ULC Location, Wiring - Behind Officer Seat 12vdc power from - Battery direct Wire termination - 10-Place Bus Bar w/Cover	1
167	0566101		Recess, Dash Panel, Officer Side, Vel/Imp	1
168	0814201		Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714 System Of Measurement - US Customary	1
169	0816633		Collision Mitigation, HAAS Alert (R2V), HA7 Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	1
170	0606249		Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	1
171	0616382		Install Customer Provided GPS/Multimode Antenna(s) Qty, - 01	1
172	0696439		Antenna Mount, Custom Chassis, Cable Routed to Instrument Panel Area Qty, - 01 Location, Antenna Mount - Right Side	1
173	0817058		Camera, Pierce, LS Mux, R Camera, SD, CL714 Camera System Audio - Not Provided	1
174	0814831		Not Required, Camera Switcher	1
175	0511071		Guard, 4-Way, Rear Vision Camera Qty, - 01 Location - over camera, centered	1
176	0896458		Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT Color, Antenna - White Antenna Module Housings - Black Housing with Power and Status Ind	1
177	0896456		Prognostics, Electrical System	1
178	0730603		Electrical System, Velocity ESP, Cummins, Paccar	1
179	0089703		Batteries, (6) Interstate Grp 31, 950 CCA each, Threaded Stud	1
180	0008621		Battery System, Single Start, All Custom Chassis	1
181	0123174		Battery Compartment, Imp/Vel	1
182	0813848		Charger, Sngl Sys, IOTA, DLS-75, 75 amp, IQ4 Controller	1
183	0814869		Location, Cab, Charger, Behind Driver Seat	1
184	0813791		Panel, Charger Display, Kussmaul, 091-94-12, Batt Dir	1
185	0811943		Panel, Remote Control, Kussmaul, Chief 091-266-RCP	1

Line	Option	Type	Option Description	Qty
186	0814945		Location, Cab, Ind/Remote, Driver's Step Area	1
187	0814971		Not Required, Location Ind/Remote	1
188	0814939		Location, Cab, Ind/Remote, Driver's Seat Riser	1
189	0782026		Shoreline, 20A 120V, Blue Sea Sure Eject 7851	1
			Qty, - 01	
			Connection, Shoreline - Battery charger, air pump and receptacles	
			Color, Cover, BI Sea Inlet - Red	
190	0813015		Shoreline Location, Blue Sea	1
			Location, Shoreline(s) - DS Cab Side	
191	0760950	SP	Shoreline Inlet, 20A 120V Blue Sea Sure Eject 7851	1
			Location - next to other shoreline	
			Qty, - 01	
			Connection, Shoreline - Coleman AC	
			Color, Cover, BI Sea Inlet - Blue	
192	0783395		Transfer Switch, Generator to Shoreline 30 Amp and Under **	1
193	0538692		Cover, Protection over Battery Charger/Comp, Cab	1
194	0590797		Cover, Protection Over Air Compressor, Painted Smooth Aluminum	1
195	0647728		Alternator, 430 amp, Delco Remy 55SI	1
196	0092582		Load Manager/Sequencer, MUX	1
			Enable/Disable Hi-Idle - e)High Idle enable	
197	0783153		Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	1
			Color, Headlight Bez - Chrome Bezel	
198	0648425		Light, Directional, WIn 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Imp/Vel/AXT/Qtm	1
			Color, Lens, LED's - c)clear	
199	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
200	0648074		Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	1
201	0088869		Lights, Clearance/Marker/ID, Rear, Truck-Lite 26250R LED 7Lts	1
202	0804519		Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw w/Flange	1
			Color, Lens, LED's - Match	
			Color, Trim - Chrome Trim	
			Flash Pattern, Directional Lts - Steady On (Arrow)	
203	0806466		Lights, Backup, WIn M62BU, LED, For Tail Lt Housing	1
204	0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt	1
			Color, Trim - Chrome Housing	
205	0556853		Bezels, WIn, (2) M6 Chrome Pierce, For Mtg (3) WIn M6 Lts	1
206	0081564		Alarm, Back-Up Warning, ECCO 505, 87db Constant	1
207	0769569		Lights, Perimeter Cab, Amdor AY-LB-12HW012 LED 4Dr	1
208	0769559		Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts	1
209	0769560		Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear Step	1
			Control, Perimeter Lts - Crew Cab Doors Open and Parking Brake Applied	
210	0896454		Enhanced Software for Perimeter Lts	1
211	0895779		Lights, Step, Body, Front & Rear	1
			Control, Scene Lts - Perimeter light	
212	0618256		Light, Visor, FRC, 12V SPA851-A28-*, LED MAX-S 1st	2
			Qty, - 02	
			Location, driver's/passenger's/center - 1DS & 1PS 8 Deg Out	
			Switch, Lt Control 1 DC,1 - DS & PS Switch Panel	
			Switch, Lt Control 2 DC,2 - e) No Control	
			Switch, Lt Control 3 DC,3 - d) No Control	
			Switch, Lt Control 4 DC,4 - d) No Control	
			Light, Visor, Flash - Steady Burning	
			Color, FRC/Rom Lt Housing - FRC, White Chrome Face	
213	0807372		Lights, FRC, SPA260-Q20, 1st	1
			Location - LS cab	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS and Cab Sw Panel PS	
			Color, Trim - Chrome Housings	
214	0807374		Lights, FRC, SPA260-Q20, 2nd	1
			Location - RS cab	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS and Cab Sw Panel PS	

Line	Option	Type	Option Description	Qty
214			Color, Trim - Chrome Housings	
215	0807355		Lights, FRC, SPA260-Q20, 1st	1
			Location - LS body side rearward	
			Qty, - 01	
			Control, Scene Lts - DS Scene Lts	
			Color, Trim - Chrome Trim	
216	0807359		Lights, FRC, SPA260-Q20, 2nd	1
			Location - RS body side rearward	
			Qty, - 01	
			Control, Scene Lts - PS Scene Lts	
			Color, Trim - Chrome Trim	
217	0532358		Not Required, Deck Lights, Other Hose Bed & Rear Lighting	1
218	0645877		Lights, Hose Bed, Sides, Dual LED Light Strips	1
			Control, Hose Bed Lts - Cup Switch At Rear	
219	0645864		Lights, Rear Scene, FRC, SPA900-Q70	1
			Location, Lights - one each side of rear body	
			Control, Rear Scene Lts - Cab Switch Panel DS, Cab Switch Panel PS and Body Switch, DS Rear Bulkhead	
220	0787447		Lights, Walk Surf, Dual LED Light Strips, Cargo Area, Bdy Stp Lt	1
221	0518282		Pumper, PUC, Aluminum	1
222	0554271		Body Skirt Height, 20"	1
223	0682618		Tank, Water, 500 Gallon, Poly, 67 LHB, PUC	1
224	0003405		Overflow, 4.00" Water Tank, Poly	1
225	0028107		Not Required, Foam Cell Modification	1
226	0633066		Sleeve, Through Tank	1
			Qty, Sleeve - 1	
			Water Tank Sleeve - Plumbing/Hydraulic Diameter - 3" Plumbing	
227	0553725		Restraint, Water Tank, Heavy Duty, Special Type Tank, 4x4, or Export	1
228	0003429		Not Required, Direct Tank Fill	1
229	0003424		Not Required, Dump Valve	1
230	0048710		Not Required, Jet Assist	1
231	0030007		Not Required, Dump Valve Chute	1
232	0514778		Not Required, Switch, Tank Dump Master	1
233	0597043		Body Height, PUC/HDRP	1
			Body Height - 92.00"	
234	0683290		Hose Bed, Aluminum, Pumper, PUC, 67 LHB	1
235	0723340		Unpainted/Brush Finished, Hose Bed, 3G PUC/HDRP	1
236	0003481		Hose Bed Capacity, Special	1
			Capacity, Hosebed - 1000' of 5", 400' of 3", 250' of 2.5"	
237	0003488		Divider, Hose Bed, Unpainted	2
			Qty, Hosebed Dividers - 2	
238	0806307		Deflector, Hose Bed, 30" Long, Alum Treadplate	1
239	0807424		Hose Restraint, Hose Bed, Web, Rear, Separate From Top	1
			Fastener, Rear Restraint, Top - Velcro Straps/Footman Loops	
			Fastener, Rear Restraint, Bottom - Velcro Straps/Footman Loops	
240	0503392		Cover, Piping in Hose Bed, With Grating, Treadplate Rear	1
			Qty, - 01	
			Location, driver's/passenger's/center - Left Side	
241	0611509		Running Boards, Flip Out, PUC	1
242	0674252		Tailboard, 14" Deep, Full Width, Angled Corners, PUC/HDRP	1
243	0690029		Wall, Rear, Body Material, PUC, PUC Tanker, PRM, HDRP	1
244	0003531		Tow Bar, Under Tailboard	1
245	0634378		Wrap, Tailboard, Aluminum Channel, 4" Tall, Painted	1
246	0656764		Construction, Compt, Alum, Pumper, PUC	1
247	0503804		LS 189" Rollup, (1) 62" Fwd, (1) 52" Rr, Full Height & Depth Front & Rear, PUC	1
			Width, PUC Pump Operators Panel Partition - 5.5"	
248	0503803		RS 189" Rollup, (1) 62" Fwd, (1) 52" Rr, Full Height & Depth Front & Rear, PUC	1
249	0594005		Doors, Rollup, Amdor, Side Compartments	6
			Qty, Door Accessory - 06	
			Color, Roll-up Door - AMDOR Satin Aluminum	
			Latch, Roll-up Door - Non-Locking Liftbar	
250	0599445		Compt, Rear, Rollup, 33.50" FF, w/Tailboard, PUC/HDRP	1

Line	Option	Type	Option Description	Qty
251	0593958		Door, Amdor, Rollup, Rear Compartment, PUC Color, Roll-up Door - AMDOR Satin Aluminum Latch, Roll-up Door - Non-Locking Liftbar	1
252	0616670		Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door, Pumper/Tanker Qty, - 07 Location, Compartment Lights - All Body Compts	7
253	0682076		Lights, Hatch Compt, Pierce LED, 40" Light Strips, IPOS Location, Lights - DS forward hatch latch side Qty, - 01	1
254	0681963		Lights, Hatch Compt, Pierce LED, 24" Light Strips, IPOS Location, Lights - DS rearward hatch latch side Qty, - 01	1
255	0529059		189" Hatch, (2) Lift-up, 21" Wide, Left Side Only, PUC/HDRP Size, Hatch Compt, Height - 22.00" Trim, Body/Hatch Compt Seam, Horizontal - Painted Formed - Match Lower Trim, Body/Hatch Compt Seam, Vertical, PUC - Painted Extrusion Matting, Floor, Hatch Compt - Rubber Matting	1
256	0733406		Handrails, Hatch Step Area, (1) Curved & (1) Straight	1
257	0760868		Lights, Cargo/Dunnage, Dual LED Light Strips, Each Side Control, Scene Lts - Step Lights, Body	1
258	0687145		Shelf Tracks, Recessed, PUC/3rd Generation	1
259	0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations Qty, Shelf - 04 Material Finish, Shelf - DA Finish Location, Shelves/Trays, Predefined - LS1-Transition Point, RS3-Upper Third, LS2-Centered and LS3-Transition Point	4
260	0559456		Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Full Width Location - RS3 directly over the Little Giant Qty, Tray (slide-out) - 01 Material Finish, Tray - Brushed	1
261	0770972		Tray, Floor Mounted, Slide-Out, Standard Depth, Aluminum Plate, Flat Top Qty, - 01 location - LS3 on floor	1
262	0647043		Tray, Floor Mounted, Slide-Out, Full Width/Full Depth, 500lb, 2.00" Sides, 3G Qty, - 01 location - LS1 Material Finish, Tray - Brushed	1
263	0650435		Toolboard, Swing-Out, Alum, .188", No Holes, 3G location - one in RS2 Qty - 1 Location, Pivot - Front Mounting, Toolboard - Adjustable Frt-back Finish, Pegboard/Toolboard - Brushed Finish	1
264	0726412		Partition, Trans Rear Compt, PUC/HDRP Qty, Partition - 02 Location, Partition - c) both sides Material Finish, Partition - DA Finish	2
265	0726403		Partition, Vertical Compt, Special Height Qty, Partition - 01 Fill in Blank - full Location - attached to the shelf and ceiling at a distance of 40" from the forward wall for a poly floor runner that is 36" wide to hang on a roller Material Finish, Partition - DA Finish	1
266	0632702		Access Door, Rear of Hatch Compt Location - left side Qty, - 01 Door, Material & Finish, Storage - Aluminum Treadplate Latch, Door, Storage - Lift and Turn Latch, Flush Door Type - lift up with stay arm	1
267	0727519	SP	Slide Out Work Surface, With Tool Storage, Adj. Height, Dry Erase, 6" Sides Location - LS3 just under the transition Qty, - 1	1

Line	Option	Type	Option Description	Qty
268	0681617	SP	Brackets, Hose Storage, L-Shaped, 45 Degree Corner Front Plate Location - RS 1, two along the back wall and one on the rear wall and one on the forward wall. Match 27544 (see photo). The depth of the brackets are 7". Qty, - 04	4
269	0813145		Holder, Plastic Sheeting, 1.25" Dia S/S Rod, Pin Lock Location Location - LS2 forward of partition Qty, - 01 Location, - through	1
270	0063064		Rub Rail, Aluminum Extruded, Side of Body, 3rd Gen Body	1
271	0515441		Fender Crowns, Rear, S/S, W/Removable Fender Liner, Pumper, 3G Material Finish, Fender Liner - Brushed Stainless	1
272	0519849		Not Required, Hose, Hard Suction	1
273	0527021		Handrails Located @ Front Body	1
274	0664688		Handrails, Rear, PUC/HDRP	1
275	0011212		Handrail, Not Required, Rear Hose Bed, Pumper	1
276	0636301		Compt, Extinguisher (2) Fender Panel, Triangular Door, 8" Dia Qty, - 01 Door Finish, Fender Compt - Polished Location, Fender Compt - Double - RS Fwd Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	1
277	0657522		Compt, Air Bottle, Triple, Fender Panel Qty, Air Bottle Comp - 2 Door Finish, Fender Compt - Polished Location, Fender Compt - Triple - LS Fwd and Triple - RS Rear Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	2
278	0654143		Compt, Air Bottle, Single, Tri Door (DEF/Fuel), Fender Panel Door Finish, Fender Compt - Polished Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	1
279	0726144		Hopper, Oil Dry, Roof Hatch Compartment, Enclosed Top, Access Cover Latch, Door, Storage - Southco C2 Chrome Raised Location - Right side Hopper Valve Location - underneath Hopper Discharge - Chute - Forward Bulkhead Wall to Exterior Hopper Capacity - 120 lbs - 20.3 gallons	1
280	0815971		Ladder, 28', Duo-Safety 1200A 2-Section, 22" Wide Qty, - 01	1
281	0004230		Ladder, 14' Duo-Safety 775A Roof	1
282	0638382		Rack, Ladders, LS Full Depth Body, PUC/HDRP Door, Material & Finish, Ladder Storage - smooth aluminum Latch, Door Ladder Storage - D-Handle latch	1
283	0733387		Ladder, 10' Duo-Safety Folding 585A	1
284	0733005		Compt w/Trough, Folding Ladder, In Upper Body, LS Door, Material & Finish, Storage - Smooth Aluminum Latch, Door, Storage - Lift and Turn Latch, Flush Hinge Location - Outboard	1
285	0812235		Ladder, Little Giant, Revolution 2.0 - Model 17, 13117 Location - RS3 on the floor	1
286	0894066		Little Giant Storage, Compartment Floor, Horizontal w/Shelf Ladder, Make/Model - Little Giant Classic Model 17 Location, Compartment, Predefined - RS3	1
287	0816920		Pike Pole, Provided by Fire Department, NFPA/ULC 2024 Qty, - 01 Pike Pole Make/Model - Fire Hooks Unlimited 8' All Purpose Hook	1
288	0732982		Tube, Pike Pole 8' or Longer, In Upper Body Long Tool Storage Compt Qty, Pike Poles - 1 Location, Left Side, Right Side - Left Side Material/Finish, Tube, Pike Pole - Aluminum Width, Notch, Pike Pole Tube - 1.38", NY Notch	1
289	0816918		Pike Pole, 6', Provided by Fire Department, NFPA/ULC 2024 Qty, - 01	1

Line	Option	Type	Option Description	Qty
289			Pike Pole Make/Model - Fire Hooks Unlimited 6' All Purpose Hook	
290	0732992		Tube, Pike Pole 6', In Upper Body Long Tool Storage Compt	1
			Qty, Pike Poles - 1	
			Location, Left Side, Right Side - Left Side	
			Material/Finish, Tube, Pike Pole - Aluminum	
			Width, Notch, Pike Pole Tube - 1.38", NY Notch	
291	0769733		Compt, Long Tool Storage Compt, In Upper Body (1) RS, PUC/HDRP	1
			Door, Material & Finish, Storage - Smooth Aluminum	
			Latch, Door, Storage - Lift and Turn Latch, Flush	
			Hinge Location - Inboard	
292	0081834		Trough for D-Handled Trash Hook, Qty	1
			Location - RS long tool storage, 10' trash hook	
			Qty, - 01	
293	0058193		Tubes, Alum, Pike Pole Storage, Spcl Notch, NY PP Head	2
			Location - two in LS rear with folding ladder	
			Qty, Pike Pole Tubes - 02	
294	0521734		No Steps Required, Front Of Body, PUC	1
295	0564125		Steps, Wedge, Rear of Body, PUC, Left Side	1
296	0515692		Pump Operators Panel, 31", Control Zone, PUC	1
297	0520016		Not Required, Pumphouse Structure, PUC	1
298	0889385		Pump, Pierce, 1500 GPM, Single Stage, PUC-NG	1
299	0515822		Seal, Mechanical, Silicon Carbide, PUC Pump	1
300	0889382		Gear Case, Integrated Pump Transmission, PUC-NG, Paccar	1
301	0721196		Pumping Mode, Pump and Roll/Stationary, Basic, MUX, PUC	1
302	0515829		Pump Shift, Sure-Shift	1
303	0515833		Transmission Lock-up, Not Req'd, Park to Neutral, Pump, PUC	1
304	0515835		Auxiliary Cooling System, PUC	1
305	0014486		Not Required, Transfer Valve, Single Stage Pump	1
306	0746508		Valve(s), Relief Intake, Trident Air Max, Control Location	1
			Qty - 1	
			Pressure Setting - 125 psig	
			Intake Relief Valve Control - Left Side Pump Panel	
307	0724463		Controller, Pressure, Pierce LCD , PUC	1
			Pressure Governor Throttle Control - Clockwise	
			Pressure Governor Default Mode - Pressure Setting	
308	0072153		Primer, Trident, Air Prime, Air Operated	1
309	0799803		Direct Tank Fill, 0.75" Garden Hose, Round Handle Vlv, Loc Panel	1
			location - at pump panel	
310	0044552		Line, 0.50" Recirculating w/Check Valve	1
311	0740963	SP	Pump Oil Drain, Extended, Below	1
312	0658266		Thermal Relief Valve, w/Amber Warning Light and Alarm, PUC Pump	1
			Location, Thermal Relief Discharge - Ground	
313	0780359		Manuals, Pump, (2) Total, Electronic Copies, Pierce PUC Pump	1
314	0602496		Plumbing, Stainless Steel and Hose, Single Stage Pump, PUC	1
315	0089437		Plumbing Without Foam System	1
316	0517852		Inlets, 6.00" - 1250-2000 GPM, Pierce PUC Pump	1
317	0014650		Pump Suction Tube(s), Short, All	1
318	0004646		Cap, Main Pump Inlet, Long Handle, NST, VLH	1
319	0084610		Valves, Akron 8000 series- All	1
320	0520002		Valve, Inlet(s) Recessed, Side Cntrl, PUC	1
			Qty, Inlets - 1	
321	0004700		Control, Inlet, at Valve	1
322	0004660		Inlet (1), Left Side, 2.50"	1
323	0029147		Not Required, Inlet, Right Side	1
324	0521137		Anode, Zinc, Pair, Pump Inlets, PUC	1
325	0092569		No Rear Inlet (Large Dia) Requested	1
326	0064116		No Rear Inlet Actuation Required	1
327	0092696		Not Required, Cap, Rear Inlet	1
328	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
329	0092568		No Rear Auxiliary Inlet Requested	1
330	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
331	0520277		Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, PUC	1

Line	Option	Type	Option Description	Qty
332	0595508		Outlet, Tank Fill, 1.50", PUC	1
333	0766941		Control, Outlets, Swing Handle, Elec Right Outlets Akron 9335 w/Press Disp, PUC	1
334	0516755		Outlet, Left Side, 2.50" (2), PUC	1
335	0055095		Not Required, Elbow, Left Side Outlets, 2.50"	1
336	0092570		Not Required, Outlets, Left Side Additional	1
337	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
338	0766761		Outlet, Right Side, 2.50", (1), Electric Akron 9335 Controller, PUC	1
			Qty, Discharges - 01	
339	0021134		Not Required, Elbow, Right Side Outlets, 2.50"	1
340	0092571		Not Required, Outlets, Right Side Additional	1
341	0089584		Not Required, Elbow, Right Side Outlets, Additional	1
342	0818640		Outlet, Large Diameter, Right Side, Akron Valve, PUC	1
			Outlet, Large Diameter, Plumbing - 4.00"	
			Outlet, Large Diameter, NST Adapter - 4.00" MNST	
			Outlet, Large Diameter, Valve Actuation - PUC Akron 9335 w/PSI	
343	0681048		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz, S/S Cable	1
344	0648906		Outlet, Front, 2.50" w/2.50" Plumbing	1
			Fitting, Outlet - 2.50" NST with 90 degree swivel	
			Drain, Front Outlet - Automatic	
			Location, Front, Single - top of right bumper	
345	0092575		Not Required, Outlet, Rear	1
346	0045099		Not Required, Elbow, Rear Outlets	1
347	0516782		Outlet, Rear, 2.50" w/2.50" Plumbing, Thru Tank, PUC, Additional	1
			Qty, Discharges - 01	
			Location, Outlet - b) left side	
348	0536635		Elbow, Rear Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH, PUC, Additional	1
			Qty, Discharges - 01	
349	0752096		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Vinyl Covered Cable	1
350	0723038		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle, No Snubbers	1
351	0753332		Outlet, 3.00" Deluge w/2.50" Valve, Dual Control, LG HW's, w/TFT XG18, PUC	1
352	0777050		Monitor, TFT Crossfire XFT-NJ, No Ground Base	1
			Monitor Finish - Painted by OEM	
353	0040423		Nozzle, TFT Master Stream 1250 M-R, 1250 GPM, Manual	1
354	0046857		Deluge Mount, For TFT Crossfire Monitor, TFT Manual Extend-A-Gun Only	1
355	0750982		Crosslay Module, Full Width, Roll Up Doors, PUC	1
356	0750897		Doors, Crosslay, Roll-up Amdor, Each End, Full Height, PUC	1
			Color, Roll-up Door - AMDOR Satin Aluminum	
			Latch, Roll-up Door - Non-Locking Liftbar	
			Drip Pan - Drip Pan Required	
357	0747660		Lights, Crosslay Compt, Forward LED, 2Lts	1
358	0750916		Crosslays, (2) 1.50", W/Poly Trays, PUC	1
			Crosslay/Deadlay/Speedlay Capacity 1 - 200' of 1.75" double jacket hose	
359	0750900		Crosslay, (1) 2.50", W/Poly Trays, PUC	1
			Crosslay/Deadlay/Speedlay Capacity 1 - 200' of 2.50" double jacket hose	
360	0749295		Tube, Aluminum, Pike Pole, Lower Crosslay Module, PUC	2
			Qty, Pike Pole Tubes - 02	
			Location, Tube - one out each side	
			Width, Notch, Pike Pole Tube - 1.38", NY Notch	
361	0749401		Mounting, Backboard, Upper Crosslay Module, Strap, PUC	1
			Size, Backboard - 3" x 20" x 76"	
			Qty - 1	
362	0521227		Reel, Booster, Aluminum, Rear Tailboard Comprt, PUC	1
363	0005279		Switch, Reel Rewind - One at Reel	1
364	0005300		Hose, Booster - 150' of 1.00"/800 PSI	1
365	0005244		Capacity, Hose Reel 200' of 1"	1
366	0007428		Nozzle for Booster Reel Not Req'd	1
367	0005326		Blowout, Hose Reel - Valve at Panel	1
			Qty, - 1	
368	0044333		Not Required, Foam System	1
369	0012126		Not Required, CAF Compressor	1
370	0552517		Not Required, Refill, Foam Tank	1
371	0042573		Not Required, Foam System Demonstration	1

Line	Option	Type	Option Description	Qty
372	0045465		Not Required, Foam Tanks	1
373	0091110		Not Required, Foam Tank Drain	1
374	0091079		Not Required, Foam Tank #2	1
375	0091112		Not Required, Foam Tank #2 Drain	1
376	0738072		Approval Dwg, Pump Panel(s), Not Required	1
377	0032479		Pump Panel Configuration, Control Zone	1
378	0516975		Material, Pump Panels, Operators Brushed Stainless, Sides Brushed Stainless, PUC	1
379	0516978		Pump and Plumbing Access, Simple Tilt Service, PUC	1
380	0618458		Light, Pump Compt, WIn 3SC0CDCR LED White, PUC Qty, - 01	1
381	0516983		Gauges, Engine, Included With Pressure Controller, PUC	1
382	0005601		Throttle, Engine, Incl'd w/Press Controller	1
383	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	1
384	0549333		Indicators, Engine, Included with Pressure Controller	1
385	0069390		Control, Air Horn At Pmp Pnl, Red Button	1
386	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
387	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
388	0539612		Gauge, Master Pump Flowmeter, FRC , PUC	1
389	0748780		Gauge, Water Level, Pierce, In pressure Controller, PUC Color Display, Lt Driver	1
390	0604028		Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display Location - one each side of crew cab Qty, - 02 Activation, Water Level G - pg) pump in gear	2
391	0006774		Not Required, Foam Level Gauge	1
392	0653081		Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab & LED OH Chr Cvr	1
393	0606694		Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	1
394	0606835		Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	1
395	0757092		Control, Air Horn, Multi Select	1
396	0757080		Control, Air Horn, Ft Sw, RS	1
397	0757077		Control, Air Horn, Lanyard, LS Lanyard - Plastic Coated Braided Cable	1
398	0757076		Control, Air Horn, Lanyard, RS Lanyard - Plastic Coated Braided Cable	1
399	0525667		Siren, WIn 295SLSA1, 100 or 200 Watt	1
400	0047779		Location, Elect Siren, Recessed In Switch Panel Location - panel 8	1
401	0076156		Control, Elec Siren, Head Only	1
402	0601304		Speaker, (2) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt Connection, Speaker - siren head	1
403	0601558		Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame, Inbrd (Pos 2/6)	1
404	0895310		Siren, Federal Q2B Finish, Q2B Siren - Chrome	1
405	0006095		Siren, Mechanical, Mounted Above Deckplate Location, Siren, Mech - a) Left	1
406	0748305		Control, Mech Siren, Multi Select	1
407	0748282		Control, Mech Siren, Ft Sw LS	1
408	0740391		Sw, Siren Brake, Momentary Chrome Push Button, RS	1
409	0734625		Control, Warning Lt Intensity, WIn, Photocell, Prk Brk	1
410	0889397	SP	Lightbar, WIn, Freedom IV-*, 2-21.5" 1-23", RRRWR ROptR RWRRR, 30 deg, Spcl Sw Opticom Priority - b) High Opticom Activation - E-Master Filter, Whl Freedom Ltbrs - No Filters	1
411	0624466	SP	Light, Front Zone, WIn M6# Split, 6RB* LED, 4lts Q Bezel Color, Lens, LED's - c)clear Color, Lt DS Front Inside - r) DS Front Inside Red Color, Lt PS Front Inside - r) PS Front Inside Red Color, Lt DS Frnt Out Spl - b) Red and Blue Color, Lt PS Frnt Out Spl - b) Red and Blue	1
412	0653937		Flasher, Headlight Alternating Headlt flash deactivation - a)w/high beam	1

Line	Option	Type	Option Description	Qty
413	0540692		Lights, Side Zone Lower, WIn M6*C LED, Clear Lens, 3pr, Ovr 25 Location, Lights Front Side - b)each side bumper Color, Lt Side Front - Red Color, Lt Side Middle - Red Color, Lt Side Rear - Red Location, Lights Mid Side - Rearward of Crew Cab Doors Location, Lights Rear Side - Centered Above Rear Wheels	1
414	0896616		Lights, Door Interior Flash, 4 Dr Cab, Weldon 8401-0000-20 Strip Light Control, Door Int Flash - Ignition Switch Location, Light, Door Int Flash - Over Window	1
415	0815847		Connectors, Door Interior Flash, All Cabs, Weatherproof	1
416	0746427		Lights, Side, WIn M6* LED, Lw Int Location, Lights - one each side forward high above crosslays Qty, - 02 Color, Lights, Warning - gla) red Color, Lens, LED's - Clear Color, Trim - Chrome Trim	2
417	0743902		Lights, Side, WIn M6** LED, Trm Fet 2nd Location, Lights - in angled bumper corners Qty, - 02 Color, Lights, Warning - Red Flashing Color, Lens, LED's - Clear Color, Trim - Chrome Trim	2
418	0672937		Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st Location, Lights - One in each rub rail, forward and rearward of rear axle, each side of body Qty, - 04 Color, Lights, Warning - gla) red Control, Light - b) side warning	4
419	0746425		Lights, Rear Zn Lwr, WIn M6*, For Tail Lt Housing, Lw Int Color, Lens, LED's - Clear Color, Lt DS Rear - r) DS Rear Lt Red Color, Lt PS Rear - b) PS Rear Lt Blue	1
420	0808727		Lights, Rear, WIn WIONSM* LED, Recessed In Tailboard, 1st Location - spread out even across the back, one in each angle of tailboard and the other three across the flat part of the back Qty, - 05 Color, Lights, Warning - Red Flashing Control, Light - c) rear lower warning	5
421	0743720		Lights, Rear/Side Up Zone, WIn M6** LED 4lts Color, Lens, LED's - Clear Color, Lt, Side Rear Upper DS - Red Color, Lt, Side Rear Upper PS - Red Color, Lt, Rear Upper DS - Red Color, Lt, Rear Upper PS - Red Color, Trim - Chrome Trim	1
422	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
423	0590000		No Hose Bed Warn Light Brackets Required,Lights Mounted on Hatch/Body Compts,PUC	1
424	0791528		Light, Traffic Directing, WIn TAL65, 36.00" Long, TACTL5 Activation, Traffic Dir L - Aux Flash with Emergency Master	1
425	0806661		Location, TDL, Over Hose Bed, On Cross Tube (Not Included)	1
426	0529654		Location, Traf Dir Lt Controller, Heavy Duty Swivel Bracket Centered	1
427	0006646		Electrical System, 120/240VAC, General Design	1
428	0888016		Generator, Harrison 3.0kW MSV 120V, Hydraulic, Digital Volt, Hz, Hour, Meter Generator Interlocks - No Interlocks	1
429	0517171		Location, Hydraulic Generator, Cargo Area, Front of Body, PRM/PUC Location, Generator - left side	1
430	0096845		Starting Sw, Truck Engine Powered Gen, Cab and @ PP	1
431	0016757		Not Required, Remote Start, Generator	1
432	0016740		Not Required, Fuel System	1
433	0016767		Not Required, Oil Drain Extension, Generator	1
434	0036738		Circuit Breaker Panel, Included With PTO Generator Location, Circuit Breaker Panel - LS3, In False Bulkhead (PUC)	1

Line	Option	Type	Option Description	Qty
435	0016771		Not Required, Routing Exhaust, Generator	1
436	0780309		Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, 4 place, Interior Cab Qty, - 02 Location 1 - behind the driver and officer seat on each interior side wall AC Power Source - Shoreline Cover, Receptacle - Interior SS Wall Plate(s)	2
437	0779722		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body Qty, - 02 Location 1 - LS3 centered on forward wall, RS3 upper forward side corner AC Power Source - Shoreline Cover, Receptacle - Interior SS Wall Plate(s)	2
438	0780244		Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, GFCI Location, Receptacles - one each side of body fender rearward of wheels Qty, - 02 AC Power Source - Generator Cover, Receptacle - Exterior Flip Up Duplex Cover(s)	2
439	0519934		Not Required, Brand, Hydraulic Tool System	1
440	0649753		Not Required, PTO Driven Hydraulic Tool System	1
441	0007150		Bag of Nuts and Bolts Qty, Bag Nuts and Bolts - 1	1
442	0816508		NFPA Required Loose Equipment, Pumper, NFPA/ULC 2024, Provided by Fire Dept	1
443	0816941		Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024	1
444	0027023		No Strainer Required	1
445	0816939		Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	1
446	0816937		Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	1
447	0816998		Axe, Flathead, Provided by Fire Department	1
448	0817000		Axe, Pickhead, Provided by Fire Department	1
449	0741569		Paint Process / Environmental Requirements, Appleton	1
450	0709846		Paint, Two-Tone Color, Velocity/Impel Paint Color, Upper Area, Predefined - #10 White Shield, Cab - Standard Shield Paint Color, Lower Area, Predefined - #90 Red Paint Break, Cab - Standard Two-Tone Cab Break	1
451	0709845		Paint, Single Color, Body Paint, Body - Match Lower Cab	1
452	0646901		Paint Chassis Frame Assy, With Liner, E-Coat, Standard Paint Color, Frame Assembly, Predefined - Lower Job Color	1
453	0693798		Paint, Front Wheels Paint, Wheels - Powder Coat Red #90	1
454	0693793		Paint, Rear Wheels, Single Axle Paint, Wheels - Powder Coat Red #90	1
455	0733739		Paint, Axle Hubs Paint, Axle Hub - Lower Job Color	1
456	0822822	SP	Coating, UL-LX, Tailboard Wrap, Top Edge/Corner, Black, 2024 Non-NFPA	1
457	0581434		Transit Coating, Carwell, Corrosion Protection, Including Underside	1
458	0007234		Compartment, Unpainted, D/A Finished	1
459	0544129		Reflective Band, 1"-6"-1" Color, Reflect Band - A - a) white Color, Reflect Band - B - l) white Color, Reflect Band - C - w) white	1
460	0510041		Reflective across Cab Face, Imp/Vel	1
461	0593732		Stripe, Chevron, Rear, Diamond Grade, Pumper, PUC Color, Rear Chevron DG - fluorescent yellow green	1
462	0087342		Jog, "Z"-Shaped, In Reflective Stripe Qty, - 1	1
463	0567374		Stripe, Black Outline each Chevron Stripe @ Rear (Not Warranted)	1
464	0696574		Stripe, Black Outline each Chevron Stripe on Front Bumper	1
465	0671876		Stripe, Diamond Grade Chevron, Slide Out Tray, Front and Sides Location - all trays Color, Reflect Band - A - p) fluorescent yellow green diamond grade Qty, - 05	5
466	0670035		Stripe, Diamond Grade Chevron, Toolboard Location - toolboard	1

Line	Option	Type	Option Description	Qty
466			Color, Reflect Band - A - p) fluorescent yellow green diamond grade Qty, - 01	
467	0638073	SP	Stripe, Slanted, on Rear Body Fenders, Diamond Grade Size, Chevron Striping - 06 Color, Chevron DG - Fluorescent Yellow-Green 983-23	1
468	0545179		Color, Chevron DG - B - Red 983-72 Stripe, Diamond Grade, Chevron, Front Bumper Size, Chevron Striping - 06 Color, Chevron DG - Red 983-72 Color, Chevron DG - B - Fluorescent Yellow-Green 983-23	1
469	0552453		Stripe, Reflective, Chevron, Cab and Crew Cab Doors Interior, Diamond Grade Color, Reflect Band - A - p) fluorescent yellow green diamond grade Size, Chevron Striping - 04 Color, Reflect Chev - A - r) red diamond grade	1
470	0027372		Lettering Specifications, (GOLD STAR Process)	1
471	0686428		Lettering, Gold Leaf, 3.00", (41-60)	1
472	0685989		Outline, Lettering - Outline and Shade Lettering, Reflective, 11.00", Each Qty, Lettering - 03	3
473	0685993		Outline, Lettering - Outline and Shade Lettering, Reflective, 10.00", Each Qty, Lettering - 06	6
474	0685996		Outline, Lettering - No Outline or Shade Lettering, Reflective, 9.00", (21-40)	1
475	0686081		Outline, Lettering - Outline and Shade Lettering, Reflective, 3.00", (21-40)	1
476	0686007		Outline, Lettering - No Outline or Shade Lettering, Reflective, 7.00", Each Qty, Lettering - 04	4
477	0056505		Outline, Lettering - Outline and Shade Emblem, "Honoring America's Bravest" w/Helmet, Color Image, Std, Pair Qty, - 1	1
478	0661571	SP	Location, Emblem - cab window Emblem, Maltese Cross, Reflective, 18"-20", Each Qty, - 01	1
479	0017273		Location, Emblem - inside cab applied to plate Emblem, Maltese Cross, Gold Leaf, 12"-14", Pair Qty, - 01	1
480	0769755		Location, Emblem - cab door Emblem, Texas Flag Painted on Cab Grille, All Custom Chassis	1
481	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom Qty, - 01	1
482	0772037		Manual, Chassis Service, USB Flash Drive, Custom Qty, - 01	1
483	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
484	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
485	0611136		Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	1
486	0735523		Warranty, Engine, Paccar MX13, 5 Year, WA0386	1
487	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
488	0595767		Warranty, Frame, 50 Year, Velocity/Impel, WA0038	1
489	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
490	0733306		Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	1
491	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
492	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
493	0744240		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
494	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
495	0695416		Warranty, Pierce Camera System, WA0188	1
496	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
497	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
498	0685945		Warranty, Transmission Cooler, WA0216	1
499	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
500	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
501	0693126		Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	1

Line	Option	Type	Option Description	Qty
502	0889364		Warranty, Pump, Pierce, PUC-NG, 7 Year Parts, 1 Year Labor, WA0390	1
503	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
504	0641372		Warranty, Foam System, Not Available	1
505	0725636		Warranty, Harrison Generator, 2 Year	1
506	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
507	0595421		Warranty, Goldstar, 3 Year, Apparatus, WA0018	1
508	0819254		Certification, Vehicle Stability, CD0196	1
509	0808574		Certification, Engine Installation, VEL, Paccar MX, 2027	1
510	0686786		Certification, Power Steering, CD0098	1
511	0892701		Certification, Cab Integrity, Impel/Velocity FR, CD0190	1
512	0548950		Certification, Cab Door Durability, Velocity/Impel, CD0001	1
513	0548967		Certification, Windshield Wiper Durability, Impel/Velocity, CD0005	1
514	0667411		Certification, Electric Window Durability, Velocity/Impel FR, CD0004	1
515	0549273		Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	1
516	0735950		Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	1
517	0545073		Amp Draw Report, NFPA Current Edition	1
518	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
519	0799248		Appleton/Florida BTO	1
520	0000048		PUMPER/TANKER, 3rd Gen	1
521	0000012		PIERCE CHASSIS	1
522	0735525		PACCAR MX13 ENGINE	1
523	0046396		EVS 4000 Series TRANSMISSION	1
524	0520324		PIERCE PUMP, PUC	1
525	0020009		POLY TANK	1
526	0028047		NO FOAM SYSTEM	1
527	0020006		SIDE CONTROL	1
528	0020007		AKRON VALVES	1
529	0020015		ABS SYSTEM	1
530	0658751		PUMPER BASE	1



Proposal Details Report

Customer: Farmers Branch Fire Department
Representative: Ownby, Travis
Requirements Manager:
Description: Farmers Branch 2024 Pumper
Chassis: Velocity Chassis, PUC-NG (Big Block)
Body: Pumper, PUC, Aluminum
Bid Number: 869
Job Number:
Organization: Siddons-Martin Emergency Group

OptionCode	Type	Option	ProposalText
0010012		No Boiler Plates requested	
0661794		Single Source Compliance	<p>SINGLE SOURCE MANUFACTURER Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.</p>
0584456		Manufacture Location, Appleton, Wisconsin	Your apparatus will be manufactured in Appleton, Wisconsin.
0584452		RFP Location: Appleton, Wisconsin	
0588609		Vehicle Destination, US	
0670275		Unit to be Similar in some Aspects, Excluding Pump Panel	<p>SPECIAL INSTRUCTIONS The apparatus being proposed will be designed and built to match the 36278. However, some variation may be necessary due to changes in our manufacturing processes or our product offering. Revisions in NFPA guidelines and/or other regulations may also affect our ability to match the previous unit.</p>
0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	<p>NFPA 2024 STANDARDS This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions. Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus. All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack. A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating. The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications. An official of the company will designate, in writing, who is qualified to witness and certify test results.</p>
0533347		Pumper/Pumper with Aerial Device Fire Apparatus	
0588611		Vehicle Certification, Pumper	

Agency, Apparatus Certification,
Pumper/Tanker, U.L.

NFPA COMPLIANCE

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

PUMP TEST

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

GENERATOR TEST

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

BREATHING AIR TEST

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

0816495 Certification, Vehicle Inspection
Program, NFPA 1900

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

0620362 Consortium, HGAC

0537375 Unit of Measure, US Gallons

0030006 Bid Bond Not Requested

BID BOND NOT REQUESTED

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

All bidders will provide a bid bond as security for the bid in the form of a 5 percent bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

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

0816571 Performance Bond, 100% with 25%
Warranty Bond, 1 Yr, and Payment
Bond, PPI Terms

PERFORMANCE BOND, 1 YEAR

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 Basic One (1) Year Limited 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 one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.

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

If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0% or more between the month Pierce accepts the order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0% for each year or fractional year between the Order Month and the Evaluation Month.

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

	Approval Drawing	<p>APPROVAL DRAWING A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc. A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.</p>
0082910	Drawing, Compartment Layout, Standard Pumper Body	<p>DRAWING, COMPARTMENT LAYOUT A basic drawing will be provided for the interior body compartments. This drawing will be provided for graphic representation only and will include such things as shelves, trays, reels, dividers, air control panels, air bottle storage bins, poly boxes & etc.</p>
0002928	Electrical Diagrams	<p>ELECTRICAL WIRING DIAGRAMS Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.</p>
0888810	Velocity Chassis, PUC-NG (Big Block)	<p>VELOCITY CHASSIS The Pierce Velocity® is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required. The chassis will be the manufacturer's first line tilt cab.</p>
0000110	Wheelbase	<p>WHEELBASE The wheelbase of the vehicle will be 191.50.</p>
0000070	GVW Rating	<p>GVW RATING The gross vehicle weight rating will be 49,800.</p>
0000203	Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	<p>FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.</p>
0889469	Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal	<p>FRAME REINFORCEMENT In addition, a mainframe internal liner will be provided. The liner will be an internal "C" design that steps to an internal "L" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear portion of the liner. Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 1,494,042 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb. The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.</p>

	Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Imp/Vel	<p>FRONT NON DRIVE AXLE The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 19,500 lb. Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron. The center cross members and side plates will be constructed out of 80,000-psi yield strength steel. Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations. There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension. The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load. Camber at load will be 0 degrees for optimum tire life. The ball joint bearing will be of low friction design and be maintenance free. Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided. The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle. The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase. The axle will have a turning angle of up to 45 degrees.</p>
0030264	Suspension, Front TAK-4, 19,500 lb, Qtm/AXT/Imp/Vel/Enf/SFR	<p>FRONT SUSPENSION Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 19,500 lb. The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment. Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms. The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side. The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.</p>
0087572	Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	<p>FRONT SHOCK ABSORBERS KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.</p>
0000322	Oil Seals, Front Axle	<p>FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.</p>
0887562	Tires, Front, Michelin, X Multi HL Z , 385/65R22.50, LRL	<p>FRONT TIRES The front tires will be Michelin 385/65R22.50 radials, load range L, X Multi HL Z tread, rated for 22,000 lb maximum axle load and 68 mph maximum speed.</p>
0890369	Wheels, Front, 22.50" x 12.25", Steel, Hub Pilot	<p>The tires will be mounted on 22.50" x 12.25" steel disc type wheels with a ten (10)-stud, 11.25" bolt circle.</p>
0530466	Axle, Rear, Meritor RS26-185, 27,000 lb, Imp/Vel	<p>REAR AXLE The rear axle will be a Meritor™, Model RS-26-185, with a capacity of 27,000 lb.</p>
0544253	Top Speed of Vehicle, 68 MPH /109 KPH	<p>TOP SPEED OF VEHICLE A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph / 109 kph.</p>
0010556	Suspen, Rear, Reyco, Spring, 27,000 lb	<p>REAR SUSPENSION The rear suspension will be a Reyco Model 79KB with a ground rating of 27,000 lb. Spring hangers and mounting components will be cast. The suspension utilizes two (2) attaching points with variable rate spring cams and rubber bushed adjustable torque arms.</p>
0000485	Oil Seals, Rear Axle	<p>REAR OIL SEALS Oil seals will be provided on the rear axle(s).</p>

0031836	Tires, Rear, Michelin, XZE*, 12R22.50, 16 ply, Single	REAR TIRES Rear tires will be four (4) Michelin 12R22.50 radials, 16 ply "all position" XZE* tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.
0654806	Wheels, Rear, Accuride, 22.50" x 8.25", Steel, Hub Pilot, Single	The tires will be mounted on Accuride® 22.50" x 8.25" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.
0568081	Tire Balancing, Counteract Beads	TIRE BALANCE All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.
0620570	Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	TIRE PRESSURE MANAGEMENT There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires. The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi. Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.
0801909	Lug Nut, Covers, Chrome	CHROME LUG NUT COVERS Chrome lug nut covers will be supplied on front and rear wheels.
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	FRONT HUB COVERS Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.
0001960	Axle Hub Covers, Rear, S/S, High Hat (Pair)	REAR HUB COVERS A pair of stainless steel high hat hub covers will be provided on rear axle hubs.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0760616	Chains, Onspot Automatic Tire, Custom, Locking Switch	AUTOMATIC TIRE CHAINS One (1) pair of Onspot automatic tire chains will be provided at the rear. System will be electric over air operated with a locking switch on cab instrument panel. System may be engaged at speeds up to 25 mph and operated at speeds up to 35 mph.
0759633	Switch, Rocker Style, Tire Chains, MUX Chassis	TIRE CHAIN CONTROL A rocker style switch will be provided for the automatic tire chains.
0617577	Chocks, Wheel, Worden HWG- SB, Super Gripper	WHEEL CHOCKS There will be one (1) pair of Worden Safety Products, Model HWG-SB, wheel chocks provided. Heavy Duty, large molded aluminum wheel chock with solid bottom, natural cast aluminum finish.
0646364	Mounting Brackets, Chocks, Worden Safety, Model U815T	WHEEL CHOCK BRACKETS There will be one (1) pair of Worden Safety, Model U815T, mounting wheel chock brackets provided. The brackets will be mounted LS forward rear axle.

ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/ULC

ELECTRONIC STABILITY CONTROL

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

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

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

ANTI-LOCK BRAKE SYSTEM

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

AUTOMATIC TRACTION CONTROL

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

0030185 Brakes, Knorr/Bendix 17", Disc, Front, TAK-4

BRAKES

The service brake system will be full air type. The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance. The brake system will be certified, third party inspected, for improved stopping distance.

0000730 Brakes, Meritor, Cam, Rear, 16.50 x 7.00"

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

0735527 Air Compressor, Brake, Wabco 26.8 CI, Paccar

AIR COMPRESSOR, BRAKE SYSTEM

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

0000785 Brake Reservoirs, Three

BRAKE SYSTEM

The brake system will include:
 Bendix® dual brake treadle valve
 Heated automatic moisture ejector on air dryer
 Total air system capacity of 4,362 cubic inches
 Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
 Spring set parking brake system
 Parking brake operated by a push-pull style control valve
 A parking "brake on" indicator light on instrument panel
 Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi
 A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)
 1/4 turn drain valve on each air tank
 The air tank will be primed and painted to meet a minimum 750 hour salt spray test.
 The air tanks will be painted same as frame color.
 To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

0568012 Air Dryer, Wabco System Saver 1200, Heater, 2010

BRAKE SYSTEM AIR DRYER

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

0000790 Brake Lines, Nylon

BRAKE LINES

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

	Inlet/Outlet, Air, w/Disconnect Fitting, 1/4 Turn Valve, Location	<p>AIR INLET/OUTLET One (1) air inlet/outlet will be installed with the female coupling located pump panel. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a 1/4 turn valve. A mating male fitting will be provided with the loose equipment. The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.</p>
0000845	Air Tank, Additional for Extra Capacity	<p>ADDITIONAL AIR TANK An additional air tank with 1454 cubic inch displacement will be provided to increase the capacity of the main air brake system. This tank will be plumbed into the rear half of the brake system. The air tank will be primed and painted to meet a minimum 750 hour spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets. The air tank(s) will be painted same as frame color. The output flow of the engine air compressor will vary with engine rpm. Full compressor output will only be achieved at governed engine speed. Engine speed will be limited by generators, pumps and other PTO driven options.</p>
0010767	Moisture Ejector, Automatic, w/o Heat	<p>AUTOMATIC MOISTURE EJECTOR(S) One (1) automatic moisture ejector will be installed in the brake system. The moisture ejector(s) will be provided on the wet side tank reservoir(s).</p>
0615609	Fittings, Compression Type, Entire Apparatus, Single Rear Axle	<p>COMPRESSION FITTINGS ONLY Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable. Push lock fittings will not be acceptable for any pneumatic nylon tube plumbing.</p>
0808514	Engine, Paccar MX, 510HP, 1850 lb-ft W/OBD, EPA 2027, Velocity	<p>ENGINE The chassis will be powered by an electronically controlled engine as described below: Make: Paccar Model: MX Power: 510 hp at 1600rpm Torque: 1850 lb-ft at 1000rpm Governed Speed: 1900 rpm Emissions Certification: EPA 2027 Fuel: Diesel Cylinders: Six (6) Displacement: 13.7L Starter: DP60 Fuel Filters: Dual cartridge style with check valve, water separator, and water in fuel sensor The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.</p>
0810929	Engine Contingency Adjustment	
0001244	High Idle w/Electronic Engine, Custom	<p>HIGH IDLE A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation. The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."</p>
0735687	Engine Brake, Fully Integrated, Paccar MX13 Engine	<p>ENGINE BRAKE The compression release brake option is a fully integrated MX engine braking system. It utilizes the turbocharger and back pressure valve, but adds in a hydraulically operated compression brake to increase overall retarding power. To maximize the effectiveness of the compression brake the MX engine brake system works in conjunction with the turbocharger and back pressure valve. The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.</p>

0733852	Clutch, Fan, Air Actuated, Paccar, VEL	<p>CLUTCH FAN A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.</p>
0019654	Shutoff Valves, Cab & Crew Cab Heater	<p>HEATER SHUTOFF The cab and crew cab heaters will be provided with a shutoff valve installed in the supply line. This valve will be in an accessible location.</p>
0734434	Air Intake, Water & Ember Screen, Paccar, VEL	<p>ENGINE AIR INTAKE The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille. The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine. The ember separator will be easily accessible by tilting the cab.</p>
0814375	Exhaust System, Horizontal, Right Side	<p>EXHAUST SYSTEM The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device. The exhaust system will include an aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipe between the turbo and the aftertreatment device to minimize the transfer of heat to the cab. The exhaust will terminate horizontally ahead of the right side rear wheels and will extend 2.00" past the body rub rail. The exhaust pipes will be aluminized steel. There will be an aluminized steel exhaust diffuser with a standard straight tip on the end provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p>
0734440	Radiator, VEL, Paccar	<p>RADIATOR The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards. For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability. The radiator will be compatible with commercial antifreeze solutions. The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain. The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap. A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.</p>
0511425	Cooling Hoses, Rubber	<p>COOLANT LINES Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer. Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.</p>
0001125	Fuel Tank, 65 Gallon, Left Side Fill	<p>FUEL TANK A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A 0.75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only." A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.</p>
0001129	Lines, Fuel	<p>All fuel lines will be provided as recommended by the engine manufacturer.</p>

0734402	DEF Tank, 7.3 Gallon, LS Fill, Under Cab, Paccar, VEL	<p>DIESEL EXHAUST FLUID TANK A 7.3 gallon diesel exhaust fluid (DEF) tank will be provided and mounted under the cab on the driver's side. A fill inlet will be provided on the driver's side of the cab. The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing. The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p>
0552793	Not Required, Fuel Priming Pump	
0552712	Not Required, Shutoff Valve, Fuel Line	
0699437	Cooler, Chassis Fuel, Not Req'd.	
0690880	No Selection Required From This Category	
0887546	Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	<p>TRANSMISSION An Allison 6th generation, Model EVS 4000P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with an amber light and buzzer will be installed on the cab instrument panel.</p>
0625331	Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	<p>TRANSMISSION SHIFTER A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st 3.51 to 1.00 2nd 1.91 to 1.00 3rd 1.43 to 1.00 4th 1.00 to 1.00 5th 0.75 to 1.00 6th 0.64 to 1.00 R 4.80 to 1.00</p>
0517604	Transmission Programming, Park to Neutral, PUC	<p>TRANSMISSION PROGRAMMING The transmission will be programmed to automatically shift the transmission to neutral when the parking brake is set to simplify operation and increase operational safety.</p>
0684459	Transmission Oil Cooler, Modine, External	<p>TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.</p>
0001375	Driveline, Spicer 1810	<p>DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.</p>
0734211	Steering, Sheppard M110 w/Tilt, TAK-4, Paccar Pump, w/Cooler, Paccar	<p>STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and Paccar hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.</p>

Not Required, Steering Assist
Cylinder on Front Axle

0509230	Steering Wheel, 4 Spoke without Controls	<p>STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.</p>
0690274	Logo/Emblem, on Dash	<p>LOGO AND CUSTOMER DESIGNATION ON DASH The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row. The first row of text will be: Farmers The second row of text will be: Branch The third row of text will be: Fire</p>
0536235	Bumper, 19" Extended, Steel Painted, Imp/Vel	<p>BUMPER A one (1) piece bumper manufactured from 0.25" formed steel with a 0.38" bend radius will be provided. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange, and will extend 19.00" from the face of the cab. The bumper will be 102.00" wide with 45 degree corners and side plates. The bumper will be metal finished and painted job color. To provide adequate support strength, the bumper will be mounted directly to the front of the C channel frame. The frame will be a bolted modular extension frame constructed of 50,000 psi tensile steel. Gravel Pan A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and the cab face. The pan will be properly supported from the underside to prevent flexing and vibration.</p>
0616492	Tray, Hose, Center, 19" Bumper, Outside Air Horns, Imp/Vel	<p>CENTER HOSE TRAY A hose tray, constructed of aluminum, will be placed in the center of the bumper extension. The tray will have a capacity of 150' of 1.75" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.</p>
0633479	Hose Restraint, Bumper Tray, Velcro Straps, Pair	<p>Center Hose Tray Restraint There will be one (1) pair of hose tray restraint straps located over the center mounted tray. The restraints will be a pair of 2.00" wide black nylon straps with Velcro® fasteners provided. The strap(s) will be used to secure the hose in the tray.</p>
0510226	Lift & Tow Package, Imp/Vel, AXT, Dash CF	<p>LIFT AND TOW MOUNTS Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame.</p>
0032932	Tow Eyes, Painted, Extended Out Front of Bumper	<p>TOW EYES Two (2) tow eyes will be mounted through the front face of the bumper. The inner and outer edges of the tow eyes will have a .25" radius. The tow eyes will be mounted directly to the bumper frame. Cutouts will be provided in the front face of the stainless steel bumper to allow the tow eyes to extend out the front. The tow eyes will be designed and positioned to allow up to a 9,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus. The tow eyes will be painted job color.</p>
0532853	Recess, Side Zone Warning Light, In Side of Extended Bumper	<p>SIDE ZONE LIGHT MOUNTING The front lower warning lights on each side will be recessed into the side of the bumper extension to protect the light from damage. The recessed bracket will be made of painted smooth aluminum.</p>
0692444	Recess, Front/Side Warning Light, In Angled Corner of Extended Bumper	<p>SIDE ZONE LIGHT MOUNTING The front warning lights on each side will be recessed into the angled portion of the bumper extension to protect the light from damage. The recessed bracket will be made of painted smooth aluminum.</p>
0698960	Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	<p>FRONT BUMPER UL-LX COATING Protective black UL-LX® coating will be provided on the outside exterior of the top front bumper flange. It will not be sprayed on the underside of the flange. The lining will be properly installed by an authorized UL-LX dealer.</p>

CAB

The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

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

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

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

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

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 112.00". The raised portion will start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 62.95" in the center position and 68.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

CAB PUMP ENCLOSURE

The rear of the cab will be made to house the fire pump below the forward facing crew cab seats.

The cab side panels will be notched to accommodate the pump panel.

FENDER LINERS

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

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather. The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

0601652	Engine Tunnel, X12-15, MX13, Spray Insulation, Velocity FR	<p>ENGINE TUNNEL To provide structural strength, the engine tunnel sidewalls will be constructed of 0.50" aluminum plate that is welded to both the 0.25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered. The back of the engine tunnel will be no higher than 17.50" off the crew cab floor. The engine tunnel will be insulated on both sides for thermal and acoustic absorption. The underside of the tunnel will be sprayed with insulation. The insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of applicable NFPA standards.</p>
0887600	Cab Insulation, Impel/Velocity FR	<p>INTERIOR CAB INSULATION The cab will include 1.50" insulation in the ceiling, 3.00" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.</p>
0677478	Rear Wall, Exterior, Cab, Aluminum Treadplate	<p>CAB REAR WALL EXTERIOR COVERING The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.</p>
0122466	Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	<p>CAB LIFT A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure. The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2.00' (coiled) to 6.00' (extended). The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab. The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered. Cab Lift Interlock The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.</p>
0123176	Grille, Bright Finished, Front of Cab, Velocity	<p>GRILLE A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.</p>
0002224	Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	<p>DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a 1.00" polished stainless steel scuffplate, mounted on the striker side of the jamb.</p>
0527032	Trim, S/S Band, Across Cab Face, Rect Lights, Velocity	<p>FRONT CAB TRIM A band of 22 gauge polished stainless steel trim will be installed across the front of the cab, from door hinge to door hinge. The trim band will be centered on the head lights and applied with two (2)-sided tape. A 0.625" self adhesive trim strip will be applied around the perimeter of the trim band. There will be polished stainless steel corner covers provided over the painted cab corner where the cab turn signals are located.</p>
0087357	Molding, Chrome on Side of Cab	<p>SIDE OF CAB MOLDING Chrome molding will be provided on both sides of cab.</p>
0521669	Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	<p>MIRRORS A Retractable, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.</p>

Door, Full Height, Velocity FR 4-Door Cab, Raised Roof

CAB DOORS

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 85.50" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum. The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.

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

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

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

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

A chrome grab handle will be provided on the inside of each cab and crew cab door.

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

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

0655511 Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab

Door Panels

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

0667905 Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velocity FR

RECESSED POCKET WITH ELASTIC COVER

To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 5.63" wide x 2.00" high x 4.00" deep. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console.

0667902 Controls, Electric Windows, All Cab Doors, Impel/Velocity FR

ELECTRIC WINDOW CONTROLS

Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.

0670028 Electric Door Locks, Cab Doors, DS Bumper Conceal Switch Loc, Imp/Vel

ELECTRIC CAB DOOR LOCKS

The front driver and passenger doors will have a door lock master switch (custom designed rotary lock knob) built into the interior door latch that will control all front and rear side exit door locks. Each rear cab door will have its own lock control. Each door will have a keyed exterior lock mechanism built into the door handle assembly.

There will be one (1) concealed switch on the exterior of the cab, located under the front bumper on the driver side, that operates the cab door locks.

The lock system will include two (2) key FOBs that allow for keyless entry into the vehicle. The key FOB system will use code hopping technology for high security and be FCC part 15 compliant.

0555485 Steps, 4-Door Full Tilt Cab, Imp/Vel

CAB STEPS

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.

0770200 Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab

CAB EXTERIOR HANDRAILS

A Hansen knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. Each handrail will be provided with red LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.

0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	<p>STEP LIGHTS There will be four (4) white P25 LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The light(s) will have a chrome housing. The lights will be activated when the adjacent door is opened.</p>
0002140	Fenders, S/S on Cab	<p>FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings.</p>
0586564	Window, Side of C/C, Fixed, w/EMS Cabinet, Imp/Vel	<p>CREW CAB WINDOWS One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 20.00" wide x 20.50" high.</p>
0552935	Trim, Cab Side Windows, Velocity	<p>WINDOWS INTERIOR TRIM For improved aesthetics, the cab side windows will include a vacuum formed ABS interior trim panel.</p>
0012090	Not Required, Windows, Front/Side of raised roof	
0509286	Not Required, Windows Rear of Crew Cab, Imp/Vel	
0558334	Not Required, Trim, Cab Rear Windows, No Rear Windows	
0786278	Window Tint, Crew Cab Door, Right Side, Medium Gray	<p>RIGHT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the right side crew cab door will be tinted medium gray.</p>
0786285	Window Tint, Upper Crew Cab Door, Right Side, Medium Gray	<p>RIGHT SIDE UPPER CREW CAB DOOR WINDOW TINT The upper window in the right side crew cab door will be tinted medium gray.</p>
0786289	Window Tint, Crew Cab Door, Left Side, Medium Gray	<p>LEFT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the left side crew cab door will be tinted medium gray.</p>
0786293	Window Tint, Upper Crew Cab Door, Left Side, Medium Gray	<p>LEFT SIDE UPPER CREW CAB DOOR WINDOW TINT The upper window in the left side crew cab door will be tinted medium gray.</p>
0775133	Insulation, Cab C/C Floor, Spray, AXT, Imp/Vel FR, Qtm	<p>CAB INSULATION The underside of the cab and crew cab floor will be sprayed with insulation. The insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of applicable NFPA standards.</p>
0123686	Drip Rail, Cab Roof, Impel/Velocity/Velocit SLT	<p>CAB ROOF DRIP RAIL For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.</p>
0798684	Work Surface, 3/16" Alum, Full Engine Tunnel, Vel/Imp FR	<p>WORK SURFACE There will be a work surface provided on the engine tunnel. The work surface will be flat. It will not follow the engine tunnel angles. The work surface will cover the entire engine tunnel and will be constructed of 0.19" aluminum to allow for the mounting of equipment. The work surface will start to the rear of the center instrument panel and finish at the end of the engine tunnel. The work surface will be painted to match the cab interior.</p>

Shelf, Equipment Mounting,
Aluminum, Lip, Full Width

EQUIPMENT MOUNTING SHELF

There will be one (1) full width shelf for permanent mounting of equipment provided. The full width shelf will be located Full width over the top of the rear-facing EMS cabinets and engine tunnel. The shelf will have a 1.00" lip around edge. The shelf will be fabricated from aluminum and will be painted to match the cab interior. Tray not intended for storage of loose equipment. Items stored on tray will be permanently attached to meet current edition of applicable NFPA standards.

0664381

Bracket, PAC, Ironslok, PN K5003

HALLIGAN TOOL/AXE MOUNTING BRACKET(S)

There will be one (1) PAC Ironslok, P/N 5003, mounting bracket(s) provided. They will be located on back of the engine tunnel over the fluid access door.

0657250

Tray, Slideout, Alum, Sides, MDT
Bracket, Recessed Dash, Officer

COMPUTER MOUNTING TRAY

There will be one (1) sliding aluminum tray located forward of the officer. The tray will be as wide as possible in the dash panel recess. The tray will be painted to match the cab interior.

0748671

Cab Interior, Vinyl, Velocity FR,
CARE

CAB INTERIOR

With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road. The center console will be a high impact ABS polymer and will be easily removable. The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.

To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.

To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.

To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew.

The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be 36 oz dark silver gray vinyl. All cab interior materials will meet FMVSS 302 (flammability of interior materials).

0667943

Cab Interior, Paint Color,
Impel/Velociry FR

CAB INTERIOR PAINT

The following metal surfaces will be painted black, vinyl textured paint:

Modesty panel in front of driver

Vertical surface of dash in front of the officer (not applicable for recessed dash)

Glove box in front of the officer (if applicable)

Power distribution in front of the officer

Rear heater vent panels

The remaining cab interior metal surfaces will be painted fire smoke gray, vinyl texture paint.

0509532

Floor, Rubber Padded Cab & Crew
Cab, Imp/Vel, Dash CF

CAB FLOOR

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

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

DEFROST/AIR CONDITIONING SYSTEM

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

Cab Defroster

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

One (1) adjustable will be directed towards the left side cab window

One (1) adjustable will be directed towards the right side cab window

Six (6) fixed outlets will be directed at the windshield

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

Cab/Crew Auxiliary Heater

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

Air Conditioning

A 13.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.

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

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

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

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

Four (4) will be directed towards the seating position on the left side of the cab

Four (4) will be directed towards the seating position on the right side of the cab

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

Five (5) will be directed towards crew cab area

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

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

Climate Control

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

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

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

Gravity Drain Tubes

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

The drain tubes will terminate under the cab, on the inboard side of the front wheelwells.

0789101 Air Conditioning, Coleman-Mach 8, Roughneck, 120V, 15K Cool Only, Cab Roof, White

120 VOLT AIR CONDITIONING

There will be one (1) white, Coleman@-Mach@ 8, Roughneck™, 120 volt, low profile air conditioning unit installed on the crew cab roof. The air conditioner will have cooling capacity of 15,000 BTU and include a condensate pump and hose to prevent accumulation of condensate on the roof.

A wall mounted digital thermostat will control the air conditioning unit.

The thermostat will be wired battery direct to operate when the battery switch is off.

This unit will be powered from the onboard generator to shoreline power transfer switch.

INTERIOR CAB INSULATION

The walls and roof will be insulated to aid in cooling.

0639675 Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf

SUN VISORS

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

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

0548173 Grab Handles, Driver and Passenger Door Post, Imp/Vel

GRAB HANDLE

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

Lights, Engine Compt, Custom, Auto Sw, W/in 3SC0CDCR, 3" LED, Trim

ENGINE COMPARTMENT LIGHTS

There will be one (1) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination. These light(s) will be activated automatically when the cab is raised.

0122516

Fluid Check Access, Imp/Vel

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be flush with the wall of the engine tunnel. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil. The door will have a rubber seal for thermal and acoustic insulation. One (1) Southco C2 black powder coated flush latch will be provided on the access door.

0583042

Side Roll and Frontal Impact Protection

CAB SAFETY SYSTEM

The cab will be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and will include the following:

A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.

A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.

A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.

A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.

A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.

Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.

Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.

Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

Frontal Impact Protection

The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected.

The SRS system will deploy the following components in the event of a frontal or oblique impact event:

Driver side front air bag

Passenger side knee bolster air bag

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

Seat belts will be pre-tensioned to firmly hold the occupant in place

Side Roll Protection

The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.

The SRS system will deploy the following components in the event of a side roll:

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

Seat belts will be pre-tensioned to firmly hold the occupant in place

0622619

Seating Capacity, 4 Seats

SEATING CAPACITY

The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be four (4).

Seat, Driver, Pierce PS6, Premium,
Air Ride, High Back, Safety,
PRIMARY

DRIVER SEAT

A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type with air suspension. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.75" travel) and horizontal (7.00" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. Providing for maximum comfort, the seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. The lumbar adjustment lever will be easily located at the lower outboard position of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

0587668

Seat, Officer, Pierce PS6, Base,
SCBA, Safety, PRIMARY

OFFICER SEAT

A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a fixed type, with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location. The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A seat safety system will be included. When activated, this system will pretension the seat belt. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

0510037

Radio Compartment, Below Officer
Seat, Imp/Vel

RADIO COMPARTMENT

A compartment for the radio amplifier will be located under the front passenger's seat. The size of the compartment will be approximately 16.00" wide x 7.50" high x 16.50" deep. A drop-down door with a chrome plated, flush lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

0823633

Cabinet, Rear Facing, LS, 21 W x 28
H x 24 D, Web, Imp/Vel

REAR FACING LEFT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the left side outboard position. The cabinet will be 21.00" wide x 28.00" high x 24.00" deep. The interior door will be web netting. The netting is to be made with 2.00" wide nylon material with 2.00" openings permanently fastened on the bottom with seat belt buckle fasteners on the top to secure it. A bar to be provided connecting the fasteners for a single release. The clear door opening will be 18.50" wide x 25.00" high. The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lippainted to match the cab interior. The cabinet will include no louvers. The cabinet will be constructed of smooth aluminum, and painted to match the cab interior. **Cabinet Light** There will be one (1) white LED strip light installed on the right side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the exterior of the cabinet.

0102783

Not Required, Seat, Rr Facing C/C,
Center

0826946

Cabinet, Rear Facing, RS, 19 W x 28
H x 26.5 D, Web, Imp/Vel

REAR FACING RIGHT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the right side outboard position. The cabinet will be 19.00" wide x 28.00" high x 26.50" deep. The interior door will be web netting. The netting is to be made with 2.00" wide nylon material with 2.00" openings permanently fastened on the bottom with seat belt buckle fasteners on the top to secure it. A bar to be provided connecting the fasteners for a single release. The clear door opening will be 16.50" wide x 25.00" high. The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lippainted to match the cab interior. The cabinet will include no louvers. The cabinet will be constructed of smooth aluminum, and painted to match the cab interior. **Cabinet Light** There will be one (1) white LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the exterior of the cabinet.

0628855	SP Seat, Fwd Fcng C/C, LS Otbrd, PS6, Base, SCBA, Safety, 17" Btm, 3" Inbrd, SECONDARY	<p>FORWARD FACING DRIVER SIDE OUTBOARD SEAT</p> <p>There will be one (1) forward facing Pierce PS6® seat provided at the driver side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 17.00" deep foam cushions, and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat will be moved approximately 3.00" inboard from the standard location.</p>
0891718	SP Cabinet, Forward Facing, Center, 36 W x 51 H x 24 D, 2" Web, Strap, WW, Imp/Vel	<p>FORWARD FACING CENTER CABINET</p> <p>A forward facing cabinet will be provided in the crew cab at the center position. The upper rear wall of the cabinet will be angled to include the wireway angle.</p> <p>The cabinet will be 36.00" wide x 51.00" high x 24.00" deep. The cabinet will be provided with no false floor. The interior door will be web netting. The netting will be made with 2.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the bottom of the cabinet and have seat belt buckle fasteners on the opposite side to secure it. A bar will connect the buckles and an orange pull strap will be provided in the center. The clear door opening of the cabinet will be 33.50" wide x 48.00" high.</p> <p>The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lipped to match the cab interior.</p> <p>The cabinet will include no louvers.</p> <p>The cabinet will be constructed of smooth aluminum and painted to match the cab interior.</p> <p>Cabinet Light</p> <p>There will be one (1) red Amdor LED strip light installed on the right side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.</p>
0628851	SP Seat, Fwd Fcng C/C, RS Otbrd, Pierce PS6, Base, SCBA, Safety, 17", 3" IB, SECONDARY	<p>FORWARD FACING PASSENGER SIDE OUTBOARD SEAT</p> <p>There will be one (1) forward facing Pierce PS6® seat provided at the passenger side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 17.00" deep foam cushions, and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat will be moved approximately 3.00" inboard from the standard location.</p>
0766467	Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE	<p>SEAT UPHOLSTERY</p> <p>All seat upholstery will be leather grain 36 oz dark silver gray vinyl resistant to oil, grease and mildew. The cab will have four (4) seating positions.</p>
0543991	Bracket, Air Bottle, Hands-Free II, Cab Seats	<p>AIR BOTTLE HOLDERS</p> <p>All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.</p> <p>There will be a quantity of three (3) SCBA brackets.</p>
0690610	Embroidery, Seats, Cab and Crew Cab	<p>SEAT EMBROIDERY</p> <p>The seats in the cab and crew cab will be provided with custom embroidery. The Fire Department will determine what the embroidery will be by providing pictures at the time of order. The custom logo will be provided in place of the standard OEM logo. The embroidery will be provided on four (4) seats.</p>

0603867	Seat Belt, ReadyReach	<p>SEAT BELTS All seating positions in the cab, crew cab and tiller cab (if applicable) will have orange seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only.</p>
0604867	Seat Belt Height Adjustment, 4 Seats, Imp/Vel, Dash CF	<p>SHOULDER HARNESS HEIGHT ADJUSTMENT All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. A total of four (4) seating positions will have the adjustable shoulder harness.</p>
0817557	Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	<p>HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.</p>
0647647	Lights, Dome, FRP Dual LED 4 Lts	<p>CAB DOME LIGHTS There will be four (4) dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the lens switch. In order to ensure exceptional illumination, each white LED dome light will provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.</p>
0615448	Lights, Dome, WIn, 60C0EJCS White LED, Bat Dir and Bat Charger	<p>ADDITIONAL DOME LIGHTS There will be one (1) Whelen®, Model 60C0EJCS, 6.00" round white LED dome light(s) with lens switch located PS crew cab ceiling to light up EMS cabinet access area. The light(s) will have 12 volt DC power when the shoreline inlet is connected to the apparatus.</p>
0896451	Enhanced Software for Cab and Crew Cab Dome Lts	<p>ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed. The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.</p>
0631776	Not Required, Overhead Map Lights	
0804719	Handlts, (4) Streamlight, Fire Vulcan, 44451, C4 LED, Tail Lts, 12v, Orange	<p>HAND HELD LIGHT There will be four (4) Streamlight, Fire Vulcan, Model #44451, hand lights provided with a vehicle mount with 12VDC direct wire charging rack and quick release buckle strap mounted wiring coiled under each rear seat and two coiled inside center console to be mounted at final. Each light housing will be orange in color and be provided with a C4, LED and two (2) "ultra bright blue tail light LEDs". The tail light LEDs will have a dual mode of blinking or steady.</p>
0695283	Handlight, Streamlight, Survivor, 90503, C4 LED, 12v, Orange, Steady Charge	<p>HAND HELD SPOTLIGHT There will be four (4) lights Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC cords provided and installed in the ceiling above each seat position. The driver and officer light should be as close as possible to the AC plenum so the firefighter does not hit the light climbing in the cab. The flashlights will be connected battery direct and will charge when the chassis batteries are charging.</p>
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	<p>CAB INSTRUMENTATION The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership.</p> <p>Gauges The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance: Voltmeter gauge (Volts)</p>

Low volts (11.8 VDC)
 Amber indicator on gauge assembly with alarm
 High volts (15 VDC)
 Amber indicator on gauge assembly with alarm
 Very low volts (11.3 VDC)
 Amber indicator on gauge assembly with alarm
 Very high volts (16 VDC)
 Amber indicator on gauge assembly with alarm
 Tachometer (RPM)
 Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)
 Fuel level gauge (Empty - Full in fractions)
 Low fuel (1/8 full)
 Amber indicator on gauge assembly with alarm
 Very low fuel (1/32) fuel
 Amber indicator on gauge assembly with alarm
 Engine oil pressure gauge (PSI)
 Low oil pressure to activate engine warning lights and alarms
 Red indicator on gauge assembly with alarm
 Front air pressure gauge (PSI)
 Low air pressure to activate warning lights and alarm
 Red indicator on gauge assembly with alarm
 Rear air pressure gauge (PSI)
 Low air pressure to activate warning lights and alarm
 Red indicator on gauge assembly with alarm
 Transmission oil temperature gauge (Fahrenheit)
 High transmission oil temperature activates warning lights and alarm
 Amber indicator on gauge assembly with alarm
 Engine coolant temperature gauge (Fahrenheit)
 High engine temperature activates an engine warning light and alarm
 Red indicator on gauge assembly with alarm
 Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
 Low fluid (1/8 full)
 Amber indicator on gauge assembly with alarm
 All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance.

Indicator Lamps

To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Aux brake overheat (Auxiliary brake overheat)
- Air rest (air restriction)
- Caution (triangle symbol)
- Water in fuel
- DPF (engine diesel particulate filter regeneration)
- Trailer ABS (where applicable)
- Wait to start (where applicable)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- SRS (supplemental restraint system) fault (where applicable)
- DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

- Warning (stop sign symbol)
- Seat belt
- Parking brake
- Stop engine
- Rack down

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:

- High beam

Alarms

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for 3 to 5 seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

Indicator Lamp and Alarm Prove-Out

Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator

lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

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

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.

The following standard controls will be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position. The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

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

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for 3 to 5 seconds. A green indicator lamp will be activated with vehicle ignition.

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

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and air conditioning control panel.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided. Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

Diagnostic Panel

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

The diagnostic panel will include the following:

Engine diagnostic port

Transmission diagnostic port

ABS diagnostic port

SRS diagnostic port (where applicable)

Command Zone USB diagnostic port

ABS diagnostic switch (blink codes flashed on ABS telltale indicator)

Diesel particulate filter regeneration switch (where applicable)

Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function.

The upper left section will display the outside ambient temperature.

The upper right section will display, along with other configuration specific information:

Odometer

Trip mileage

PTO hours

Fuel consumption

Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm.

The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

0509511	Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	<p>AIR RESTRICTION INDICATOR A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.</p>
0673123	Light, Do Not Move Apparatus, Wln 3SR00FRR LED	<p>"DO NOT MOVE APPARATUS" INDICATOR A Whelen Model 3SR00FRR flashing red LED indicator light with a Whelen, Model 3FLANGEC chrome surface mount flange located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On". The same circuit that activates the Do Not Move Apparatus indicator will not activate any alarm when the parking brake is released.</p>
0509042	Messages, Open Dr/DNMT, Color Dsply,	<p>DO NOT MOVE TRUCK MESSAGES Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged). The following messages will be displayed (where applicable): Do Not Move Truck DS Cab Door Open (Driver Side Cab Door Open) PS Cab Door Open (Passenger's Side Cab Door Open) DS Crew Cab Door Open (Driver Side Crew Cab Door Open) PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open) DS Body Door Open (Driver Side Body Door Open) PS Body Door Open (Passenger's Side Body Door Open) Rear Body Door Open DS Ladder Rack Down (Driver Side Ladder Rack Down) PS Ladder Rack Down (Passenger Side Ladder Rack Down) Deck Gun Not Stowed Lt Tower Not Stowed (Light Tower Not Stowed) Fold Tank Not Stowed (Fold-A-Tank Not Stowed) Aerial Not Stowed (Aerial Device Not Stowed) Stabilizer Not Stowed Steps Not Stowed Handrail Not Stowed Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.</p>
0611681	Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX	<p>SWITCH PANELS The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliques. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver side overhead to allow for easy access. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout. The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.</p>
0555915	Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	<p>WIPER CONTROL For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.</p>
0820894	Wiring, Spare, 15 A 12V DC, Batt Dir, 1st NFPA1900/ULC	<p>SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on 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 15 amps at 12 volts DC. Power and ground will terminate next to the receptacle on each interior wall at the rear facing seat position. Termination will be with a 10-place bus bar with screws and removable cover. Wires will be sized to 125 percent of the protection. Battery direct loads cannot be Load Managed.</p>

Wiring, Spare, 15 A 12V DC, Batt Dir,
2nd NFPA1900/ULC

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on 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 15 amps at 12 volts DC
Power and ground will terminate behind officer seat
Termination will be with a 10-place bus bar with screws and removable cover
Wires will be sized to 125 percent of the protection
Battery direct loads cannot be Load Managed

0820904

Wiring, Spare, 15 A 12V DC 1st
NFPA1900/ULC

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.
The above wires will have the following features:
The positive wire will be connected directly to the battery switched power.
The negative wire will be connected to ground.
Wires will be protected to 15 amps at 12 volts DC.
Power and ground will terminate panel #15.
Termination will be with 15 amp, power point plug with rubber cover.
Wires will be sized to 125 percent of the protection.
The circuit(s) may be load managed when the parking brake is set.

0820919

Wiring, Spare, 4.8 A 12V DC, USB
Termination Blue Sea 1045 1st
NFPA1900/ULC

SPARE CIRCUIT

There will be three (3) dual USB fast charge socket mounts installed on the apparatus.
The above wires will have the following features:
The positive wire will be connected directly to the ignition switched 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 one at switch panel 9 on officer side dash and two in rear at forward facing EMS cabinet one each side up high.
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.

0566101

Recess, Dash Panel, Officer Side,
Vel/Imp

DASH PANEL RECESS

The dash panel across from the officer will be recessed to accommodate the mounting of miscellaneous items. The recess will be 7.25" down x 7.81" back and 20.88" wide.

0814201

Vehicle Information Center, 7" Color
Display, Touchscreen, MUX, CL714

INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.
The information center will have the following specifications:
Operate in temperatures from -40 to 158 degrees Fahrenheit
LCD optically bonded to hardened AR glass lens
Five weather resistant user interface switches
Grey with black accents
Sunlight Readable
Linux operating system
Minimum of 1000nits rated display
Display can be changed to an available foreign language
A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.
Programmed to read US Customary
General Screen Design
Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used. If a caution or warning situation arises the following will occur:
An amber background/text color will indicate a caution condition
A red background/text color will indicate a warning condition
The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.
A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.
Home/Transit Screen
This screen will display the following:
Vehicle Mitigation (if equipped)
Water Level (if the water level system includes compatible communications to the information center)
Foam Level (if the foam level system includes compatible communications to the information center)
Seat Belt Monitoring Screen
Tire Pressure Monitoring (if equipped)
Digital Speedometer
Active Alarms
On Scene Screen
This screen will display the following and will be auto activated with pump engaged (if equipped):

Battery Voltage
 Fuel
 Oil Pressure
 Coolant Temperature
 RPM
 Water Level (if equipped)
 Foam Level (if equipped)
 Foam Concentration (if equipped)
 Water Flow Rate (if equipped)
 Water Used (if equipped)
 Active Alarms

Virtual Buttons

There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

Page Screen

The page screen will display the following and allow the user to progress into other screens for further functionality:

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

A list of items to be load managed will be provided. The list will provide a description of the load. The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.

The screen will indicate if a load has been shed (disabled) or not shed.

"At a glance" color features are utilized on this screen.

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data

Maintenance

Engine oil and filter

Transmission oil and filter

Pump oil (if equipped)

Foam (if equipped)

Aerial (if equipped)

Setup

Clock Setup

Date & Time

12 or 24 hour format

Set time and date

Backlight

Daytime

Night time

Sensitivity

Unit Selection

Home Screen

Virtual Button Setup

On Scene Screen Setup

Configure Video Mode

Set Video Contrast

Set Video Color

Set Video Tint

Do Not Move

The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated

Driver Side Cab Door

Passenger's Side Cab Door

Driver Side Crew Cab Door

Passenger's Side Crew Cab Door

Driver Side Body Doors

Passenger's Side Body Doors

Rear Body Door(s)

Ladder Rack (if applicable)

Deck Gun (if applicable)

Light Tower (if applicable)

Hatch Door (if applicable)

Stabilizers (if applicable)

Steps (if applicable)

Notifications

View Active Alarms

Shows a list of all active alarms including date and time of the occurrence is shown with each alarm

		<p>Silence Alarms - All alarms are silenced Timer Screen HVAC (if equipped) Tire Information (if equipped) Ascendant Set Up Confirmation (if equipped) Button functions and button labels may change with each screen.</p>
0816633	Collision Mitigation, HAAS Alert (R2V), HA7	<p>COLLISION MITIGATION There will be a HAAS Alert®, Model HA 7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degrees Celsius to 85 degrees Celsius. The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground. While responding with emergency lights on, the HA7 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app. While on scene with emergency lights on, the HA7 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app. The HA7 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription. Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.</p>
0606249	Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	<p>VEHICLE DATA RECORDER There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided. The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line. The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs: Vehicle Speed - MPH Acceleration - MPH/sec Deceleration - MPH/sec Engine Speed - RPM Engine Throttle Position - % of Full Throttle ABS Event - On/Off Seat Occupied Status - Yes/No by Position Seat Belt Buckled Status - Yes/No by Position Master Optical Warning Device Switch - On/Off Internal clock syncs the time and date when a laptop is connected Seat Belt Monitoring System A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display and in the center overhead of the cab instrument panel. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following: Seat Occupied & Buckled = Green LED indicator illuminated Seat Occupied & Unbuckled = Red LED indicator with audible alarm No Occupant & Buckled = Red LED indicator with audible alarm No Occupant & Unbuckled = No indicator and no alarm The seat belt monitoring screen will become active on the Command Zone color display when: The home screen is active: and there is any occupant seated but not buckled or any belt buckled with an occupant. and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated. The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.</p>
0616382	Install Customer Provided GPS/Multimode Antenna(s)	<p>GPS / MULTIMODE ANTENNA INSTALLATION There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer. Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.</p>
0696439	Antenna Mount, Custom Chassis, Cable Routed to Instrument Panel Area	<p>RADIO ANTENNA MOUNT There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the right side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap will be installed on the mount.</p>

Camera, Pierce, LS Mux, R Camera, SD, CL714

VEHICLE CAMERA SYSTEM

There will be a color vehicle camera system provided with the following:
One (1) Standard Definition (SD) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.
The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be not provided.
The following components will be included:
One (1) SV-CW134639CAI Camera
All necessary cables

0814831 Not Required, Camera Switcher

Camera Switcher

A camera switcher is not required.

0511071 Guard, 4-Way, Rear Vision Camera

VEHICLE CAMERA GUARD

There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located over camera, centered.

0896458 Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT

ELECTRICAL POWER CONTROL SYSTEM

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.
Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.
Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

Solid-State Control System

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include black housings, a power indicator and status indicator located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field programmable to accommodate changes to the vehicle's operating parameters
- To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:
- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g
- IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)
- Operating voltage from eight (8) volts to 32 volts DC
- The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

Circuit Protection and Control Diagram

Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

On-Board Electrical System Diagnostics

The on-board information center will include the following diagnostic information:
Text description of active warning or caution alarms
Simplified warning indicators
Amber caution indication with intermittent alarm
Red warning indication with steady tone alarm
Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU Module with WiFi

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi

interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will communicate through a white WiFi antenna allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The TCU capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU information and update software in the device.

Indicator Light and Alarm Prove-Out System

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

Voltage Monitor System

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

Dedicated Radio Equipment Connection Points

There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment. The studs will consist of the following:

- 12-volt 40-amp battery switched power
- 12-volt 60-amp ignition switched power
- 12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

EMI/RFI Protection

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

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

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

There will be a software based vehicle tool provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone™ information center and/or wireless enabled devices to proactively alert of upcoming service intervals.

Prognostics will include the following:

- Engine oil and filter
- Transmission oil and filter

Electrical System, Velocity ESP,
Cummins, Paccar

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:

All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.

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.

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.

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).

All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

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

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

0089703

Batteries, (6) Interstate Grp 31, 950
CCA each, Threaded Stud

BATTERY SYSTEM

Six (6) 12 volt group 31 Interstate batteries that include the following features will be provided:
950 CCA (cold cranking amps)
195 reserve capacity
High cycle
Maintenance free
Rating of 5700 CCA at 0 degrees Fahrenheit
1170 minutes of reserve capacity
Threaded studs

0008621

Battery System, Single Start, All
Custom Chassis

BATTERY SYSTEM

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

MASTER BATTERY SWITCH

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

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

0123174

Battery Compartment, Imp/Vel

BATTERY COMPARTMENTS

The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.

0813848

Charger, Sngl Sys, IOTA, DLS-75, 75
amp, IQ4 Controller

BATTERY CHARGER

There will be an IOTA, Model DLS 75, 75 amp battery charger with IQ4 controller provided. The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

0814869

Location, Cab, Charger, Behind
Driver Seat

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

0811943

Panel, Remote Control, Kussmaul,
Chief 091-266-RCP

REMOTE CONTROL PANEL - BATTERY CHARGER

There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.

0813791	Panel, Charger Display, Kussmaul, 091-94-12, Batt Dir	REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Model 091-94-12 universal display panel included. It will be wired directly to the chassis batteries.
0814939	Location, Cab, Ind/Remote, Driver's Seat Riser	The battery charger indicator will be located on the driver's seat riser.
0814945	Location, Cab, Ind/Remote, Driver's Step Area	The battery charger indicator will be located in the driver's step area.
0814971	Not Required, Location Ind/Remote	
0782026	Shoreline, 20A 120V, Blue Sea Sure Eject 7851	SHORELINE INLET There will be one (1) Blue Sea Sure Eject™ part number 7851, 20 amp 120 volt AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline will be connected to Battery charger, air pump and receptacles. The shoreline inlet cover color to be red. The connector body will be released from the inlet when the apparatus engine start button is activated. There will be a mating connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0813015	Shoreline Location, Blue Sea	SHORE LINE LOCATION The shoreline receptacle will be located on the driver side of cab, above wheel.
0760950	SP Shoreline Inlet, 20A 120V Blue Sea Sure Eject 7851	SHORELINE INLET There will be one (1) Blue Sea Sure Eject™ part number 7851, 20 amp 120 volt AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline will be next to other shoreline. The shoreline will be connected to Coleman AC. The shoreline inlet cover color to be blue. The connector body will be released from the inlet when the apparatus engine start button is activated. There will be a mating connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0783395	Transfer Switch, Generator to Shoreline 30 Amp and Under	GENERATOR TO SHORELINE TRANSFER SWITCH There will be an automatic transfer switch between the onboard generator and the shoreline inlet. The loads connected to the transfer switch will be power from the onboard generator when the generator is running.
0538692	Cover, Protection over Battery Charger/Comp, Cab	BATTERY CHARGER COVER A cover will be fabricated and installed over the cab mounted battery charger/compressor for protection. The cover will be painted the same color as the interior and contain cutouts for proper ventilation.
0590797	Cover, Protection Over Air Compressor, Painted Smooth Aluminum	BATTERY CHARGER AIR COMPRESSOR COVER A removable cover will be fabricated and installed over the air compressor for protection. The cover will be made out of smooth aluminum and painted to match the cab interior.
0647728	Alternator, 430 amp, Delco Remy 55SI	ALTERNATOR A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

System voltage monitoring.

A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

High Idle to activate before any electric loads are shed and deactivate with the service brake.

If enabled:

"Load Man Hi-Idle On" will display on the information center.

Hi-Idle will not activate until 30 seconds after engine start up.

Individual switch "on" indicator to flash when the particular load has been shed.

The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:

Load managed items list, with priority levels and item condition.

Individual load managed item condition:

ON = not shed

SHED = shed

SEQUENCER

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch.

When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

Cab Heater and Air Conditioning

Crew Cab Heater (if applicable)

Crew Cab Air Conditioning (if applicable)

Exhaust Fans (if applicable)

Third Evaporator (if applicable)

0783153

Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel

HEADLIGHTS

There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

the outside light on each side will contain a part number 055***1 low beam module

the inside light on each side will contain a part number 055***1 high beam module

the headlights to include chrome bezels

The low beam lights will be activated when the headlight switch is on.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

0648425

Light, Directional, WIn 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Imp/Vel/AXT/Qtm

DIRECTIONAL LIGHTS

There will be two (2) Whelen 600® series, LED combination directional/marker lights provided.

The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be clear.

0620054

Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts

INTERMEDIATE LIGHT

There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights

furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

0648074

Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts

CAB CLEARANCE/MARKER/ID LIGHTS

There will be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.

Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.

Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.

Lights, Clearance/Marker/ID, Rear,
Truck-Lite 26250R LED 7Lts

REAR CLEARANCE/MARKER/ID LIGHTING

There will be three (3) Truck-Lite®, Model 26250R, LED lights used as identification lights located at the rear of the apparatus per the following:

As close as practical to the vertical centerline

Centers spaced not less than 6.00" or more than 12.00" apart

Red in color

All at the same height

There will be two (2) Truck-Lite, Model 26250R, LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

To indicate the overall width of the vehicle

One (1) each side of the vertical centerline

As near the top as practical

Red in color

To be visible from the rear

All at the same height

There will be two (2) Truck-Lite, Model 26250R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:

To indicate the overall length of the vehicle

One (1) each side of the vertical centerline

As near the top as practical

Red in color

To be visible from the side

All at the same height

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

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

Per FMVSS 108 and CMVSS 108 requirements.

0804519

Lights, Tail, WIn M62BTT* Red
Stop/Tail & M62T* Amber Dir Arw
w/Flange

REAR FMVSS LIGHTING

The rear stop/tail and directional lighting will include the following:

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

Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern.

The lens color(s) to be the same as the LEDs.

The lights to include chrome trim.

0806466

Lights, Backup, WIn M62BU, LED,
For Tail Lt Housing

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

0889577

Bracket, License Plate & Light, P25
LED, Stainless Brkt

LICENSE PLATE BRACKET

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

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

0556853

Bezels, WIn, (2) M6 Chrome Pierce,
For Mtg (3) WIn M6 Lts

LIGHTING BEZEL

There will be two (2) Whelen, Model M6FCV3P, three (3) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, and back up lights.

0081564

Alarm, Back-Up Warning, ECCO 505,
87db Constant

BACK-UP ALARM

An ECCO, Model 505, 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 at a constant 87db.

0769569

Lights, Perimeter Cab, Amdor AY-LB-
12HW012 LED 4Dr

CAB PERIMETER SCENE LIGHTS

There will be four (4) Amdor, Model AY-LB12HW012, 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.

0769559

Lights, Perimeter Pump House,
Amdor AY-LB-12HW012 LED 2lts

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) Amdor, Model AY-LB12HW012, 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.

Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear Step

BODY PERIMETER SCENE LIGHTS

There will be two (2) Amdor, Model AY-LB12HW012, 190 lumens each, 12.00" 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 a crew cab door is open and the parking brake is applied.

0896454

Enhanced Software for Perimeter Lts

ENHANCED SOFTWARE FOR PERIMETER LIGHTS

All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected. The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.

0895779

Lights, Step, Body, Front & Rear

STEP LIGHTS

There will be four (4) white LED step lights will be provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. These step lights will be activated when the perimeter lights are activated. All other steps on the apparatus will be illuminated per the current edition of applicable NFPA standards.

0618256

Light, Visor, FRC, 12V SPA851-A28-*, LED MAX-S 1st

12 VOLT LIGHTING

There will be two (2) Fire Research Spectra MAX-S, Model SPA851-A28-*, 12 volt DC LED combination spot/flood light(s) provided on the front visor, one (1) on the driver's side and one (1) on the passenger's side with 8 degree outward bracket. The housing(s) painted parts of this light assembly to be white with a chrome bezel. The light(s) will be steady burning with the selected switch features. The light(s) will be controlled by the following:
a switch at the driver's side switch panel and a switch at the passenger's side switch panel
no additional switch location
no additional switch location
no additional switch location
These light(s) may be load managed when the parking brake is applied.

0807372

Lights, FRC, SPA260-Q20, 1st

12 VOLT LIGHTING

There will be one (1) Fire Research Model SPA260-Q20, Spectra Max 20,000 lumens 12 volt DC LED surface mount scene light(s) with chrome housings located on the cab, LS cab. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.

0807374

Lights, FRC, SPA260-Q20, 2nd

12 VOLT LIGHTING

There will be one (1) Fire Research Model SPA260-Q20, Spectra Max 20,000 lumens 12 volt DC LED surface mount scene light(s) with chrome housings located on the cab, RS cab. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.

0807355

Lights, FRC, SPA260-Q20, 1st

12 VOLT LIGHTING

There will be one (1) Fire Research Model SPA260-Q20, Spectra Max, 20,000 lumen 12 volt DC LED surface mount scene light(s) with chrome trim located on the body, LS body side rearward. The lights will be controlled by the same control that has been selected for the driver's side scene light(s). The light(s) may be load managed when the parking brake is applied.

0807359

Lights, FRC, SPA260-Q20, 2nd

12 VOLT LIGHTING

There will be one (1) Fire Research Model SPA260-Q20, Spectra Max, 20,000 lumen 12 volt DC LED surface mount scene light(s) with chrome trim located on the body, RS body side rearward. The lights will be controlled by the same control that has been selected for the passenger's side scene light(s). The light(s) may be load managed when the parking brake is applied.

0532358

Not Required, Deck Lights, Other Hose Bed & Rear Lighting

0645877	Lights, Hose Bed, Sides, Dual LED Light Strips	<p>HOSE BED LIGHTS There will be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the hose bed area. Hose Bed lights will meet the photometric levels listed in the current edition of applicable NFPA standards for Hose Bed lighting requirements. Light strip(s) will be installed along the upper edge of the left side of the hose bed. Light strip(s) will be installed along the upper edge of the right side of the hose bed. The lights will be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.</p>
0645864	Lights, Rear Scene, FRC, SPA900-Q70	<p>REAR SCENE LIGHTS There will be two (2) Fire Research, Model SPA900-Q70, LED scene lights with 15 degree optics from vertical, installed at the rear of the apparatus, one each side of rear body. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and by a cup switch at the driver's side rear bulkhead.</p>
0787447	Lights, Walk Surf, Dual LED Light Strips, Cargo Area, Bdy Stp Lt	<p>WALKING SURFACE LIGHTS There will be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the cargo area. One (1) light strip will be installed the entire length of the driver's side of the cargo area. One (1) light strip will be installed the entire length of the passenger's side of the cargo area. The light will be activated when the body step lights are on.</p>
0518282	Pumper, PUC, Aluminum	
0554271	Body Skirt Height, 20"	
0682618	Tank, Water, 500 Gallon, Poly, 67 LHB, PUC	<p>WATER TANK Booster tank will have a capacity of 500 gallons and be constructed of UV stabilized ultra high impact polypropylene plastic by a manufacturer with a minimum of 20 years experience building tanks, is ISO 9001:2000 certified in all its manufacturing facilities, and has over 50,000 tanks in service. Tank joints and seams will be nitrogen welded inside and out. Tank will be baffled in accordance with the current edition of applicable NFPA standards. Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments. Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding. Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover. All partitions will interlock and will be welded to the tank bottom and sides. Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions. Tank top will be sufficiently supported to keep it rigid during fast filling conditions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes. A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank. Sump will include a drain plug and the tank outlet. Tank will be installed in a fabricated cradle assembly constructed of structural steel. Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing. Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle. Mounting system will be approved by the tank manufacturer.</p>
0003405	Overflow, 4.00" Water Tank, Poly	<p>Fill tower will be constructed of 0.50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a 0.25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p>
0028107	Not Required, Foam Cell Modification	
0633066	Sleeve, Through Tank	<p>SLEEVE, PLUMBING, THROUGH TANK One (1) sleeve will be provided in the water tank for a 3.00" pipe to the rear.</p>
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>

0003429	Not Required, Direct Tank Fill	
0003424	Not Required, Dump Valve	
0048710	Not Required, Jet Assist	
0030007	Not Required, Dump Valve Chute	
0514778	Not Required, Switch, Tank Dump Master	
0597043	Body Height, PUC/HDRP	BODY HEIGHT The height of the body will be 92.00" from the bottom of the body to the top of the body.
0683290	Hose Bed, Aluminum, Pumper, PUC, 67 LHB	HOSE BED The hose bed will be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength. Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation. A cross divider will be provided at the point the tank transitions from the lower section to the upper section. The divider will run from the top of the side sheet down below the hose bed grating. The hose bed will be directly above the rear compartment door. The dimension from the ground will be approximately 67.00" depending on the suspension and equipment load. The hose bed will be at a minimum 85.00" long.
0723340	Unpainted/Brush Finished, Hose Bed, 3G PUC/HDRP	The hose bed walls will be unpainted and with a brushed finish.
0003481	Hose Bed Capacity, Special	Hose bed will accommodate 1000' of 5", 400' of 3", 250' of 2.5".
0003488	Divider, Hose Bed, Unpainted	HOSE BED DIVIDER Two (2) hosebed dividers will be furnished for separating hose. Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge. Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening bolts, at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.
0806307	Deflector, Hose Bed, 30" Long, Alum Treadplate	HOSE BED DEFLECTOR A hose bed wind deflector will be provided at the front of the hose bed. The cover will be 30.00" long x full width of the hose bed. The cover will be constructed of .19" bright aluminum treadplate, hinged to the hose bed cross divider with a full length stainless steel piano hinge and resting on the hose bed dividers and side sheets. The cover will have a 1.00" upward "Lazy Bend" at the rear with additional bracing underneath for stiffening. A chrome grab handle will be provided in the rear center of the cover to assist in opening and closing. The cover will be labeled "NO STEP" using 3.00" lettering. Swell latches will be provided at the outboard rearward corners. A single pair of black nylon Velcro® straps towards the rear at the top of the hose bed to retain hose within the hose bed.
0807424	Hose Restraint, Hose Bed, Web, Rear, Separate From Top	HOSE BED RESTRAINT, REAR The hose in the hose bed will be restrained by heavy duty 2.00" black nylon webbing with a 1.50" x 4.00" box pattern. The webbing will be installed at the rear of the hose bed with Velcro strap and footman loop at the top. At the bottom of the webbing, Velcro strap and footman loop will be provided.
0503392	Cover, Piping in Hose Bed, With Grating, Treadplate Rear	COVER, PIPING HOSEBED There will be one (1) cover(s) provided over the rear outlet piping, on the left side in the hose bed. The cover will be secured to the side wall and floor of the hose bed. The cover(s) for the piping will have aluminum hosebed grating on the top for hose to be stacked on. The cover(s) will be able to support the weight of a firefighter when the hoselay is empty. The ends of the piping cover (s) will have 4-way at the rear with a stainless steel trim ring for the outlet(s).

Running Boards, Flip Out, PUC

RUNNING BOARDS

A running board will be provided on each side of the front body to allow access to the backboard/crosslay storage area. The running boards will be designed with a grip pattern punched into .125" bright aluminum treadplate material providing support, slip resistance, and drainage.

The runningboard will have a flip out section design that allows easier access to the full width equipment area above. The flip out section will be tied to the "do not move truck indicator" with a sensor when it is flipped out. There will be a latch provided that secures the flip out section when not in use.

0674252

Tailboard, 14" Deep, Full Width, Angled Corners, PUC/HDRP

TAILBOARD

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

The tailboard area will be 14.00" deep and full width of the body. The outboard sides of the tailboard will be angled at 45 degrees beginning at the point where the body meets the tailboard at the forward outboard edge angling rearward to the rear edge of the tailboard.

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

0690029

Wall, Rear, Body Material, PUC, PUC Tanker, PRM, HDRP

REAR WALL, BODY MATERIAL, PUC

The rear wall will be smooth and the same material as the body.

The rear wall body material will be painted. Unpainted aluminum overlays will be provided to allow for chevron application and to provide continuously smooth rear wall panels.

The outboard edges of the rear wall will be trimmed in polished stainless steel.

0003531

Tow Bar, Under Tailboard

TOW BAR

A tow bar will be installed under the tailboard at center of truck.

Tow bar will be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

Tow bar assembly will be constructed of .38" structural angle. When force is applied to the bar, it will be transmitted to the frame rail.

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

Tow bar design will have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

0634378

Wrap, Tailboard, Aluminum Channel, 4" Tall, Painted

WRAP

A 4.00" high aluminum wrap will be provided on the tailboard. The wrap will be painted job color.

COMPARTMENTATION

The apparatus body will be built of aluminum construction using a minimum of 0.125" thick, 5052-H32 aluminum.

The body panel assembly will be constructed in a fixture and consist of formed sheet metal for the front and rear bulkheads, door frames, floors, ceilings, and back walls. These parts will be welded together to ensure greatest longevity with no visible welds in compartment interior. Welded construction will consist of 1.00" x 0.38" engineered plug weld holes that control the size, location, and the amount of weld required. The bodies will be assembled and welded from engineered prints that call out the size, location, and type of weld required.

In structural areas the sheet metal components will have flanges for welding. No butt joints will be allowed. Gussets and support posts will be provided for additional strength where needed.

The fender panel will be an integral part of the complete welded body assembly. All light and compartment holes are pre punched prior to construction to provide accuracy and rounded corners to prevent stress risers in the material.

Circular fender liners will be provided. For prevention of paint chips and ease of suspension maintenance the fender liners will be formed from brush finished 304L stainless steel, be unpainted, and removable for suspension maintenance.

Side compartment flooring will be of the sweep out design with the floor minimum of 1.00" higher than the compartment door lip.

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

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

The aluminum treadplate covers will not make up the ceiling of the compartment.

All screws and bolts, which are not Grade 8, will be stainless steel and where they protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

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

The backbone of the body support system will begin with the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads. The support system will include lateral frame rail extensions that are formed from 0.375" 80k high strength steel and bolted to the chassis frame rails with 0.625" diameter Grade 8 bolts.

The vertical and horizontal members of the frame rail extensions are to be reinforced with welded gussets and extend to the outside edge of the body. The lateral frame extensions will be electro-coated for superior corrosion resistance.

The floating substructure will be separated from the lateral frame extensions with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body, and absorb road shock and vibration.

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

The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body. Two (2) 3.50" diameter isolators are provided at the front of the body near the centerline of the vehicle above the chassis frame. A minimum of eight (8) - 2.55" diameter isolators will be provided, two (2) under each front compartment and two (2) under each rear side compartment. A minimum of four (4) 3.50" diameter isolators will be provided under the rear compartment.

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. Documentation of the material meeting the standard will be provided at time of delivery.

LOUVERS

All body compartments will have a minimum of one (1) set of automotive style, dust resistant louvers pressed into a wall. The louvers will incorporate a one (1)-way rubber valve that provides airflow out of the compartment and prevents water and dirt from gaining access to the compartment. Compartments over the wheel will not have louvers.

TESTING OF BODY DESIGN

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

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

The criteria used during the testing procedure will include:

Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

Driving the vehicle on 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 the actual testing techniques will be made available upon request.

FEA will have been performed on all substructure components.

LS 189" Rollup, (1) 62" Fwd, (1) 52" Rr, Full Height & Depth Front & Rear, PUC

LEFT SIDE COMPARTMENTATION

The left side compartmentation will consist of three rollup door compartments. A full height, rollup door compartment ahead of the rear wheels will be provided. The pump operator's panel will be located in this compartment. The partition to the right of the pump operator's panel will be 5.50" in width. The interior dimensions of the remaining space in this compartment will be 25.25" wide x 53.63" high x 26.00" deep. The clear door opening will be a minimum of 59.25" wide x 53.63" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 60.00" wide x 22.88" high x 26.00" deep. The clear door opening will be a minimum of 57.25" wide x 22.88" high.

A full height, rollup door compartment behind the rear wheels will be provided. **The interior dimensions of this compartment will be 51.75" wide x 54.63" high x 26.00" deep. The clear door opening will be a minimum of 49.25" wide x 54.63" high.**

The roll up door spool will be installed in a recess above the compartment ceiling. All compartments will include a drip pan below the roll of the door. The drip pan will be installed level with the compartment ceiling. The interior height of the compartments will be measured from the compartment floor to the ceiling. The depth of the compartments will be measured from the back wall to the inside of the door frame.

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

0503803

RS 189" Rollup, (1) 62" Fwd, (1) 52" Rr, Full Height & Depth Front & Rear, PUC

RIGHT SIDE COMPARTMENTATION

A full height, jump off compartment with a roll-up door ahead of the rear wheels will be provided, as convenient large storage compartment for often used items for the crew. The interior dimensions of this compartment will be 62.00" wide x 54.50" high x 25.88" deep. The area behind the roll up door spool will be notched for exterior storage or larger capacity water tank tee. 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 59.00" wide x 54.50" high.

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

A roll-up door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 60.00" wide x 23.00" high x 25.88" deep. The area behind the roll up door spool will be notched for exterior storage or larger capacity water tank tee. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 57.00" wide x 23.00" high.

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

A full height, roll-up door compartment behind the rear wheels will be provided. **The interior dimensions of this compartment will be 52.00" wide x 54.50" high x 25.88" deep. The area behind the roll up door spool will be notched for exterior storage or larger capacity water tank tee. 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 49.00" wide x 54.50" high.**

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

All compartments will include a drip pan below the roll of the door.

0594005

Doors, Rollup, Amdor, Side Compartments

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors. Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement. Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.

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

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

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. All injection molded rollup door wear components will be constructed of Type 6 nylon. Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

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

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

Compt, Rear, Rollup, 33.50" FF,
w/Tailboard, PUC/HDRP

REAR COMPARTMENTATION

A roll-up door compartment above the rear tailboard will be provided. the interior dimensions of this compartment will be 37.00" wide x 36.50" high x 25.88" deep in the lower 27.00" of the compartment and 15.00" deep in the remaining upper portion. The clear door opening will be a minimum of 33.88" wide x 26.63" high.
A removable access panel will be furnished on the back wall of the compartment.
The rear compartment will be open into the rear side compartments. The transverse opening will be a minimum of 22.00" wide x 27.50" high.
A drip pan will be installed below the roll of the door. A guard will be installed behind the roll of the door. The interior height of the compartment will be measured from the floor to the ceiling. The depth of the compartment will be measured from the back wall to the inside of the door frame. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0593958

Door, Amdor, Rollup, Rear
Compartment, PUC

ROLL-UP REAR COMPARTMENT DOOR

The rear compartment will have a roll-up door.
The door will be double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand roll-up doors.
The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools.
The slats will be mounted in reusable slat shoes with positive snap-lock securement.
Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.
The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.
Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.
A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.
All injection molded roll-up door wear components will be constructed of Type 6 nylon.
The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.
The header for the roll-up door assembly will not exceed 4.00".
A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

0616670

Lights, Compt, Pierce LED, Dual
Light Strips, Each Side of Door,
Pumper/Tanker

COMPARTMENT LIGHTING

There will be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment (s).
Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.
Opening the compartment door will automatically turn the compartment lighting on.

0681963

Lights, Hatch Compt, Pierce LED, 24"
Light Strips, IPOS

HATCH COMPARTMENT LIGHTING IPOS

There will be one (1) Pierce 24.00" white 12 volt DC LED compartment light strip(s) installed in place of the rubber mounted lights in the hatch compartment(s) located DS rearward hatch latch side.

0682076

Lights, Hatch Compt, Pierce LED, 40"
Light Strips, IPOS

HATCH COMPARTMENT LIGHTING IPOS

There will be one (1) Pierce 40.00" white 12 volt DC LED compartment light strip(s) installed in place of the rubber mounted lights in the hatch compartment(s) located DS forward hatch latch side.

0529059

189" Hatch, (2) Lift-up, 21" Wide, Left
Side Only, PUC/HDRP

HATCH COMPARTMENTS

Hatch compartments 189.00" long x 21.00" wide x 22.00" maximum depth will be provided above the left side body compartments, with two (2) lift-up top opening hatch doors.
Compartment(s) will extend the full length of the side body compartmentation except for a 20.00" recessed step area at the rear of the compartment on the access side.
Sides of the compartment(s) will be constructed of the same material as the body and painted job color on the outside panels. A 2.00" tall formed aluminum painted to match the lower body color will be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment will have a 1.00" wide painted aluminum extrusion.
Top of the compartment(s) will be constructed of bright aluminum treadplate.
Two (2) lift-up, bright aluminum treadplate doors will be provided on the top of the compartment (s), each with a slam style latch with lever handle to hold the doors in the closed position.
Double pan doors will have lipped edges with a rubber seal for weather resistance.
Doors will be hinged on the outboard side and will be held open with pneumatic stay arms.
Compartment will have a 3/4" drain that extends to below the body. Black rubber matting shall be provided to help prevent stored equipment in pooled water.

0733406	Handrails, Hatch Step Area, (1) Curved & (1) Straight	Handrails will be provided at the step area to the rear of the hatch compartment. One (1) curved handrail will be mounted on the outboard side of the step area at the rear and curve over the top. One (1) straight handrail will be mounted vertically along the inboard side of the step area.
0760868	Lights, Cargo/Dunnage, Dual LED Light Strips, Each Side	<p>CARGO/DUNNAGE AREA LIGHTING</p> <p>There will be two (2), 12 volt DC strips lights with white LEDs and stainless steel protective cover, provided to illuminate the cargo area.</p> <p>One (1) light strip will be installed the entire length of the left side of the cargo area.</p> <p>One (1) light strip will be installed the entire length of the right side of the cargo area.</p> <p>The light(s) will be activated when the battery switch is on and the body step lights are activated.</p>
0687145	Shelf Tracks, Recessed, PUC/3rd Generation	<p>MOUNTING TRACKS</p> <p>There will be recessed tracks installed vertically to support the adjustable shelf(s).</p> <p>Tracks will not protrude into any compartment in order to provide the greatest compartment space and widest shelves possible.</p> <p>The tracks will be provided in each compartment except for the one that contains the pump operator's panel.</p>
0600350	Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	<p>ADJUSTABLE SHELVES</p> <p>There will be four (4) shelves with a capacity of 500 lb provided.</p> <p>The shelf construction will consist of .188" aluminum with a dual action finish with 2.00" sides.</p> <p>Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.</p> <p>The shelves will be held in place by .12" thick stamped plated brackets and bolts.</p> <p>The location(s) will be in LS1 at the depth transition point, in RS3 in the upper third, in LS2 centered between the floor and ceiling and in LS3 at the depth transition point.</p>
0559456	Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Full Width	<p>SLIDE-OUT ADJUSTABLE HEIGHT TRAY</p> <p>There will be one (1) slide-out tray provided.</p> <p>Each tray will have 2.00" high sides and a capacity rating of up to 500 lb in the extended position.</p> <p>Each tray will be designed to be as wide as the compartment space will allow.</p> <p>Each tray will be constructed of aluminum with a brushed finish.</p> <p>Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.</p> <p>An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.</p> <p>The tray(s) will be located RS3 directly over the Little Giant.</p>
0647043	Tray, Floor Mounted, Slide-Out, Full Width/Full Depth, 500lb, 2.00" Sides, 3G	<p>SLIDE-OUT FLOOR MOUNTED TRAY</p> <p>There will be one (1) floor mounted slide-out tray(s) with 2.00" sides provided LS1. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of .19" aluminum with non-welded corners. The finish will be with a brushed finish.</p> <p>The trays will be designed for maximum compartment width and depth.</p> <p>There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.</p> <p>To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.</p> <p>To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition.</p> <p>Proof of compliance will be provided upon request.</p> <p>Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.</p>
0770972	Tray, Floor Mounted, Slide-Out, Standard Depth, Aluminum Plate, Flat Top	<p>STANDARD DEPTH SLIDE-OUT FLOOR MOUNTED TRAY WITH FLAT TOP</p> <p>There will be one (1) floor mounted slide-out tray(s) provided LS3 on floor. Each tray will have a flat top with no sides or flanges. A capacity rating will not be provided for the tray(s) due to the fact that there are no sides. Each tray will be constructed of 0.25" thick aluminum plate.</p> <p>Each tray will be mounted on two (2) under mount, roller bearing type slides. Each slide will be rated at 250 lb with a factor of safety of two (2).</p> <p>To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.</p> <p>To ensure years of easy operation, the slide will require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition.</p> <p>Proof of compliance will be provided upon request.</p> <p>Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.</p>

	<p>Toolboard, Swing-Out, Alum, .188", No Holes, 3G</p>	<p>SWING OUT TOOLBOARD A swing out aluminum toolboard will be provided. It will be a minimum of .188" thick with a 1.00" x 1.00" aluminum tube frame welded around the edge. The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 pounds. The board will have positive lock in the stowed and extended position. The board will have a D - ring handle to secure it in the stowed position. The board will be mounted on adjustable tracks from front to back within the compartment. There will be One (1) toolboard(s) provided. The toolboard(s) will be with a brushed finish and installed one in RS2.</p>
<p>0726412</p>	<p>Partition, Trans Rear Compt, PUC/HDRP</p>	<p>PARTITION, TRANSVERSE REAR COMPARTMENT Two (2) partitions will be bolted in place to separate the left and right side rear compartments from the rear tailboard compartment. The partition will be body material with a dual action finish.</p>
<p>0726403</p>	<p>Partition, Vertical Compt, Special Height</p>	<p>VERTICAL COMPARTMENT PARTITION One (1) partition will be bolted in attached to the shelf and ceiling at a distance of 40" from the forward wall for a poly floor runner that is 36" wide to hang on a roller. Each partition will be full vertical height of the compartment. Each partition will be with a dual action finish.</p>
<p>0632702</p>	<p>Access Door, Rear of Hatch Compt</p>	<p>REAR HATCH COMPARTMENT ACCESS DOOR A lift up door with stay arm device constructed of aluminum treadplate with a flush lift and turn latch will be provided at the rear of the left side hatch compartment(s) for a total of one (1) door (s). If a liftup door is provided, lettering will be provided on the door that reads "Not A Step". The lettering will be installed upside down so that when the door is opened it can be read from the top of the apparatus.</p>
<p>0727519</p>	<p>SP Slide Out Work Surface, With Tool Storage, Adj. Height, Dry Erase, 6" Sides</p>	<p>SLIDE-OUT ADJUSTABLE HEIGHT WORK SURFACE There will be a total of one (1) slide-out work surface(s) provided. Each tray will include a two (2) section hinged, dry erase work surface that covers the entire top of the tray. Each section of the work surface will be hinged at the rear of the tray with a single continuous hinge. The tray will have 6.00" high sides, providing a storage area below the work surface. The tray will have a capacity of up to 500 lb in the extended position. Each tray will be as deep as possible for a standard depth compartment and as wide as possible for the specified mounting location. Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location. An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand. The slide-out work surface(s) will be located LS3 just under the transition.</p>
<p>0681617</p>	<p>SP Brackets, Hose Storage, L-Shaped, 45 Degree Corner Front Plate</p>	<p>BRACKETS, L-SHAPED, HOSE STORAGE There will be a quantity of four (4) L-shaped brackets to store hose on in a compartment. The compartments that brackets will be provided for are RS 1, two along the back wall and one on the rear wall and one on the forward wall. Match 27544 (see photo). The depth of the brackets are 7".. The brackets will match the compartment interior. The bracket will be approximately 12.00" wide formed into an L-shape to retain the hose on the bracket. The front face of the bracket will have 45 degree angled edges so the hose can be place over the front face for storage more easily.</p>
<p>0813145</p>	<p>Holder, Plastic Sheeting, 1.25" Dia S/S Rod, Pin Lock Location</p>	<p>PLASTIC SHEETING HOLDER A 1.25" diameter stainless steel tube connected on each end to a stanchion will be provided for a roll of plastic sheeting. The holder will be mounted in compartment LS2 forward of partition. The stanchions will be set up so that the rod will be removable by pulling a pin that is located through the rod. Adjustable stops will be provided on either side of the rod to accommodate use of different size rolls. A quantity of one (1) will be provided.</p>
<p>0063064</p>	<p>Rub Rail, Aluminum Extruded, Side of Body, 3rd Gen Body</p>	<p>RUB RAIL Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 3.12" high with 1.50" flanges turned outward for rigidity. The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage. Rub rails will be attached with bolts and spaced from the body with isolators that will help to absorb any moderate impact without damaging the body.</p>

0515441	Fender Crowns, Rear, S/S, W/Removable Fender Liner, Pumper, 3G	<p>BODY FENDER CROWNS Polished stainless steel fender crowns will be provided around the rear wheel openings. A fender liner constructed of unpainted brushed stainless will be provided to avoid paint chipping. The liners will be removable to aid in the maintenance of rear suspension components. A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion. The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion.</p>
0519849	Not Required, Hose, Hard Suction	<p>HARD SUCTION HOSE Hard suction hose will not be required.</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>
0664688	Handrails, Rear, PUC/HDRP	<p>Two (2) vertical handrails will be located at the rear, one (1) on each side of the rear compartment.</p>
0011212	Handrail, Not Required, Rear Hose Bed, Pumper	
0636301	Compt, Extinguisher (2) Fender Panel, Triangular Door, 8" Dia	<p>EXTINGUISHER/AIR BOTTLE/ STORAGE (Triangular) A total of one (1) extinguisher/air bottle/storage compartments will be provided on the right side forward of the rear wheels. The triangular shaped compartment will be sized to fit a 8.00" diameter extinguisher in the lower area and a 8.00" diameter extinguisher in the upper area. The compartment will be approximately 25.50" deep. A partition will be provided to separate the compartment. Also inside the compartment, black rubber matting will be provided. The compartment will be furnished with a drain hole. A polished stainless steel, triangular shaped door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottles. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p>
		<p>AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment(s) to help contain the bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>
0654143	Compt, Air Bottle, Single, Tri Door (DEF/Fuel), Fender Panel	<p>AIR BOTTLE STORAGE (Single) A quantity of one air bottle compartment, approximately 7.50" wide x 7.50" tall x 26.00" deep, will be provided on the driver side rearward of the rear wheels. The triangular door will cover the air bottle opening, the DEF tank access, and fuel fill. The compartment will be square with angled corners. A polished stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting will be provided.</p>
		<p>AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment to help contain the air bottle when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>
0657522	Compt, Air Bottle, Triple, Fender Panel	<p>AIR BOTTLE STORAGE (Triple) A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided on the left side forward of the rear wheels and on the right side rearward of the rear wheels. A polished stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting will be provided.</p>
		<p>AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>

0726144	Hopper, Oil Dry, Roof Hatch Compartment, Enclosed Top, Access Cover	<p>OIL DRY HOPPER A portion of the roof hatch compartment will be sectioned off to provide a storage bin for clay-based oil absorbent material. The top of the hopper will be enclosed. A lift off access cover with a Southco C2 chrome raised trigger lever latch will be provided to fill the hopper. This access will be made as large as possible. The hopper discharge tube will be routed through the compartment below the hatch compartment with as little interference into this compartment as possible. The valve to control discharge will be located underneath in this compartment. The absorbent material will be discharged through a PVC tube through the forward bulkhead wall of this compartment. This hopper will have an approximate capacity for 120 lb or 20.3 gallons (4680 cubic inch) of clay-based absorbent material. The hopper will be located Right side.</p>
0815971	Ladder, 28', Duo-Safety 1200A 2-Section, 22" Wide	<p>ADDED EXTENSION LADDER There will be one (1) 28', two (2) section aluminum Duo-Safety Series 1200A extension ladder(s) provided. Each ladder will have a non-standard outside width of 22.00".</p>
0004230	Ladder, 14' Duo-Safety 775A Roof	<p>ROOF LADDER There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.</p>
0638382	Rack, Ladders, LS Full Depth Body, PUC/HDRP	<p>LADDER STORAGE The ladders will be stored inside the upper section of the left side compartments. This ladder rack will reduce the depth of the upper section in the side compartments. A partition will be installed inside the compartment on the side of the rack to allow for equipment storage and to conceal the ladders. The ladders will be banked in separate storage troughs. The ladder storage assembly will be fabricated of stainless steel track channels to aid in loading and removal of ladders. Rear of the ladder storage area will have a vertically hinged smooth aluminum door with a D-handle latch to contain the ladders. The door will be vertically hinged.</p>
0733387	Ladder, 10' Duo-Safety Folding 585A	<p>FOLDING LADDER One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed.</p>
0733005	Compt w/Trough, Folding Ladder, In Upper Body, LS	<p>FOLDING LADDER/LONG TOOL COMPARTMENT A compartment will be provided, recessed in the upper, inside part of body compartment on the left side. The compartment will be equipped with a stainless steel trough for the folding ladder and storage for long handle tools. A door constructed of smooth aluminum and hinged along the outboard edge will be provided at the rear with a flush lift and turn latch.</p>
0812235	Ladder, Little Giant, Revolution 2.0 - Model 17, 13117	<p>ADDITIONAL FOLDING LADDER One (1) Revolution 2.0 Model 13117 Little Giant folding ladder will be provided. The stored dimensions will be 55.50" high x 23.75" wide x 9.25" deep. The weight will be 32 lbs. The ladder will be located RS3 on the floor.</p>
0894066	Little Giant Storage, Compartment Floor, Horizontal w/Shelf	<p>LITTLE GIANT LADDER STORAGE Storage will be provided in RS3 compartment for a Little Giant ladder. The ladder will be stored horizontally on the floor. An adjustable shelf will be provided directly above the ladder. Dura-Surf slides will be provided under the ladder. A Velcro® strap will be provided to aid in restraint and removal of the Little giant ladder. The ladder will be a Little Giant Classic Model 17 - 10102.</p>
0816920	Pike Pole, Provided by Fire Department, NFPA/ULC 2024	<p>PIKE POLE PROVIDED BY FIRE DEPARTMENT The pike poles are not on the apparatus as manufactured. The fire department will provide and mount the pike poles. There will be one (1) pike pole(s) provided. The pike pole(s) will be a Fire Hooks Unlimited 8' all purpose hook model APH-8.</p>
0732982	Tube, Pike Pole 8' or Longer, In Upper Body Long Tool Storage Compt	<p>PIKE POLE STORAGE A aluminum tube with a 1.38" notch, to accommodate a New York style pike pole for an 8' or longer pike pole will be provided in the upper body compartment on the left side. One (1) pike pole will require a tube provided in this location.</p>
0816918	Pike Pole, 6', Provided by Fire Department, NFPA/ULC 2024	<p>6' PIKE POLE PROVIDED BY FIRE DEPARTMENT The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike poles. There will be one (1) 6' pike pole(s) provided. The pike pole(s) will be a Fire Hooks Unlimited 6' all purpose hook model APH-6.</p>

0732992	Tube, Pike Pole 6', In Upper Body Long Tool Storage Compt	<p>PIKE POLE STORAGE A aluminum tube for a 6' pike pole with 1.38" notch, to accommodate a New York style pike pole will be provided in the upper body compartment on the left side. One (1) pike pole will require a tube provided in this location.</p>
0769733	Compt, Long Tool Storage Compt, In Upper Body (1) RS, PUC/HDRP	<p>LONG ITEM STORAGE COMPARTMENT One (1) compartment will be provided, recessed in the upper, inside part of body compartment on the right side for storage of long handle tools. The door will be made of smooth aluminum and have a flush lift and turn latch. The door will be hinged along the inboard edge.</p>
0081834	Trough for D-Handled Trash Hook, Qty	<p>TRASH HOOK STORAGE There will be one (1) stainless steel U-shaped trough(s) provided for storage of D-handle style trash hook(s). The trough(s) will be installed RS long tool storage, 10' trash hook.</p>
0058193	Tubes, Alum, Pike Pole Storage, Spcl Notch, NY PP Head	<p>PIKE POLE STORAGE Aluminum tubing will be used for the storage of two (2) pike poles and will be located two in LS rear with folding ladder. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided. The pike pole tube will be notched to allow a New York style pike pole to fit into the tube.</p>
0521734	No Steps Required, Front Of Body, PUC	
0564125	Steps, Wedge, Rear of Body, PUC, Left Side	<p>REAR ACCESS STEP Wedge style steps will be provided at the rear of the hose bed on the left side for access to the hose bed. The steps will be constructed of bright aluminum treadplate and be a minimum of 8.00" wide x 8.00" deep to provide an adequate stepping surface.</p>
0515692	Pump Operators Panel, 31", Control Zone, PUC	<p>PUMP CONTROL PANELS (Left Side Control) Pump controls and gauges will be located midship at the left side of the apparatus and properly identified. The main pump operator's control panel will be completely enclosed and located in the forward section of the body compartment, to protect against road debris and weather elements. The pump operator's panels will be no more than 31.00" wide, and made in four (4) sections with the center section easily removable with simple hand tools. For the safety of the pump operator, there will be no discharge outlets or pump inlets located on the main pump operators panel. Layout of the pump control panel will be ergonomically efficient and systematically organized. The upper section will contain the master gauges. This section will be angled down for easy visibility. The center section will contain the pump controls aligned in two horizontal rows. The pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable) will be located on or adjacent to the center panel, on the side walls for easy operation and visibility. The lower section will contain the outlet drains. Manual controls will be easy moving 8" long lever style controls that operate in a vertical, up and down swing motion. These handles will have a 2.25" diameter knob and be able to lock in place to prevent valve creep under any pressure. Bright finish bezels will encompass the opening, be securely mounted to the pump operator's panel, and will incorporate the discharge gauge bezel. Bezels will be bolted to the panel for easy removal and gauge service. The left side discharges will be controlled directly at the valve. There will be no push-pull style control handles. Identification tags for the discharge controls will be recessed within the same bezel. The discharge identification tags will be color coded, with each discharge having its own unique color. All remaining identification tags will be mounted on the pump panel in chrome-plated bezels. All discharge outlets will be color coded and labeled to correspond with the discharge identification tag. The pump panels for the midship discharge and intake ports will be located ahead of the body compartments with no side discharge or intake higher than the frame rail. The pump panels will be easily removable with simple hand tools. A recessed cargo area will be provided at the front of the body, ahead of the water tank above the plumbing.</p>
0520016	Not Required, Pumphouse Structure, PUC	

Pump, Pierce, 1500 GPM, Single Stage, PUC-NG

PUMP

Pump will be a Pierce, low profile, 1500 gpm single stage midship mounted centrifugal type, mounted below the cab. The pump will have a 15 percent reserve capacity to allow for extended time between pump rebuild. To ensure efficient pump/vehicle design the capacity to weight ratio will not be less than 1.5:1.

The pump casing will consist of three (3) discharge outlets, one (1) to each side in line with the impeller and one (1) to the rear. The pump casing will incorporate two (2) water strippers to maintain radial balance.

Pump will be the Class A type.

Pump will be certified to deliver the percentage of rated discharge from draft at pressure indicated below:

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

The pump will have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:

- 135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source

Pump body will be fine-grained gray iron. Pump will incorporate a heater/cooling jacket integral to the pump housing.

The impeller will be high strength vacuum cast bronze alloy accurately machine balanced and splined to a 10 spline stainless steel pump shaft for precision fit, exceptional durability, and efficiency. Double replaceable reverse flow labyrinth type bronze wear ring design will help to minimize end thrust. The impeller will be a twisted vane design to create higher lift.

The pump will include o-ring gaskets throughout the pump.

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.

The pump will have a flat, patterned area on the top of the pump intake wye to allow standing for plumbing maintenance. The main inlet manifold will be 6.00" in diameter and will have a low profile design to facilitate low crosslays and high flows.

For ease of service, the pump housing, intake wye, impeller, mechanical seal, and gear case will be accessible from above the chassis frame by tilting the cab. Removal of the main inlet wyes will provide access to the impeller, mechanical seal, and wear ring.

The tank to pump line and the primary discharge line will be the only piping required to be removed for overhaul.

For ease of service and overhaul there will be no piping or manifolding located directly over the pump.

PUMP MOUNTING

Pump will be mounted to the chassis frame rails directly below the crew cab, to minimize wheelbase and facilitate service, using rubber isolators in a modified V pattern that include one (1) central mounted isolators located between the frame rails, and one (1) on each side outside the frame rails. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. Each isolator will be 2.55" in total outside diameter and will be rated at 490 lb. The pump will be completely accessible by tilting the cab with no piping located directly above the pump.

0515822

Seal, Mechanical, Silicon Carbide, PUC Pump

MECHANICAL SEALS

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.

0889382

Gear Case, Integrated Pump Transmission, PUC-NG, Paccar

PUMP GEAR CASE

The integrated pump transmission gear case will use a pressure-lubricated system to cool, lubricate, and filter the oil. The gear case will be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A sight glass, accessible by tilting the cab, will be provided for easy fluid level checks.

The gear case will consist of three (3) gears to drive the pump.

CLUTCH

There will be a heavy-duty hydraulic clutch mounted directly to the integrated pump transmission to engage and disengage the pump without gear clash. The clutch will be a multiple disc design for maximum torque. The clutch will be fully self-adjusting to provide automatic wear compensation, and consistent torque throughout the life of the clutch. Positive engagement and disengagement will be provided through a high efficient and dependable hydraulic system to assure superior performance.

LOW PRESSURE/HIGH TEMPERATURE LIGHTS

Lights will be provided to indicate when a high temperature or low pressure situation occurs. Lights will be provided next to the master gauges at the pump panel as well as on the control panel in the cab. A pair of lights will be provided in each location. One light will be provided to indicate high temperature. The second light will be provided to indicate a low pressure. All lights will be labelled accordingly.

Pumping Mode, Pump and Roll/Stationary, Basic, MUX, PUC

PUMPING MODE

Pump will provide for both pump and roll mode and stationary pumping mode. Stationary pumping mode will be accomplished by stopping the vehicle, setting the parking brake and engaging the water pump switch on the cab switch panel. The transmission will shift to "Neutral" range automatically when the parking brake is set. The "OK to Stationary Pump" indicator will also illuminate when the parking brake is set. If the vehicle is equipped with a suitable Husky foam system or Hercules CAFS system, these systems will be engaged from the cab switch panel as well. Pump and roll mode will be accomplished by the use of the main pump and will not require the use of a secondary pump. Pump and roll mode will use the same operation sequence as stationary pumping mode with a few additional steps. After the vehicle is setup for stationary pumping, the operator will leave the cab and setup the pump panel to discharge at the desired outlet(s). Upon returning to the cab, the operator will disengage the parking brake. An "OK to Pump & Roll" indicator will illuminate on the cab switch panel. First gear on the transmission gear selector will be selected by the operator for pump and roll operations. The operator as needed will apply the foot throttle. Pump and roll mode will be maintained unless the transmission shifts out of first gear. Stopping either stationary pumping mode or pump and roll mode will be accomplished by pressing the "Water Pump" switch down to disengage the pump. A pump pressure reading will be displayed in view of the driver.

0515829 Pump Shift, Sure-Shift

PUMP SHIFT

Pump will be engaged in not more than two steps, by simply setting the parking brake, which will automatically put the transmission into neutral, and activating a rocker switch in the cab. Switches in the cab will also allow for water, foam, or CAFS if equipped, and activate the appropriate system to preset parameters. The engagement will provide simple two-step operation, enhance reliability, and completely eliminate gear clash. The shift will include the indicator lights as mandated by NFPA. A direct override switch will be located behind a door in the lower pump operator's panel. The switch will automatically disengage when the door is closed. As the parking brake is applied, the pump panel throttle will be activated and deactivate the chassis foot throttle for stationary operation.

0515833 Transmission Lock-up, Not Req'd, Park to Neutral, Pump, PUC

TRANSMISSION LOCK UP

Transmission lock up is not required as transmission will automatically shift to neutral as soon as the parking brake is set.

0515835 Auxiliary Cooling System, PUC

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. A water-to-coolant heat exchanger will be used.

0014486 Not Required, Transfer Valve, Single Stage Pump

0746508 Valve(s), Relief Intake, Trident Air Max, Control Location

INTAKE RELIEF VALVE

One (1) Trident Air Max intake relief valve(s) will be installed on the suction side of the pump preset at 125 psig. The relief valve will have a working range of 50 psi to 350 psi. The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag. One (1) adjustable air regulator and pressure indicating gauge will be located on a common bezel on the left side pump panel to control the intake valve(s).

Controller, Pressure, Pierce LCD ,
PUC

PIERCE PRESSURE CONTROLLER

A Pierce electronic pressure controller will be provided.
A pressure transducer will be installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller. The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to Pressure Setting mode. In the RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within engine operation capabilities). In the pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow. A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed. Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing. A pump cavitation protection feature will also be provided which will return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds. Other safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle. The pressure controller LCD screen will be 4.20" in size with a minimum brightness of 750 nits. The LCD screen and LED intensity will automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed. The following information will be provided/displayed on the LCD screen:
Engine RPM
Check engine and stop engine warning indicators
Engine oil pressure
Engine coolant temperature
Water pump transmission temperature
Fuel Level
Water tank level
Battery voltage
Operating mode (RPM or pressure)
Pressure or RPM setting
On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs and support audible and visual warning alarms for the following conditions:
High battery voltage
Low battery voltage/engine off
Low battery voltage/engine running
High water pump temperature
Low fuel
Low engine oil pressure
High engine coolant temperature
Water tank out of water (visual alarm only)
No engine response (visual alarm only)
The pressure controller will store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu. The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.

0072153 Primer, Trident, Air Prime, Air Operated

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of applicable NFPA standards. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. One (1) priming control will open the priming valve and start the pump primer.

0799803 Direct Tank Fill, 0.75" Garden Hose, Round Handle Vlv, Loc Panel

GARDEN HOSE DIRECT TANK FILL

There will be a 0.75" direct tank fill terminating at the at pump panel pump panel with a female garden hose swivel thread adapter and plug. A 0.75" round handle valve and plumbing will be provided. The direct tank fill will be plumbed to the water tank dome just above the height of the overflow pipe to eliminate head pressure while in use. A stainless steel elbow will be installed in the water tank dome, pointing down to prevent water from entering the over flow tube.

0044552 Line, 0.50" Recirculating w/Check Valve

RECIRCULATING LINE WITH CHECK VALVE

A 0.50" diameter recirculating line, from the pump to the water tank, will be furnished with a control installed at the pump operator's control panel. A check valve will be provided in this line to prevent the back flow of water from the tank to the pump if the valve is left in the open position.

0740963 SP Pump Oil Drain, Extended, Below

WATER PUMP OIL DRAIN EXTENDED

The oil drain for the water pump will be extended to access from below the truck. The extended oil drain will include a plug.

0658266	Thermal Relief Valve, w/Amber Warning Light and Alarm, PUC Pump	<p>THERMAL RELIEF VALVE A Pierce thermal relief valve will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C). The thermal protection system will include a amber warning light and audible alarm mounted on the pump operator panel. The discharge line will be 3/8 inch diameter tubing plumbed to ground.</p>
0780359	Manuals, Pump, (2) Total, Electronic Copies, Pierce PUC Pump	<p>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.</p>
0602496	Plumbing, Stainless Steel and Hose, Single Stage Pump, PUC	<p>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.</p>
0089437	Plumbing Without Foam System	
0517852	Inlets, 6.00" - 1250-2000 GPM, Pierce PUC Pump	<p>MAIN PUMP INLETS A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump. Main pump inlets will not be located on the main operator's panel and will maintain a low connection height by terminating below the top of the chassis frame rail.</p>
0014650	Pump Suction Tube(s), Short, All	<p>SHORT SUCTION TUBE(S) The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.</p>
0004646	Cap, Main Pump Inlet, Long Handle, NST, VLH	<p>MAIN PUMP INLET CAP The main pump inlets will have National Standard Threads with a long handle chrome cap. The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.</p>
0084610	Valves, Akron 8000 series- All	<p>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.</p>
0520002	Valve, Inlet(s) Recessed, Side Cntrl, PUC	<p>The location of the valve for the one (1) inlet will be recessed behind the pump panel.</p>
0004700	Control, Inlet, at Valve	<p>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.</p>
0004660	Inlet (1), Left Side, 2.50"	<p>LEFT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.</p>
0029147	Not Required, Inlet, Right Side	
0521137	Anode, Zinc, Pair, Pump Inlets, PUC	<p>ANODE, INLET A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.</p>

0092569	No Rear Inlet (Large Dia) Requested	
0064116	No Rear Inlet Actuation Required	
0092696	Not Required, Cap, Rear Inlet	
0009648	No Rear Intake Relief Valve Required on Rear Inlet	
0092568	No Rear Auxiliary Inlet Requested	
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	<p>INLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.</p>
0520277	Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, PUC	<p>TANK TO PUMP The booster tank will be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" full flow line valve with the control located at the operator's panel. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p>
0595508	Outlet, Tank Fill, 1.50", PUC	<p>TANK REFILL A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.</p>
0766941	Control, Outlets, Swing Handle, Elec Right Outlets Akron 9335 w/Press Disp, PUC	<p>DISCHARGE OUTLET CONTROLS The right side discharges will incorporate a quarter-turn ball valve and be controlled by Akron 9335 electric valve controllers provided on the pump operators panel. The electric controls must be of a true position feedback design, requiring no clutches in the motor or current limiting. The units must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate their corresponding valve actuator. The controllers will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option. In addition to the valve controls, the electric valve controllers will include a pressure display. All other outlets will have manual swing handles that operate in a vertical up and down motion. These handles will be able to lock in place to prevent valve creep under pressure.</p>
0516755	Outlet, Left Side, 2.50" (2), PUC	<p>LEFT SIDE DISCHARGE OUTLETS There will be two (2) discharges with a 2.50" valves on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter. Discharges will be located below the cab, and will be no higher than the top of the chassis frame rail. Discharges will not be located on the pump operator's panel. Lever controls will be provided at the valve.</p>
0055095	Not Required, Elbow, Left Side Outlets, 2.50"	
0092570	Not Required, Outlets, Left Side Additional	
0035094	Not Required, Elbow, Left Side Outlets, Additional	
0766761	Outlet, Right Side, 2.50", (1), Electric Akron 9335 Controller, PUC	<p>RIGHT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" MNST adapter. The discharge(s) will be located below the crew cab and will be no higher than the top of the chassis frame rail. There will be Akron 9335 electric valve controller(s) provided on the pump operators panel. The electric control(s) must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit(s) must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller(s) will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option. In addition to valve position, each controller will include a pressure display.</p>

0021134	Not Required, Elbow, Right Side Outlets, 2.50"	
0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0818640	Outlet, Large Diameter, Right Side, Akron Valve, PUC	<p>LARGE DIAMETER DISCHARGE OUTLET</p> <p>There will be an Akron 8800 4.00" flat ball valve with 4.00" plumbing terminating with a 4.00" MNST chrome adapter on the right side pump panel. The valve will be controlled with a(n) Akron 9335 with pressure located at the pump operator's panel.</p>
0681048	Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz, S/S Cable	<p>LARGE DIAMETER OUTLET ELBOWS</p> <p>The 4.00" outlet will be furnished with a 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap and stainless steel tie cable.</p>
0648906	Outlet, Front, 2.50" w/2.50" Plumbing	<p>FRONT DISCHARGE OUTLET</p> <p>There will be one (1) 2.50" discharge outlet piped to the front of the apparatus and located on the top of the right side of the front bumper. Plumbing will consist of 2.50" piping and flexible hose with a 2.50" full flow valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 2.50" NST with 90 degree stainless steel swivel. There will be automatic drains provided at all low points of the piping.</p>
0092575	Not Required, Outlet, Rear	
0045099	Not Required, Elbow, Rear Outlets	
0516782	Outlet, Rear, 2.50" w/2.50" Plumbing, Thru Tank, PUC, Additional	<p>REAR DISCHARGE OUTLET</p> <p>There will be One (1) discharge outlet piped to the rear of the hose bed, on left side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel. Discharge will terminate with 2.50" NST thread. Discharge piping will be schedule 10 304L welded or formed stainless steel and routed through the water tank.</p>
0536635	Elbow, Rear Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH, PUC, Additional	<p>ADDITIONAL REAR OUTLET ELBOWS</p> <p>One (1) discharge outlet 2.50" discharge outlets, located at the rear of the apparatus, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.</p>
0752096	Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Vinyl Covered Cable	<p>DISCHARGE CAPS/ INLET PLUGS</p> <p>Chrome plated, rocker lug, caps with vinyl covered cables 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 vinyl covered cables 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.</p>
0723038	Valve, 0.75" Bleeder, Discharges, "T" Swing Handle, No Snubbers	<p>OUTLET BLEEDER VALVE</p> <p>A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails. No snubber drain valves are acceptable.</p>

0753332	Outlet, 3.00" Deluge w/2.50" Valve, Dual Control, LG HW's, w/TFT XG18, PUC	<p>DELUGE RISER A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. 3.00" piping will be installed securely so no movement develops when the line is charged. The riser will be gated and controlled at the pump operator's panel by a large handwheel control. A 2.50" valve will be provided. The deluge riser will allow flow for 1000 GPM.</p> <p>DUAL CONTROL There will be a second large handwheel control, within reach of the deluge appliance operator.</p> <p>TELESCOPIC PIPING The deluge riser piping will include a 18.00" Task Force Model XG18 Extend-A-Gun extension. This extension will be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation. A position sensor will be provided on the telescopic piping that will activate the "do not move vehicle" light inside the cab when the monitor is in the raised position.</p>
0777050	Monitor, TFT Crossfire XFT-NJ, No Ground Base	<p>MONITOR A Task Force Tips Crossfire #XFT-NJ monitor will be properly installed on the deluge riser. This monitor will be painted as provided by monitor manufacturer .</p>
0040423	Nozzle, TFT Master Stream 1250 M-R, 1250 GPM, Manual	<p>NOZZLE A Task Force Tips Master Stream1250 M-R nozzle will be provided.</p>
0046857	Deluge Mount, For TFT Crossfire Monitor, TFT Manual Extend-A-Gun Only	<p>The deluge riser Extend-a-Gun will have provisions for direct mounting a Task Force Tips CrossFire monitor.</p>
0750982	Crosslay Module, Full Width, Roll Up Doors, PUC	<p>CROSSLAY MODULE The crosslay module will be full width of the rear body. The forward, upper corners of the module will have full body corners. The crosslay module will be manufactured for installation of roll up doors on each side.</p>
0750897	Doors, Crosslay, Roll-up Amdor, Each End, Full Height, PUC	<p>ROLL-UP DOOR, CROSSLAY ENDS, PUC All compartment doors will be roll-up style double faced, aluminum construction, satin aluminum and manufactured by AMDOR™. The crosslay enclosure will be full width of the body. The track will be the flanged track with the screws installed to the rear of the track guide. The slats will be double wall box frame extrusion. The exterior surface will be flat and the interior surface will be concave to help loose equipment fall to the ground and prevent it from jamming the door. Between each slat will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Each door will have a 4.00" counter balance to assist in lifting. A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. The crosslays will have a drip pan below the roll of the door.</p>
0747660	Lights, Crosslay Compt, Forward LED, 2Lts	<p>CROSSLAY COMPARTMENT LIGHTING There will be two (2) 12 volt DC light strips with white LEDs and mechanical fasteners, provide behind the front door frame on the crosslay compartments per the following: One (1) strip light for the left side crosslay compartment door One (1) strip light for the right side crosslay compartment door The lights will be activated when the battery switch is on and the respective door is opened.</p>
0750916	Crosslays, (2) 1.50", W/Poly Trays, PUC	<p>CROSSLAY(S), LOWER There will be two (2) lower crosslays provided.</p> <p>1.50" Crosslays There will be two (2) 1.50" crosslays plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe. The crosslays will be low mounted with the bottom of both crosslay trays no more than 11.00" above the frame rails for simple, safe reloading and deployment. There will be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel will be as far outbound as possible for ease of changing hose. Each crosslay will be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel. Each hose bed will be capable of carrying 200' of 1.75" double jacket hose .</p> <p>Crosslay Hose Trays A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>

0750900	Crosslay, (1) 2.50", W/Poly Trays, PUC	<p>CROSSLAY(S), UPPER There will be one (1) upper crosslay provided.</p> <p>2.50" Crosslay There will be one (1) 2.50" crosslay plumbed with 2.50" welded or formed schedule 10 304L stainless steel pipe. There will be a 2.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that hose may be removed from either side of apparatus. The swivel will be as far outboard as possible for ease of changing hose. Each crosslay will be gated with a 2.50" quarter turn ball valve with the controls located at the pump operator's panel. Each hose bed will be capable of carrying 200' of 2.50" double jacket hose .</p> <p>Crosslay Hose Trays A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>
0749295	Tube, Aluminum, Pike Pole, Lower Crosslay Module, PUC	<p>PIKE POLE STORAGE A quantity of two (2) pike poles aluminum tubes will be provided and located one out each side in the lower crosslay module. Each tube will have a 1.38" notch, to accommodate a New York style pike pole. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.</p>
0749401	Mounting, Backboard, Upper Crosslay Module, Strap, PUC	<p>BACKBOARD STORAGE Mounting will be provide for One (1) backboard(s) located in the upper crosslay module. The backboard(s) will be enclosed and removable from either side of the truck. A Velcro® strap will be provided on each end of the storage. The backboard(s) to be stored will be 3" x 20" x 76".</p>
0521227	Reel, Booster, Aluminum, Rear Tailboard Comprt, PUC	<p>BOOSTER HOSE REEL A Hannay electric rewind aluminum booster hose with polished discs will be installed in the rear tailboard compartment. If there is a roll-up door for this compartment, the door will not interfere with the hose reel. A polished stainless steel roller and guide assembly will be provided so the booster hose does not rub against a painted surface. Discharge control will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.50" or larger Aeroquip hose, stainless steel pipe and a 2.00" valve.</p> <p>HOSE REEL BLOWOUT A hose reel blowout will be furnished to blow out any remaining water from the hose reel. The blowout will be piped from the wet tank of the brake system to the hose reel and will be controlled at the pump operator's panel.</p>
0005279	Switch, Reel Rewind - One at Reel	<p>Reel motor will be protected from overload with a circuit breaker rated to match the motor. An electric rewind control switch will be installed adjacent to the reel.</p>
0005300	Hose, Booster - 150' of 1.00"/800 PSI	<p>Booster hose, 1.00" diameter and 150 feet, with chrome plated Barway, or equal couplings will be provided. Working pressure of the booster hose will be a minimum of 800 psi.</p>
0005244	Capacity, Hose Reel 200' of 1"	<p>Capacity of the hose reel will be 200 feet of 1.00" booster hose.</p>
0007428	Nozzle for Booster Reel Not Req'd	
0005326	Blowout, Hose Reel - Valve at Panel	<p>HOSE REEL BLOWOUT one (1) hose reel blowout(s) will be furnished to blow out any remaining water from the reel(s). The blowout will be piped from the wet tank of the brake system to the reel, and will be controlled at the pump operator's panel.</p>
0044333	Not Required, Foam System	<p>FOAM SYSTEM A foam system will not be required on this apparatus.</p>
0012126	Not Required, CAF Compressor	
0552517	Not Required, Refill, Foam Tank	
0042573	Not Required, Foam System Demonstration	

0045465	Not Required, Foam Tanks	
0091110	Not Required, Foam Tank Drain	
0091079	Not Required, Foam Tank #2	
0091112	Not Required, Foam Tank #2 Drain	
0738072	Approval Dwg, Pump Panel(s), Not Required	
0032479	Pump Panel Configuration, Control Zone	<p>PUMP PANEL CONFIGURATION The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.</p>
0516975	Material, Pump Panels, Operators Brushed Stainless, Sides Brushed Stainless, PUC	<p>PUMP AND GAUGE PANEL The pump operator's panel and gauge panels will be constructed of stainless steel with a brushed finish. The side control panels will be constructed of stainless steel with a brushed finish for durability and ease of maintenance.</p>
0516978	Pump and Plumbing Access, Simple Tilt Service, PUC	<p>PUMP AND PLUMBING ACCESS Simple access to the plumbing will be provided through the front of the body area by raising the cab for complete plumbing service and valve maintenance. Access to valves will not require removal of operator panels or pump panels. Access for rebuilding of the pump will not require removal of more than the tank to pump line and a single discharge line. This access will allow for fast, easy valve or pump rebuilding, making for reduced out of service times. Steps will be provided for access to the top of the pump. Access to the pump will be provided by raising the cab. The pump will be positioned such that all maintenance and overhaul work can be performed above the frame and under the tilted cab. The service and overhaul work on the pump will not require the removal of operator panels or pump panels. Complete pump casing and gear case removal will require no more than removal of the intake and discharge manifolds, driveline, coolers and a single discharge line. The pump case and gear case will be able to be removed by lifting upward without interference from piping and be removable in less than 3 hours.</p>
0618458	Light, Pump Compmt, W/in 3SC0CDCR LED White, PUC	<p>PUMP COMPARTMENT LIGHT There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the plumbing area. The light(s) will be activated by a toggle switch located in the pump compartment area.</p>
0516983	Gauges, Engine, Included With Pressure Controller, PUC	Engine monitoring graduated LED indicators will be incorporated with the pressure controller.
0005601	Throttle, Engine, Incl'd w/Press Controller	
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	<p>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.</p>
0549333	Indicators, Engine, Included with Pressure Controller	
0069390	Control, Air Horn At Pmp Pnl, Red Button	<p>AIR HORN BUTTON An air horn control button will be provided at the pump operator's control panel. This button will be red in color and properly labeled and put within easy reach of the operator.</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>
0511100	Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	<p>PRESSURE GAUGES The individual "line" pressure gauges for the discharges will be Class 1© interlube filled. They will be a minimum of 2.00" in diameter and have white faces with black lettering. Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut. Gauges will have a pressure range of 30"-0-400#. The individual pressure gauge will be installed as close to the outlet control as practical. This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p>
0539612	Gauge, Master Pump Flowmeter, FRC , PUC	<p>MASTER FLOWMETER A master pump flowmeter display will be provided the operator's panel. The flowmeter will contain solid state electronics with LED readout of total flow of the pump. An FRC X-FLC flow conditioner will be installed in the plumbing for better flow readings.</p>
0748780	Gauge, Water Level, Pierce, In pressure Controller, PUC Color Display, Lt Driver	<p>WATER LEVEL GAUGE An electric water level gauge will be incorporated in the pressure controller that registers water level by means of 9 LEDs. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight, and have a full 180-degree of clear viewing. To further alert the pump operator, the gauge will have a warning flash when the tank volume is less than 25%, and will have "Down Chasing LEDs when the tank is almost empty. The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell. There will be a water level gauge provided on the Command Zone™, color display in the cab. There will be a light driver module with this installation to power additional water level gauge(s) included on the apparatus.</p>
0604028	Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display	<p>ADDITIONAL WATER LEVEL GAUGE There will be two (2) additional Fire Research MaxVision model WLA280-A00 water tank remote indicators provided and installed one each side of crew cab. The indicators will show the volume of water in the tank on Ninety six (96) easy to see super bright Tri-color LEDs. The indicator case will be waterproof, manufactured of Polycarbonate material with an integrated lens. The remote indicator will indicate the level as a single color in Red for 25% or less, Amber color for up to 50% volume, Blue color for up to 75% volume and Green color for up to 100% volume. When the level reaches 25%, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three times. The flash rate will be determined by the main water tank sensor. It will have the program capability to adjust the brightness level for day time and night time viewing. The LEDs can also be programmed for different colors. This module will be activated when the pump is in gear.</p>
0006774	Not Required, Foam Level Gauge	
0653081	Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab & LED OH Chr Cvr	<p>SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING Illumination will be provided for controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment provided on it. External illumination will be a minimum of five (5) foot-candles on the face of the device. Internal illumination will be a minimum of four (4) footlamberts. The pump panels will be illuminated by two (2) Truck-Lite, Model 60354C, 6.00" x 2.00" oval white LED lights with Model 60700, grommets and chrome covers installed on the back of the cab, one (1) on the driver's side and one (1) on the passenger's side. The pump operator's panel will utilize the same LED strip lighting at the forward doorframe as all other compartment lighting. There will be a small white LED pump engaged indicator light installed overhead.</p>
0606694	Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	<p>AIR HORN SYSTEM Two (2) Hadley©, eTone, chrome air horns will be recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.</p>

0606835	Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	Air Horn Location The air horns will be located on each side of the bumper, towards the outside.
0757092	Control, Air Horn, Multi Select	Air Horn Control The air horn(s) will be activated by the following:
0757076	Control, Air Horn, Lanyard, RS	Right side lanyard. The lanyard to be a plastic coated braided cable.
0757077	Control, Air Horn, Lanyard, LS	Left side lanyard. The lanyard to be a plastic coated braided cable.
0757080	Control, Air Horn, Ft Sw, RS	Right side foot switch
0525667	Siren, WIn 295SLSA1, 100 or 200 Watt	ELECTRONIC SIREN A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided. This siren to be active when the battery switch is on and that emergency master switch is on.
0047779	Location, Elect Siren, Recessed In Switch Panel	Siren head will be recessed in a switch panel, panel 8, as required by the customer.
0076156	Control, Elec Siren, Head Only	The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.
0601304	Speaker, (2) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	SPEAKERS There will be two (2) Whelen®, Model SA315P, black nylon composite, 100-watt, speakers with through bumper mounting brackets and polished stainless steel grille provided. Each speaker will be connected to the siren amplifier.
0601558	Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame, Inbrd (Pos 2/6)	The speakers will be recessed in each side of the front bumper, just outside of the frame rails.
0895310	Siren, Federal Q2B	AUXILIARY MECHANICAL SIREN There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus. The Q2B will be chrome finish. The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on. The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.
0006095	Siren, Mechanical, Mounted Above Deckplate	The mechanical siren will be mounted on the bumper deck plate. It will be mounted on the left side. A reinforcement plate will be furnished to support the siren.
0748305	Control, Mech Siren, Multi Select	MECHANICAL SIREN CONTROL The mechanical siren will be activated by the following:
0748282	Control, Mech Siren, Ft Sw LS	Left side foot switch.
0740391	Sw, Siren Brake, Momentary Chrome Push Button, RS	A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.
0734625	Control, Warning Lt Intensity, WIn, Photocell, Prk Brk	SWITCH FOR WARNING LIGHTS INTENSITY When parking brake is set, and a Whelen®, Model LCPHOTO photocell installed on the interior forward cab dash as near to the windshield as practical, is activated due to diminished ambient light, the designated Whelen® warning lights on the cab and the warning lights on the body will transition to a low power intensity. In order for the activation of low power mode of the warning lights, the dash mounted Whelen® photocell must sense diminished ambient light (approx. 50 LUX), the battery switch, the ignition switch, the emergency master switch, must be on, and the parking brake set. The low power intensity mode will be reset when any of the above conditions are not met.

SP	Lightbar, WIn, Freedom IV-*, 2-21.5" 1-23", RRRWR ROptR RWRRR, 30 deg, Spcl Sw	<p>FRONT ZONE UPPER WARNING LIGHTS</p> <p>There will be two (2) Whelen® Freedom™ IV 21.50" and one (1) Whelen® Freedom™ IV 23.00" LED lightbars mounted on the cab roof.</p> <p>The left side lightbar will be a Whelen® Freedom™ IV 22.00" LED lightbar installed at a 30 degree angle from the front of the cab. This lightbar will include the following:</p> <ul style="list-style-type: none"> One (1) red flashing LED module in the outside end position One (1) red flashing LED module in the outside front corner position One (1) red flashing LED module in the outside front position One (1) white flashing LED module in the inside front position One (1) red flashing LED module in the inside front corner position <p>The center lightbar will be a Whelen® Freedom™ IV 23.00" LED lightbar installed parallel to the front of the cab. This lightbar will include the following:</p> <ul style="list-style-type: none"> One (1) red flashing LED module in the left side front corner position One (1) 795 LED traffic light controller set to national standard high priority One (1) red flashing LED module in the right side front corner position <p>The right side lightbar will be a Whelen® Freedom™ IV 21.50" LED lightbar installed at a 30 degree angle from the front of the cab. This lightbar will include the following:</p> <ul style="list-style-type: none"> One (1) red flashing LED module in the inside front corner position One (1) white flashing LED module in the inside front position One (1) red flashing LED module in the outside front position One (1) red flashing LED module in the outside front corner position One (1) red flashing LED module in the outside end position <p>There will be clear lenses included on the lightbar.</p> <p>The following switches may be installed in the cab on the switch panel to control the lightbar:</p> <ul style="list-style-type: none"> a switch to control the flashing LED modules the traffic light controller will be with the emergency master switch only there will be a latching Opticom switch to allow activation of the Opticom at any time when the park brake is released. The activation of the Opticom will default to off whenever the park brake is cycled. The white flashing LEDs and the traffic light controller will be disabled when the parking brake is applied. The red flashing LED modules in the center lightbar and the red flashing LED module in front inside corners and front positions of the side lightbars may be load managed when the parking brake is applied.
0624466	SP Light, Front Zone, WIn M6# Split, 6RB* LED, 4lts Q Bezel	<p>CAB FACE WARNING LIGHTS</p> <p>There will be four (4) Whelen, LED flashing warning lights installed on the cab face, above the headlights, mounted in a common bezel.</p> <ul style="list-style-type: none"> One (1) Model M6#, 4.32" high x 6.75" long x 1.38" deep light installed in the driver's side outside position. The driver's side outside light to be red to the outside and blue to the inside. One (1) Model 6RB*, 4.19" high x 9.57" long x 3.44" deep light flashing in a semi circle flash pattern installed in the driver's side inside position. The driver's side front inside warning light to be red. One (1) Model 6RB*, 4.19" high x 9.57" long x 3.44" deep light flashing in a semi circle flash pattern installed in the passenger's side inside position. The passenger's side front inside warning light to be red. One (1) Model M6#, 4.32" high x 6.75" long x 1.38" deep light installed in the passenger's side outside position. The passenger's side outside light to be red to the outside and blue to the inside. <p>The lights will include a lens that is clear.</p> <p>There will be a switch in the cab on the switch panel to control the lights.</p> <p>White LED's will be deactivated when the parking brake is applied.</p> <p>Red or Blue LED's in the inside positions be load managed when the parking brake is applied.</p>
0653937	Flasher, Headlight Alternating	<p>HEADLIGHT FLASHER</p> <p>The high beam headlights will flash alternately between the left and right side.</p> <p>There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.</p> <p>The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.</p>
0540692	Lights, Side Zone Lower, WIn M6*C LED, Clear Lens, 3pr, Ovr 25	<p>SIDE ZONE LOWER LIGHTING</p> <p>There will be six (6) 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 of cab rearward of crew cab doors. The side middle lights to be red. Two (2) lights, one (1) each side, centered above rear wheels. The side rear lights to be red. <p>The lights will include clear lenses.</p> <p>There will be a switch in the cab on the switch panel to control the lights.</p>

0896616	Lights, Door Interior Flash, 4 Dr Cab, Weldon 8401-0000-20 Strip Light	<p>INTERIOR CAB DOOR WARNING LIGHTS There will be four (4) Weldon, Model 8401-0000-20, 16" long x 3/4" High x 5/8" deep amber 12 volt DC LED flashing strip lights provided. One (1) light on the left side cab door. One (1) light on the right side cab door. One (1) light on the right side crew cab door. One (1) light on the left side crew cab door. Each light will be located over the door window.. Each light will be activated when the battery switch is on, respective door is opened and the ignition switch is on. Each light will be installed so the flash pattern directs traffic away from the doors.</p>
0815847	Connectors, Door Interior Flash, All Cabs, Weatherproof	<p>ELECTRICAL CONNECTORS FOR WARNING LIGHTS The lights will be installed with a weatherproof insulated crimped connectors in order to provide ease of connection/disconnection of the circuit applied to.</p>
0743902	Lights, Side, WIn M6** LED, Trm Fet 2nd	<p>SIDE WARNING LIGHTS There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided, in angled bumper corners. The light(s) to include red flashing LEDs. The warning light lens color(s) to be clear. There will be a switch in the cab on the switch panel to control the lights. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green and red LEDs may be load managed when the parking brake is applied.</p>
0746427	Lights, Side, WIn M6* LED, Lw Int	<p>SIDE WARNING LIGHTS There will be two (2) Whelen®, Model M6* LED flashing warning light(s) with chrome trim provided one each side forward high above crosslays. The color of the lights will be red. The lens color(s) to be clear. These lights will be activated with the Side Zone Lower warning lights. The light(s) will have the low intensity mode wire connected to the controlling circuit.</p>
0672937	Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st	<p>SIDE WARNING LIGHTS There will be four (4) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails One in each rub rail, forward and rearward of rear axle, each side of body. The lights will only be mounted with the rubber gasket if clearance allows it. The color of each light will be red LED with a clear lens. Each light will be provided with a chrome plated ABS flange. The light(s) will be activated with the side warning switch.</p>
0746425	Lights, Rear Zn Lwr, WIn M6*, For Tail Lt Housing, Lw Int	<p>REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*, LED flashing warning lights located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be blue The lens color(s) to be clear. There will be a switch located in the cab on the switch panel to control the lights. The light(s) will have the low intensity mode wire connected to the controlling circuit.</p>
0808727	Lights, Rear, WIn WIONSM* LED, Recessed In Tailboard, 1st	<p>REAR WARNING LIGHTS There will be five (5) Whelen, Model WIONSM*, 1.69" high x 5.94" wide x 1.13" deep light(s) recessed into the rear tailboard located, spread out even across the back, one in each angle of tailboard and the other three across the flat part of the back. The light(s) to include red flashing LEDs with clear lenses. The light(s) will be activated with the rear lower warning switch. The light(s) may be load managed when the parking brake is applied.</p>
0743720	Lights, Rear/Side Up Zone, WIn M6** LED 4lts	<p>WARNING LIGHTS (Rear and Side upper zones) There will be four (4) Whelen®, Model M6**, 5.31" high x 6.75" wide x 1.37" deep flashing LED warning lights with chrome trim provided at the rear of the apparatus per the following: The side upper rear light on the left side to include red flashing LEDs The rear upper light on the left side to include red flashing LEDs The rear upper light on the right side to include red flashing LEDs The side upper rear light on the right side to include red flashing LEDs The warning light lens color(s) to be clear There will be a switch in the cab on the switch panel to control the lights.</p>
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0590000	No Hose Bed Warn Light Brackets Required,Lights Mounted on Hatch/Body Compts,PUC	

0791528	Light, Traffic Directing, WIn TAL65, 36.00" Long, TACTL5	<p>TRAFFIC DIRECTING LIGHT There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The Whelen, Model TACTL5, control head will be included with this installation. The controller will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.</p>
0806661	Location, TDL, Over Hose Bed, On Cross Tube (Not Included)	<p>This traffic directing light will be mounted over the hosebed, between the body side sheets, on a cross tube at the rear of the apparatus.</p>
0529654	Location, Traf Dir Lt Controller, Heavy Duty Swivel Bracket Centered	<p>The traffic directing light control head will be located within a heavy duty swivel bracket centered between the driver and passenger. This swivel bracket will enable the driver access as well as the passenger.</p>
0006646	Electrical System, 120/240VAC, General Design	<p>ELECTRICAL SYSTEM GENERAL DESIGN for ALTERNATING CURRENT The following guidelines will apply to the 120/240 VAC system installation:</p> <p>General Any fixed line voltage power source producing alternating current (ac) line voltage will produce electric power at 60 cycles plus or minus 3 cycles. Except where superseded by the requirements of the current edition of applicable NFPA standards, all components, equipment and installation procedures will conform to NFPA 70, National Electrical Code (herein referred to as the NEC). Line voltage electrical system equipment and materials included on the apparatus will be listed and installed in accordance with the manufacturer's instructions. All products will be used only in the manner for which they have been listed.</p> <p>Grounding Grounding will be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems will not be used. Only stranded or braided copper conductors will be used for grounding and bonding. An equipment grounding means will be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC. The grounded current carrying conductor (neutral) will be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor will be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC. In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure will be bonded to the vehicle frame by a copper conductor. This conductor will have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements will be permitted to be used. All power source system mechanical and electrical components will be sized to support the continuous duty nameplate rating of the power source.</p> <p>Operation Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, will be permanently attached to the apparatus at any point where such operations can take place. Provisions will be made for quickly and easily placing the power source into operation. The control will be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train will be equipped with a means to prevent the unintentional movement of the control device from its set position. A power source specification label will be permanently attached to the apparatus near the operator's control station. The label will provide the operator with the following information: Rated voltage(s) and type (ac or dc) Phase Rated frequency Rated amperage Continuous rated watts Power source engine speed Direct drive (PTO) and portable generator installations will comply with Article 445 (Generators) of the NEC.</p> <p>Overcurrent protection The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device will not exceed 144.00" (3658 mm) in length. For fixed power supplies, all conductors in the power supply assembly will be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit (90 degrees Celsius). For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device will be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).</p> <p>Wiring Methods Fixed wiring systems will be limited to the following: Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius) or Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius) Electrical cord or conduit will not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring will be run as follows. Separated by a minimum of 12.00" (305 mm), or properly shielded, from exhaust piping Separated from fuel lines by a minimum of 6.00" (152 mm) distance</p>

Electrical cord or conduit will be supported within 6.00" (152 mm) of any junction box and at a minimum of every 24.00" (610 mm) of continuous run. Supports will be made of nonmetallic materials or corrosion protected metal. All supports will be of a design that does not cut or abrade the conduit or cable and will be mechanically fastened to the vehicle.

Wiring Identification

All line voltage conductors located in the main panel board will be individually and permanently identified. The identification will reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends will be labeled showing function and wire size.

Wet Locations

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, will be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

All receptacles located in a wet location will be not less than 24.00" (610 mm) from the ground. Receptacles on off-road vehicles will be a minimum of 30.00" (762 mm) from the ground.

The face of any wet location receptacle will be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle will be installed in a face up position.

Dry Locations

All receptacles located in a dry location will be of the grounding type. Receptacles will be not less than 30.00" (762 mm) above the interior floor height.

All receptacles will be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they will be so marked.

Listing

All receptacles and electrical inlet devices will be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages will be rated for the appropriate service.

Electrical System Testing

The wiring and associated equipment will be tested by the apparatus manufacturer or the installer of the line voltage system.

The wiring and permanently connected devices and equipment will be subjected to a dielectric voltage withstand test of 900-volts for one (1) minute. The test will be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switches in the circuit(s) closed. This test will be conducted after all body work has been completed.

Electrical polarity verification will be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

Operational Test per Current Edition NFPA Standard

The apparatus manufacturer will perform the following operation test and ensure that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order. The test will be witnessed and the results certified by an independent third-party certification organization.

The prime mover will be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.

The power source will be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current edition of applicable NFPA standards.

Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current edition of applicable NFPA standards will be applied to the low voltage electrical system during the operational test.

0888016	Generator, Harrison 3.0kW MSV 120V, Hydraulic, Digital Volt, Hz, Hour, Meter	<p>GENERATOR</p> <p>The apparatus will be equipped with an alternating current (AC) electrical power system. The generator will be a Harrison, 3,000 watt (120 volts AC, 25 amps), Stinger, hydraulic driven unit. The generator will be driven by a transmission power take off unit, through a hydraulic pump and motor.</p> <p>The hydraulic engagement supply will be operational at any time (no interlocks). To properly monitor the generator performance, a digital voltage, frequency, hour meter will be provided.</p>
0517171	Location, Hydraulic Generator, Cargo Area, Front of Body, PRM/PUC	<p>GENERATOR LOCATION</p> <p>The generator will be mounted in the cargo area at the front of the body in left side. The flooring in this area will be either reinforced or constructed, in such a manner, that it will handle the additional weight of the generator.</p>
0096845	Starting Sw, Truck Engine Powered Gen, Cab and @ PP	<p>GENERATOR START</p> <p>A switch will be located on the cab instrument panel and at the pump panel area to engage the generator. The single switch in both locations will engage the generator PTO and the electric field simultaneously.</p>
0016757	Not Required, Remote Start, Generator	
0016740	Not Required, Fuel System	
0016767	Not Required, Oil Drain Extension, Generator	

Circuit Breaker Panel, Included With PTO Generator

CIRCUIT BREAKER PANEL

The circuit breaker panel will be located within the false bulkhead wall in compartment LS3.

0016771

Not Required, Routing Exhaust, Generator

0780309

Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, 4 place, Interior Cab

120 VOLT RECEPTACLE

There will be two (2), 4-place receptacle box(es) with four (4) 15/20 amp 120 volt AC three (3) wire straight blade receptacles with interior stainless steel wall plate(s) installed behind the driver and officer seat on each interior side wall. The NEMA configuration for the receptacles will be 5-15R.

The receptacle(s) will be powered from the shoreline inlet.

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

Line Voltage
Current Rating (amps)
Phase
Frequency

0779722

Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body

120 VOLT RECEPTACLE

There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless steel wall plate(s), installed LS3 centered on forward wall, RS3 upper forward side corner. The NEMA configuration for the receptacle(s) will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

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

Line Voltage
Current Rating (amps)
Phase
Frequency

0780244

Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, GFCI

120 VOLT RECEPTACLE

There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex GFCI receptacle (s) with exterior flip up cover(s) installed one each side of body fender rearward of wheels . The NEMA configuration for the receptacles will be 5-20R.

The receptacle(s) will be powered from the on board generator.

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

Line Voltage
Current Rating (amps)
Phase
Frequency

0519934

Not Required, Brand, Hydraulic Tool System

0649753

Not Required, PTO Driven Hydraulic Tool System

0007150

Bag of Nuts and Bolts

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA Required Loose Equipment, Pumper, NFPA/ULC 2024, Provided by Fire Dept

NFPA LOOSE EQUIPMENT

NFPA Required Loose Equipment Provided by Fire Department

The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department:

One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.

Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.

Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.

NFPA Loose Equipment That Shall be Considered:

The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered:

800 ft (60 m) of 2.50" (65 mm) or larger fire hose.

400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.

One (1) handline nozzle, 200 gpm (750 L/min) minimum.

Two (2) handline nozzles, 95 gpm (360 L/min) minimum.

One (1) smooth bore or combination nozzle with shutoff and with 2.50" (65 mm) inlet that flows a minimum of 250 gpm (950 L/min).

Four (4) SCBA apparatus

Four (4) SCBA spare cylinders

One (1) first aid kit.

Four (4) combination spanner wrenches.

Two (2) hydrant wrenches.

One (1) double female 2.50" (65 mm) adapter with national hose (NH) threads.

One (1) double male 2.50" (65 mm) adapter with national hose (NH) threads.

One (1) rubber mallet, for use on suction hose connections.

Two (2) salvage covers each a minimum size of 12 ft x 18 ft (3.7 m x 5.5 m).

One (1) automatic external defibrillator (AED).

0816941 Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

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

0027023 No Strainer Required

0816939 Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

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

0816937 Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

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

0816998 Axe, Flathead, Provided by Fire Department

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

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

0817000 Axe, Pickhead, Provided by Fire Department

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

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

PAINT PROCESS

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

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.

Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

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 Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

Topcoats and primers will be chrome and lead free.

Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.

Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.

Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient.

Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.

Paint wastes are disposed of in an environmentally safe manner.

Empty metal paint containers will be recycled to recover the metal.

Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.

0709846 Paint, Two-Tone Color, Velocity/Impel **CAB TWO-TONE PAINT**
The cab will be painted two-tone, with the upper section painted #10 white and the lower section painted #90 red. There will be a standard two-tone cab paint break provided.
There will be a standard cab shield provided.

0709845 Paint, Single Color, Body **BODY PAINT**
The body will be painted to match the lower section of the cab.

	Paint Chassis Frame Assy, With Liner, E-Coat, Standard	<p>PAINT CHASSIS FRAME ASSEMBLY The chassis frame assembly will be finished with primer and gloss paint to match the lower job color before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components that are included with the chassis frame assembly that will be painted (unless otherwise stated in a secondary option) are: Frame rails Frame liners Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Steel fuel tank Castings Individual piece parts used in chassis and body assembly Components treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Two (2) frame liners The E-coat process will meet the technical properties shown.</p>
0693798	Paint, Front Wheels	<p>FRONT WHEELS PAINT All wheel surfaces, inside and outside, will be provided with powder coat paint #90 red.</p>
0693793	Paint, Rear Wheels, Single Axle	<p>REAR WHEELS PAINT All wheel surfaces, inside and outside, will be provided with powder coat paint #90 red.</p>
0733739	Paint, Axle Hubs	<p>AXLE HUB PAINT All axle hubs will be painted to match lower job color.</p>
0822822	SP Coating, UL-LX, Tailboard Wrap, Top Edge/Corner, Black, 2024 Non-NFPA	<p>UL-LX COATING - TAILBOARD WRAP Protective black "UL-LX" coating will be provided on the outside exterior of the top tailboard wrap corner. It will not be applied on the underside of the flange. The lining will be properly installed by an authorized UL-LX dealer. NFPA 1900, 2024 edition, section 12.6.4.1 requires: All materials used for exterior surfaces designated as stepping, standing, and walking areas and all interior steps will have a minimum slip resistance in any orientation of 0.68 when tested wet using the English XL tester in accordance with the manufacturer's instructions or 0.52 when tested wet using the Brungraber Mark II tester in accordance with the manufacturer's instructions. This coating does not meet the criteria specified in section 12.6.4.1. Per fire department specification and request of this option, this apparatus will be non-compliant to NFPA 1900 standards effective at time of contract execution.</p>
0581434	Transit Coating, Carwell, Corrosion Protection, Including Underside	<p>TRANSIT COATING All non-painted metal surfaces on the exterior of the vehicle will be sprayed with a corrosion protective coating provided by Carwell. The coating can be removed with soap and water. The coating is made of a linseed oil base and is biodegradable. The underside non-painted metal surfaces will also be coated with a corrosion protective coating.</p>
0007234	Compartment, Unpainted, D/A Finished	<p>COMPARTMENT INTERIOR FINISH The interior of the compartments will be dual action finished and not painted.</p>
0544129	Reflective Band, 1"-6"-1"	<p>REFLECTIVE STRIPES Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.</p>
0510041	Reflective across Cab Face, Imp/Vel	<p>The reflective band provided on the cab face will be below the headlights on the fiberglass.</p>
0593732	Stripe, Chevron, Rear, Diamond Grade, Pumper, PUC	<p>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 roll up door, will be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.</p>

0087342	Jog, "Z"-Shaped, In Reflective Stripe	"Z" JOG IN REFLECTIVE STRIPE There will be one (1) "Z"-shaped jog(s) provided in the reflective stripe design.
0567374	Stripe, Black Outline each Chevron Stripe @ Rear (Not Warranted)	REFLECTIVE STRIPE OUTLINE A black vinyl outline will be provided for each chevron stripe at the rear of the truck. There will be no warranty provided for this material.
0696574	Stripe, Black Outline each Chevron Stripe on Front Bumper	OUTLINE, REFLECTIVE STRIPE A black vinyl outline will be provided for each chevron stripe on the front bumper of the truck.
0670035	Stripe, Diamond Grade Chevron, Toolboard	TOOLBOARD DIAMOND GRADE CHEVRON STRIPING A series of alternating red diamond grade and fluorescent yellow green diamond grade reflective stripes will be applied to the one (1) toolboard(s) located toolboard.
0671876	Stripe, Diamond Grade Chevron, Slide Out Tray, Front and Sides	SLIDE OUT TRAY DIAMOND GRADE CHEVRON STRIPING A series of alternating red diamond grade and fluorescent yellow green diamond grade reflective stripes will be applied to the front and sides of five (5) slide out tray(s) located all trays.
0545179	Stripe, Diamond Grade, Chevron, Front Bumper	CHEVRON STRIPING ON THE FRONT BUMPER There will be alternating chevron striping located on the front bumper. The colors will be Red 983-72 and Fluorescent Yellow-Green 983-23 diamond grade. The size of the striping will be 6.00".
0638073	SP Stripe, Slanted, on Rear Body Fenders, Diamond Grade	REFLECTIVE STRIPE ON REAR FENDERS There will be a 6.00"Fluorescent Yellow-Green 983-23 and a Red 983-72 Diamond Grade reflective stripe provided on the rear body fender panels. The striping will consist of a series of rearward slanted stripes on each side fender panel. There will be no striping installed on any air bottle or fuel fill doors.
0552453	Stripe, Reflective, Chevron, Cab and Crew Cab Doors Interior, Diamond Grade	INVERTED "V" CHEVRON STRIPING ON CAB AND CREW CAB DOORS There will be alternating chevron striping located on the inside of each cab and crew cab door. The striping will consist of the following colors: The first color will be red diamond grade. The second color will be fluorescent yellow green diamond grade. The size of the striping will be 4.00".
0027372	Lettering Specifications, (GOLD STAR Process)	LETTERING The lettering will be totally encapsulated between two (2) layers of clear vinyl.
0686428	Lettering, Gold Leaf, 3.00", (41-60)	LETTERING Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.
0685989	Lettering, Reflective, 11.00", Each	LETTERING There will be reflective lettering, 11.00" high, with outline and shade provided. There will be three (3) letters provided.
0685993	Lettering, Reflective, 10.00", Each	LETTERING There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be six (6) letters provided.
0685996	Lettering, Reflective, 9.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 9.00" high, with outline and shade will be provided.
0686007	Lettering, Reflective, 7.00", Each	LETTERING There will be reflective lettering, 7.00" high, with outline and shade provided. There will be four (4) letters provided.
0686081	Lettering, Reflective, 3.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 3.00" high, with no outline or shade will be provided.

0056505	Emblem, "Honoring America's Bravest" w/Helmet, Color Image, Std, Pair	EMBLEM There will be one (1) pair of emblems with the words "HONORING AMERICA'S BRAVEST9-11-01" and a firefighter's helmet will be mounted cab window.cab window The emblems will be color imaged.
0661571	SP Emblem, Maltese Cross, Reflective, 18"-20", Each	MALTESE CROSS INSTALLATION There will be one (1) each of maltese crosses, comprised of reflective material, provided and installed inside cab applied to plate.
0017273	Emblem, Maltese Cross, Gold Leaf, 12"-14", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of Maltese crosses, comprised of genuine gold leaf material, provided and installed cab door.
0769755	Emblem, Texas Flag Painted on Cab Grille, All Custom Chassis	CAB GRILLE DESIGN A Texas flag design will be painted on the cab grille.
0772003	Manual, Fire Apparatus Parts, USB Flash Drive, Custom	FIRE APPARATUS PARTS MANUAL There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided. The manual(s) will contain the following: Job number Part numbers with full descriptions Table of contents Parts section sorted in functional groups reflecting a major system, component, or assembly Parts section sorted in alphabetical order Instructions on how to locate parts Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies. Service Parts Internet Site The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.
0772037	Manual, Chassis Service, USB Flash Drive, Custom	CHASSIS SERVICE MANUALS There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit. The manual will contain the following sections: Job number Table of contents Troubleshooting Front Axle/Suspension Brakes Engine Tires Wheels Cab Electrical, DC Air Systems Plumbing Appendix The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	CHASSIS OPERATION MANUAL The chassis operation manual will be provided on one (1) USB flash drive.
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.
0611136	Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.
0735523	Warranty, Engine, Paccar MX13, 5 Year, WA0386	ENGINE WARRANTY A Paccar five (5) year limited engine warranty will be provided. A limited warranty certificate is included with this proposal.
0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.

0595767	Warranty, Frame, 50 Year, Velocity/Impel, WA0038	FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.
0595698	Warranty, Axle, 3 Year, TAK-4, WA0050	FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.
0733306	Warranty, Single Axle, 5 Year, Meritor General Service, WA0384	SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor™ Axle 5 year limited warranty will be provided.
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
0744240	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	CAMERA SYSTEM WARRANTY A Pierce fifty four (54) monthwarranty will be provided for the camera system.
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.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.
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.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years . A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.
0889364	Warranty, Pump, Pierce, PUC-NG, 7 Year Parts, 1 Year Labor, WA0390	SEVEN (7) YEAR PARTS, ONE (1) YEAR LABOR The pump and its components will be provided with a seven (7) year parts and one (1) year labor limited warranty. The manufacturer's warranty will provide that the pump and its components will be free from failures caused by 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.

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.

0641372

Warranty, Foam System, Not Available

0725636

Warranty, Harrison Generator, 2 Year

TWO (2) YEAR GENERATOR MATERIAL AND WORKMANSHIP WARRANTY
A Harrison Hydra-Gen generator two (2) year **limited warranty will be provided.**

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.

0595421

Warranty, Goldstar, 3 Year, Apparatus, WA0018

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.

0819254

Certification, Vehicle Stability, CD0196

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal.

0808574

Certification, Engine Installation, VEL, Paccar MX, 2027

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

0686786

Certification, Power Steering, CD0098

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.

0892701

Certification, Cab Integrity, Impel/Velocity FR, CD0190

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

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

European Occupant Protection Standard ECE Regulation No.29.

SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Side Impact

The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Roof Crush

The same cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lb. (Four and a half times the load criteria of ECE 29)

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.

0548950

Certification, Cab Door Durability, Velocity/Impel, CD0001

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000-cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

0548967	Certification, Windshield Wiper Durability, Impel/Velocity, CD0005	<p>WINDSHIELD WIPER DURABILITY CERTIFICATION Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i>. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.</p>
0667411	Certification, Electric Window Durability, Velocity/Impel FR, CD0004	<p>ELECTRIC WINDOW DURABILITY CERTIFICATION Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.</p>
0549273	Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	<p>SEAT BELT ANCHOR STRENGTH Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p>
		<p>SEAT MOUNTING STRENGTH Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p>
0735950	Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	<p>PERFORMANCE CERTIFICATIONS</p>
		<p>Cab Air Conditioning Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.</p>
		<p>Cab Defroster Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. <i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i></p>
		<p>Cab Auxiliary Heater Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. <i>The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</i></p>
0545073	Amp Draw Report, NFPA Current Edition	<p>AMP DRAW REPORT The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system. The manufacturer of the apparatus will provide the following: Documentation of the electrical system performance tests. A written load analysis, which will include the following: The nameplate rating of the alternator. The alternator rating under the conditions specified per: Current edition of applicable NFPA standards. The minimum continuous load of each component that is specified per: Current edition of applicable NFPA standards. Additional loads that, when added to the minimum continuous load, determine the total connected load. Each individual intermittent load. All of the above listed items will be provided by the bidder per the current edition of applicable NFPA standards.</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000048	PUMPER/TANKER, 3rd Gen	
0000012	PIERCE CHASSIS	
0735525	PACCAR MX13 ENGINE	

EVS 4000 Series TRANSMISSION

0520324 PIERCE PUMP, PUC

0020009 POLY TANK

0028047 NO FOAM SYSTEM

0020006 SIDE CONTROL

0020007 AKRON VALVES

0020015 ABS SYSTEM

0658751 PUMPER BASE

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

Complete Nos. 1 - 4 and 6 if there are interested parties.
 Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

**OFFICE USE ONLY
 CERTIFICATION OF FILING**

Certificate Number:
 2024-1212646

Date Filed:
 09/11/2024

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
 Siddons Martin Emergency Group, LLC
 Houston, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
 City of Farmers Branch

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
 3820
 Fire Apparatus: Two Pumpers, One Aerial

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
	Siddons Martin Holding, Inc.	Houston, TX United States	X	

5 Check only if there is NO Interested Party.

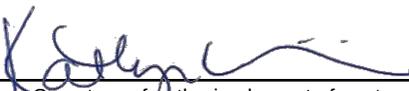
6 UNSWORN DECLARATION

My name is Kathryn Williams, and my date of birth is 05/03/1984.

My address is 1362 E. Richey Rd, Houston, TX, 77073, USA.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Harris County, State of Texas, on the 11th day of September, 2024.
(month) (year)



 Signature of authorized agent of contracting business entity (Declarant)



CITY OF FARMERS BRANCH TEXAS

CITY OF FARMERS BRANCH PURCHASING RIDER

By submitting a response to a solicitation or bid, or by entering into a contract for goods or services and/or by accepting a purchase order, the contractor, consultant or vendor agrees that the below terms and conditions shall govern all agreements with the City of Farmers Branch, Texas, unless otherwise agreed to by a written amendment separate from the contract or purchase order, provided same is permissible by law. Absent a specific amendment, the below terms are binding and supersede any and all other terms and/or conditions whether oral or written.

As used herein, "Vendor" means the contractor, supplier, licensor, seller, consultant or other party, by whatever description may be used, in its Contract with the City. The "Contract" is the agreement between the Vendor and the City, including all attachments, exhibits, appendices, addenda and other matters that are intended to be a part of the agreement between the parties.

Application. This Purchasing Rider ("Rider") supplements and amends the Contract between the parties and takes precedence over any conflicting provision in the Contract, including but not limited to provisions in or an attachment to the Response to Solicitation or Bid, Contract, Agreement, Quote, Invoice or Purchase Order, as applicable. Any general terms or conditions proposed by Vendor as a part of its agreement with the City are subordinate to the terms of this Rider where in conflict.

Payment Provisions. The City's payments under the Contract, including the time of payment and the payment of interest on overdue amounts, are subject to Chapter 2251, Texas Government Code. The City reserves the right to withhold all or part of any payment if a genuine dispute exists as to the goods or services for which the payment is intended. The City will remit any undisputed portion, and the parties will exercise diligence to resolve the dispute. No invoice, quote or purchase order submitted by Vendor will modify any term of this Rider or the Contract.

Multiyear Contracts. If the City Council does not appropriate funds to make any payment for a fiscal year after the City's fiscal year in which the contract becomes effective, funds have not been appropriated, and there are no proceeds available for payment from the sale of bonds or other debt instruments, then the Contract automatically terminates at the beginning of the first day of the successive fiscal year. (Section 5, Article XI, Texas Constitution). It is understood and agreed the City shall have the right to terminate the Contract at the end of any City fiscal year if the governing body of the City does not appropriate funds sufficient to continue the contract, as determined by the City's budget for the fiscal year in question. The City may execute such termination by giving Vendor a written notice of termination at the end of its then current fiscal year.

Local Preference. The City Council supports the local preference option for purchasing. In accordance with Chapter 271.9051 of the State of Texas Local Government Code, the City Council may choose to award a competitive bid to a bidder whose principal place of business is in the City limits, provided that this bid is within 5% of the lowest bid price received, provided such action is not prohibited by law.

Abandonment or Default. A Vendor who abandons or defaults the work on the contract and causes the City to purchase goods, materials or services elsewhere may be charged for any increased cost of goods, materials and/or services related thereto; may be considered disqualified in any re-advertisement of the service; and may not be considered in future bids for the same type of work for a period of three years for the same scope of work, goods or services.

Cancellation. the City reserves the right to cancel the contract without penalty based on the public convenience by providing 30 days prior written notice to the Vendor. Termination under this paragraph shall not relieve the Vendor of any obligation or liability that has occurred prior to cancellation, and the City shall pay Vendor for work

performed or materials supplied up to the date of termination. If the City has prepaid, the Vendor shall refund the City's payment, prorated to the date of termination.

Compliance with other laws and certification of eligibility to contract. Any offer to contract with the City shall be considered an executed certification that the Vendor will comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, (as amended during the contracting period) and any orders and decrees of any court, administrative bodies or tribunals in any matter affecting the performance of the Contract, including without limitation, immigration laws, workers' compensation laws, minimum and maximum salary and wage statutes and regulations, and licensing laws and regulations.

Liability Limitations. Any provision of the Contract is void and unenforceable if it: (1) limits or releases either party from liability that would exist by law in the absence of the provision; (2) creates liability for either party that would not exist by law in the absence of the provision; or (3) waives or limits either party's rights, defenses, remedies, or immunities that would exist by law in the absence of the provision.

Indemnity and Independent Vendor Status of Vendor. Vendor shall indemnify, hold harmless and defend the City, its officers, agents, and employees from and against any and all suits, actions, legal proceedings, claims, demands, damages, costs, expenses, attorney's fees and any and all other costs or fees arising out of the performance of the Contract and/or arising out of a willful or negligent act or omission of the Vendor, its officers, agents, and employees. It is understood and agreed that the Vendor and any employee or subcontractor of Vendor shall not be considered an employee of the City. The Vendor shall not be within protection or coverage of the City's workers' compensation insurance, health insurance, liability insurance or any other insurance that the City from time to time may have in force and effect. City specifically reserves the right to reject any and all Vendor's employees, representatives or sub-contractors and/or their employees for any cause, should the presence of any such person on City property or their interaction with City employees be found not in the best interest of the City or is found to interfere with the effective and efficient operation of the City's workplace.

Viruses and Malware. Vendor's indemnity obligations extend to its failure to implement and maintain reasonable measures and precautions to protect the City and the City's facilities from data breaches and the introduction into the City's computer network of any programs, mechanisms, programming devices, malware or other computer code (i) designed to disrupt, disable, harm, or otherwise impede in any manner the operation of any software program or code, or any computer system or network (commonly referred to as "malware", "spyware", "viruses" or "worms"); (ii) that would disable or impair the operation thereof or of any software, computer system or network in any way based on the elapsing of a period of time or the advancement to a

particular date or other numeral (referred to as "time bombs", "time locks", or "drop dead" devices); (iii) is designed to or could reasonably be used to permit a party or any third party to access any computer system or network (referred to as "trojans", "traps", "access codes" or "trap door" devices); or (iv) is designed to or could reasonably be used to permit a party or any third party to track, monitor or otherwise report the operation and use of any software program or any computer system or network by the other party or any of its customers. The Vendor will hold harmless, indemnify and defend the City from and against data breaches and malware, ransomware, viruses or other electronic software, routines, programs, codes or devices that may damage or impair the City's computer facilities arising from the Vendor's performance under this Agreement.

Confidentiality. Any provision in the Contract that attempts to prevent the City's disclosure of information that is subject to public disclosure under federal or Texas law is invalid.

Tax Exemption. The City is not liable to Vendor for any federal, state, or local taxes for which the City is not liable by law, including state and local sales and use taxes and federal excise tax. Accordingly, those taxes may not be added to any item. Texas limited sales tax exemption certificates will be furnished upon request.

Sovereign Immunity. Any provision of the Contract that seeks to waive the City's immunity from suit and/or liability is void unless agreed to by specific acknowledgement of the provision within the contract.

Governing Law and Venue. Texas law governs this Contract and any suit on this Contract must be filed in a court of proper jurisdiction in Dallas County, Texas.

Right to trial by Jury. Any provision of the Contract that seeks to waive an aggrieved Party's right to trial by jury is void.

Certificate of Interested Parties (TEC Form 1295). For contracts that require City Council approval or that is for services that would require a person to register as a lobbyist under Chapter 305 of the Texas Government Code, the City may not accept or enter into a contract until it has received from the Vendor a completed and signed Texas Ethics Commission (TEC) Form 1295 complete with a certificate number assigned by the (TEC), pursuant to Texas Government Code § 2252.908 and the rules promulgated thereunder by the TEC. The Vendor understands that failure to provide said form complete with a certificate number assigned by the TEC may prohibit the City from entering the Contract.

Pursuant to the rules prescribed by the TEC, the TEC Form 1295 must be completed online through the TEC's website, assigned a certificate number, printed, signed and provided to the City. The TEC Form 1295 may accompany the bid or may be submitted separately but must be provided to the City prior to the award of the contract. Neither the City nor

its consultants have the ability to verify the information included in a TEC Form 1295, and neither have an obligation nor undertake responsibility for advising any potential Vendor with respect to the proper completion of the TEC Form 1295.

Energy Boycott. In accordance with Chapter 2274, Texas Government Code (Acts 2021, 87th Leg., S.B. 13), the City may not enter into a contract with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at \$100,000 or more unless the contract contains a written verification from the company that the company: (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of the contract. The signatory executing the Contract on behalf of Vendor verifies Vendor does not boycott energy companies and will not boycott energy companies during the term of the Contract. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code, and does not apply if the City determines the requirements of Subsection 2274.002(b) are inconsistent with the City's constitutional or statutory duties related to the issuance, incurrence or management of debt obligations or the deposit, custody, management, borrowing or investment of funds.

Firearms. In accordance with Chapter 2274, Texas Government Code (Acts 2021, 87th Leg., S.B. 19) the City may not enter into a contract with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at \$100,000 or more unless the contract contains a written verification from the company that the company: (1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of the contract against a firearm entity or firearm trade association. The signatory executing the Contract on behalf of Vendor verifies Vendor does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the contract against a firearm entity or firearm trade association. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code, and does not apply if the City contracts with a sole-source provider or if the City does not receive any bids, if applicable, from a company that is able to provide the required verification.

Critical Infrastructure. In accordance with Chapter 2274, Texas Government Code, the City may not enter into a contract or agreement with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at \$100,000 or more (1) if the company would be granted direct or remote access to or control of critical infrastructure in Texas, excluding access specifically allowed by the City for product warranty and support purposes and (2) if the City knows the company is (A) owned by or the a majority of stock or other ownership interest of the company is held or controlled by (i) individuals who are citizens of China, Iran, North Korea, Russia, or a designated country or (ii) a company or other entity,

including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of such countries, or (B) headquartered in such countries. The signatory executing the Contract on behalf of Vendor represents that neither Vendor nor any of its parent companies, wholly-owned subsidiaries, majority-owned subsidiaries, and other affiliates is a company of which the City may not contract pursuant to Section 2274.0102, Texas Government Code. The foregoing verification is made solely to comply with Section 2274.0102, Texas Government Code.

Anti-Boycott Israel Verification. In accordance with Chapter 2271, Texas Government Code, the City may not enter into a contract with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at \$100,000 or more unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract. The signatory executing the Contract on behalf of Vendor verifies that Vendor and its parent company, wholly-owned subsidiaries, majority-owned subsidiaries, and other affiliates, if any, do not boycott Israel and, to the extent the Contract is a contract for goods or services, will not boycott Israel during the term of the Contract. As used in the foregoing verification, "boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. The signatory understands "affiliate" to mean an entity that controls, is controlled by, or is under common control with the signatory and exists to make a profit. This section does not apply to a Vendor which is a sole proprietorship and/or which has less than 10 full-time employees. This section does not apply to a contract valued at less than \$100,000.

Iran, Sudan, and Foreign Terrorist Organizations. The signatory executing the Contract on behalf of Vendor represents that neither Vendor nor any of its parent company, wholly-owned subsidiaries, majority-owned subsidiaries, and other affiliates is a company identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 2252.153 or Section 2270.0201, Texas Government Code, and posted on any of the following pages of such officer's internet website:

<https://comptroller.texas.gov/purchasing/docs/sudan-list.pdf>,
<https://comptroller.texas.gov/purchasing/docs/iran-list.pdf>,
 or
<https://comptroller.texas.gov/purchasing/docs/fto-list.pdf>.

The foregoing representation is made solely to comply with Section 2252.152, Texas Government Code, and to the extent such Section does not contravene applicable Federal law and excludes the entity and each of its parent company, wholly-owned subsidiaries, majority-owned subsidiaries,

and other affiliates, if any, that the United States government has affirmatively declared to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization. The signatory understands “affiliate” to mean

any entity that controls, is controlled by, or is under common control with the signatory and exists to make a profit.