



The Purchasing Memo

Date: December 23, 2025

To: Governing Body, Finance Committee, and Public Works & Utilities Committee

From: Daniel Garcia, Fire Fleet Manager *[Signature]*
Daniel Garcia

Via: Scott Ouderkirk, Interim Fire Chief *[Signature]*
SCOTT OUDERKIRK

Subject: 2025 Ferrara Custom Cinder Fire Engine/Pumper

Vendor Name: 411 Equipment LLC

Munis Vendor Number: 8725

ITEM AND ISSUE:

Fire Department respectfully requests your approval to purchase a 2025 Ferrara Custom Cinder Fire Engine/Pumper totaling \$980,043.00 with 411 Equipment, LLC.

CONTRACT NUMBER:

NA – utilizing CES Contract #2024-25-C115-All.

BACKGROUND AND SUMMARY:

The City of Santa Fe Fire Department received a grant award (Item #25-0500, Appropriation #25-J3150) in the amount of \$525,000.00 from The State of New Mexico Department of Finance & Administration (DFA). Additionally, The New Mexico Public Relations Commission State Fire Marshal Division provided approval to purchase a 2025 Ferrara Custom Cinder Fire Engine/Pumper. Santa Fe Fire Department requests to purchase a new fire engine for the Operations Division. This apparatus will replace the current aged-out unit which has high mileage due to heavy utilization in the field. Fire Department will purchase the apparatus from 411 Equipment, LLC. located in Albuquerque.

PRIOR APPROVALS AND SUPPORTING INFORMATION:

FUNDING SOURCE:

Fund Name/Number: Emergency Services/Fund 221

Munis Org Name/Number: Fire Support Services/2210181

Munis Object Name/Number: Vehicles > 1.5 Tons/571000


Budget Officer / Designee: *Andy Hopkins* Date: 01/05/2026

Budget Officer Comment/Exceptions: _____

PROCUREMENT METHOD:

The procurement method used was NMSA 1978, Section 13-1-135, Coop

The existing contract number 2024-25-C115-ALL expires on 05/21/2028.

Chief Procurement Officer (CPO)/Designee:  Date: 01/06/2026

CPO Comment/Exceptions: _____

ASSOCIATED APPROVALS:

IT Components included? Yes | No

Approval: NA Title: _____ Date: _____

Comment/Exceptions: _____

Treasury/Point of Sale Components included? Yes | No

Approval: NA Title: _____ Date: _____

Comment/Exceptions: _____

Vehicles included? Yes | No

Approval: Daniel Garcia  Title: Fire Fleet Manager Date: 12/12/2025

Comment/Exceptions: _____


Construction to City Facilities, Furniture, and/or Fixtures included? Yes | No

Approval: NA Title: _____ Date: _____

Comment/Exceptions: _____

Is this an externally funded purchase? Yes | No

If yes, what is the issuing agency: _____

Approval: ERIKALUJAN  Title: Grant Manager Date: 01/12/2026

Comment/Exceptions: _____

Is this a Capital Asset or Project? Yes | No

Project Ledger Number: FIR2622112

Approval: Rebecca Lovato-Sanowong  Title: Accounting Manager Date: 01/12/2026

Comment/Exceptions: _____

ATTACHMENTS:

Horizons declination

Apparatus Approval 12.9.25 SFFD

Vendor's Quote

Procurement document: Coop Master Agreement #2024-25-C115-All

Fully Executed 25-J3150 SFFD Purchase & Eqpt a fire engine Sta. 3

Certificate of Liability Insurance (COI)

Los Ranchos_2024 License 411 Equipment LLC
411 Equipment W-9 10_02_2025



Services Offered to the City of Santa Fe (FY26)

Approved:

These services have been approved by the New Mexico Council for Purchasing from Persons with Disabilities and are available through Horizons of New Mexico.

- ADA Accessibility Consulting Services
- Auctioneering Services
- Bulk Mailing and Sorting
- Call Center Services
- Computer Refurbishing
- Courier Services
- Decontamination, Sanitation and Sterilization Services
- Debris Removal
- Document Imaging
- Document Shredding
- Envelope Stuffing
- General Labor
- Hard Drive Destruction
- Janitorial and Housekeeping Services – Including Carpet Cleaning & Floor Care
- Landscape Irrigation
- Landscaping
- Mailing Services
- Management of an Assistive Technology Reuse and Recycling Program
- Medical Waste Disposal
- Meeting Minute Preparation Services
- Pest Control and Extermination Services
- Printing Services
- Rest Area Maintenance
- Screen Printing
- Snow Removal
- Temporary Staffing Services
- Yard, Grounds, and Lawn Maintenance

Permissive:

The services have been approved by the New Mexico Council for Purchasing from Persons with Disabilities as permissible for sale under the State Use Act through Horizons of New Mexico. While the Council recognizes that certain Horizons of New Mexico members are capable of performing the services listed below, said services are considered permissive and excluded from the mandatory aspect of the State Use Program. Any procurement of the below services through Horizons of New Mexico is at the discretion of the purchasing agent and will be considered by the Council on a case-by-case basis.

- Graphic Design
- Graphic Design - Logo Design
- IT – Enterprise Application
- IT – IV & V
- IT Network and Database Management
- IT Support
- IT Security Services
- IT – Web Design
- IT – Web Programmer
- Marketing
- Social Media Marketing

For the complete State Use service list, please go to: <http://horizonsofnewmexico.org/services.html>



Michelle Lujan Grisham
Governor

Ali Rye
State Director

Major General Miguel Aguilar
Cabinet Secretary

Randy Varela
State Fire Marshal

Regina Chacon
Deputy Cabinet Secretary

**DEPARTMENT OF HOMELAND SECURITY
AND EMERGENCY MANAGEMENT**

11/4/2025

Brian Moya, Fire Chief
Santa Fe Fire Department

Chief Moya ,

The specifications you submitted dated December 4, 2025, for the purchase of a Class A pumper have been reviewed and are approved. The Santa Fe Fire Department is authorized to use fire protection fund monies for the purchase of the said apparatus.

Please be advised that the apparatus **SHALL** comply with **NFPA 1900 Standards for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances 2024 Edition. Any exceptions made to NFPA requirements will not be approved.**

This letter shall serve as approval to expend fire protection fund monies to finance the cost of Tender. The Santa Fe Fire Department is currently an ISO rating of 2 with a minimum yearly Fire Protection Fund Allocation of \$722,554.00

If there are any changes in the specifications, or waivers presented at any time during the process, this office must approve the changes. If prior approval and authorization is not obtained from this office, the expenditure shall be rendered null and void.

If you anticipate a loan, I recommend that you contact the New Mexico Finance Authority {NMFA} at 505-984-1454 to finance the Class A Pumper. A loan through NMFA will be at minimal interest. This letter shall serve as authorization for you to enter into an agreement with NMFA for the commitment of fire protection fund monies.

For future references, please be reminded that all purchases shall be accomplished in accordance with the policies and guidelines of your governing body, the provisions of

the Public Purchase Act, and as approved by the New Mexico Department of Finance and Administration.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Steven Gonzales, Captain

Fire Support Coordinator
NM State Fire Marshal's Office

CC: Derrick Rodriguez, Battalion Chief



Equipment, LLC



7324 4th Street NW, Los Ranchos, NM 87107
(505) 242-1411 Phone

December 1, 2025

City of Santa Fe
Fire Department
Brian Moya
Fire Chief

I am pleased to offer your department a 2025 Ferrara Custom Cinder Pumper with shelving for \$980,043.00 via my CES Contract #2024-25-C115-ALL Code: CES-13
The price breaks down as follows:

Item	Description	Price
CES-13	Custom Cinder, 4-Door, 1500 GPM	\$963,298.00
517	Add Foam System, Foam Pro 2001	\$24,909.00
	Sub Total	\$988,207.00
	CES 2% Discount	(\$19,764.00)
	Sub Total Less Discount	\$968,443.00
	Extra Discount (1.9%)	(\$18,400.00)
	Subtotal Less Extra Discount	\$950,043.00
411 Equipment	Shelving	\$30,000.00
	Grand Total	\$980,043.00

The total includes the CES 2% Discount with an additional 1.9% totaling 3.9% discount. The price of this unit includes graphics, delivery and training. This is for the truck and shelving only. All NFPA Complaint equipment can be quoted separately. 411 Equipment will be responsible for paying the CES fee. This unit is subject to prior sale. This quote is valid for 60 days.

If you have any questions, please don't hesitate to call.

Thank you for this opportunity,

Alexis Marquez

Alexis Marquez
411 Equipment
Sales Manager
505-242-1411



Shop Order

411 Fire Equipment, LLC
H7195 Cinder Pumper Retail

F.O.B. Holden, LA

Sales Rep: 411 Fire Equipment, LLC Pete Marquez, Jr.	Terms: Standard Ferrara
Drawing #: Approval (Build)	
Est. Delivery Date: / /	
Customer PO #: 2022-1013-1	Penalty:
Customer #: H7194	N/A
QPF #: N/A	
Special Notes: Final Production Release	

Exp. Date: 10/26/2022	Create Date: 09/26/2022	Rev. Date: 05/09/2025
Quote No: 411CinderPumpers-0007		
Job/Order No: H7195		
PUMPER: FMP-35-100	Custom Pumper - Extruded / Modular	
LEGAL: FFA-00-300	Legals - Pumpers	
CHASS-CUSM: FCH-30-100	CHASSIS - Ferrara Custom Tilt Cab	
CHASS-MODS: FCM-10-300	Chassis Modifications - Custom	
PUMP-ENC: FPE-20-100	Pump Enclosure - Side Mount	
BODY: FBP-33-200	Body - Extruded Pumper (500-1250 Gallons)	
BODY-CMNT: FBC-30-100	Body Components - Pumpers	
ELE-CMPNT: FEC-30-200	Elec. Components - Pumper Custom	
PAINT: FPC-10-200	Paint - SM Extruded	
WRNTY-MNLS: FWM-50-100	Warranty / Manuals - Pumpers Custom	
EQUIPMENT: FEP-30-100	Loose Equipment Pkg. - Pumper	

05/09/2025

PART NO	S	DESCRIPTION	QTY	ID
		== Legals - Pumpers - 622.001 06/06/22 ==		FE
00-06-0420		Payment Terms: Ferrara Standard	1	FE
00-12-0220		Single Source Manufacturer	1	FE
00-12-0420		Manufacturer - Virtual	1	FE
00-12-0620	<	Principal Dimensions	1	FE
		The apparatus shall have the following dimensions:		
		Overall Length: ~31' 11-1/8" (NOT TO EXCEED 32')		
		Overall Height: ~9' 6" (NOT TO EXCEED 9' 8")		

PART NO	S	DESCRIPTION	QTY	ID
		Wheelbase: ~188" (NOT TO EXCEED 188")		
		Cab to Axle: ~126" (NOT TO EXCEED 126")		
00-12-0820		Certified Welders	1	FE
00-14-0620		Drawings - Approval	1	FE
00-18-1020		Vehicle Transportation - Fire Department Supplied	1	FE
00-18-1820		Delivery Time: Calendar Days	1	FE
00-18-2020		Vehicle Familiarization & Demonstration	1	FE
00-22-0220		Service Contacts	1	FE
00-22-0620		Company Service Vehicles	1	FE
00-22-0820		Replacement Parts	1	FE
		== CHASSIS - Ferrara Custom Tilt Cab - 622.001 06/06/22 ==		FE
00-D2-0420		Custom XD Full Tilt Cab - Cinder	1	FE
		WHEELBASE / FRAMERAILS / COMPONENTS / ACCESSORIES		FE
02-A2-0220	S	Wheelbase: 188"	1	FE
02-A4-0420		Frame Rails - Double	1	FE
02-A4-2020		Paint - Frame Rail, Gloss Black	1	FE
02-A6-1420		Tow Hooks - Chrome, Below the Bumper	1	FE
		FRONT BUMPERS / COMPONENTS / ACCESSORIES		FE
02-B2-0420		Front Bumper - 12" High, Polished Stainless Steel w/Steel Backing Plate	1	FE
02-B2-2220		Front Bumper Feature Position	1	FE
02-C4-2220		Front Bumper Extension - 24"	1	FE
02-D2-0220		Gravelshield - Front Bumper Extension	1	FE
02-D4-0620		Compartment - Front Bumper, Center	1	FE
02-E6-1220		Cover - Flat Aluminum T/P w/Cut Out, Center Compartment	1	FE
02-M2-4020	<	Mechanical Siren - Federal Q2B, Pedestal Mount	1	FE
		The siren will be mounted on the extended front bumper gravelshield on the driver's side.		
		The siren brake switch will be located in the center dash panel per the dash panel layout.		
02-M8-0220		Siren Wiring - Active in Response Mode Only	1	FE
02-M8-0620	XS	Switch - Siren, Driver's Side Floor	1	FE
02-M8-1020	S <	Switches - Siren, Officer Overhead	1	FE
		There a officer's side Q2B activation switch will be located in the officer's overhead dash panels per the dash panel layout.		
02-M8-1420	<	Additional Siren Brake Switch - Q2B Siren	1	FE
		An additional mechanical siren brake switch will be installed in the officer's overhead dash panel per the dash panel layout.		
02-P2-0220	<	Air Horn - Driver's Side Thru Bumper, Hadley Round E-Tone	1	FE
		The air horn will be located on the driver's side of the front bumper in position P6.		
02-P2-0420	<	Air Horn - Passenger's Side Thru Bumper, Hadley Round E-Tone	1	FE
		The air horn will be located on the passenger's side of the front bumper in		

PART NO	S	DESCRIPTION	QTY	ID
		position P2.		
02-P6-0220		Switch - Air Horn, Driver's Side Floor	1	FE
02-P8-0420		Air Horn Wiring - Active All Modes	1	FE
02-R4-0420	<	Siren Speaker - Cast Product SA2401	1	FE
		The speaker will be located on the passenger's side of the front bumper in position P1.		
FRONT AXLES / COMPONENTS / ACCESSORIES				FE
04-A2-0420		Front Axle - 20,000 Pounds, Hendrickson Steertek	1	FE
04-A6-0820		Steering System - Sheppard, 18,000 to 24,000 Pounds	1	FE
04-A8-0220		Chassis Alignment	1	FE
04-B2-0420		Front Suspension - 20,000 Pounds, Hendrickson Steertek	1	FE
04-C2-0220		Front Brakes - S-Cam, 16-1/2" x 6"	1	FE
04-C4-0820		Cramp Angle - 45 Degrees	1	FE
04-D4-0620		Front Tires - Michelin 385/65R 22.5 "L" X Multi HL Z 20,000 Pounds	1	FE
04-E2-2420		Front Wheels - 22-1/2" x 12-1/4", Alcoa Aluminum	1	FE
04-E4-0220		Wheel Trim - Front, Baby Moons / Lug Nut Covers	1	FE
04-E4-2020		Mud Flaps - Front	1	FE
SINGLE REAR AXLES / COMPONENTS / ACCESSORIES				FE
04-G2-0420		Rear Axle - 27,000 Pounds, Meritor RS-25-160	1	FE
04-K2-8020		Rear Suspension - 27,000 Pounds, Spring	1	FE
04-M2-0220		Standard Differential - Single Axle	1	FE
04-M6-0820		Vehicle Top Speed: 65-68 MPH	1	FE
04-P2-0220		Rear Brakes - S-Cam 16-1/2" x 7"	1	FE
04-R4-0620		Rear Tires - Michelin 12R22.5 "H" XZE 27,000 Pounds	1	FE
04-S2-2020		Rear Wheels - 22-1/2" x 8-1/4", Alcoa Aluminum	1	FE
04-S2-6020		Wheel Trim - Rear, High Hat Covers / Lug Nut Covers	1	FE
04-S6-1220		Tire Pressure Monitor (Single Rear Axles) - LED Alert	1	FE
AIR BRAKE SYSTEM / COMPONENTS				FE
06-A2-0220		Harness and Hose Routing System	1	FE
06-A2-0420		Air Brake System - Color Coded Nylon w/1/4 Turn Drain Valves	1	FE
06-A2-4020		Chassis Air System Fittings - Push-Lock Type	1	FE
06-A2-6020		Air Compressor - Wabco 18.7 CFM	1	FE
06-A4-4020	>	ABS/ATC/ESC System - SINGLE AXLE	1	FE
06-B4-2020		Air Dryer - Bendix AD-9	1	FE
ENGINES / COMPONENTS / ACCESSORIES				FE
08-A2-0620	S	Engine - 450 HP, Cummins L9 (MY2022)	1	FE
08-B2-0620		Engine Brake - Cummins L Series Engines	1	FE
ENGINE / COMPONENTS / COOLING SYSTEM - L SERIES ENGINES				FE
08-C2-0420		Cooling System - 1400 Square Inch Radiator	1	FE
08-C2-1420		Cooling System Fan - Cummins L Series Engines	1	FE
08-C2-2620		Radiator Coolant - Extended Life	1	FE
08-C2-4220		Coolant Hoses - Premium Rubber	1	FE
08-C2-4420		Coolant Hose Clamps - Gates PowerGrip	1	FE
08-C2-6020		Auxiliary Engine Cooler	1	FE
ENGINE / COMPONENTS / CHARGING SYSTEMS				FE

PART NO	S	DESCRIPTION	QTY	ID
08-D2-2220		Alternator - 430 AMP, Delco Remy 55SI	1	FE
08-E2-0420		Battery System (4) - Exide (750 CCA Each)	1	FE
08-E4-0220		Battery Boxes - Stainless Steel	1	FE
08-E4-4220		Battery Jumper Studs	1	FE
08-E4-6220		Termination Point - Battery Box	1	FE
08-E6-0220		Battery Master Load Disconnect	1	FE
08-E8-4420		> Battery / Air Charger - Pump Plus 1200, Kussmaul 52-21-1100	1	FE
08-G4-2020		> Receptacle - 20 AMP, Kussmaul Super Auto-Eject 091-55-20-120	1	FE
08-G4-4020		Receptacle Location - Driver's Side Cab Wheel Well Area	1	FE
08-G6-0230		Cover - Super Auto Eject Yellow, Kussmaul 091-55-234-YW w/Bar Graph Display	1	FE
08-G8-8220		Plate - Shore Power Inlet	1	FE
		TRANSMISSION / COMPONENTS / ACCESSORIES		FE
10-A2-0220		> Transmission - Allison 3000 EVS	1	FE
10-A4-0620		Transmission Push Button Shifter - 5 Speed	1	FE
10-H2-0220		Drive line - 1710 Series	1	FE
10-H4-1820		Fire Pump Installation	1	FE
		FUEL SYSTEM / COMPONENTS - L SERIES ENGINES		FE
10-J2-0620		Fuel Tank - 65 Gallon	1	FE
10-J4-0220		Fuel Lines - Reinforced Wire Braided	1	FE
10-J4-2020		Fuel Water Separator - Primary Filter	1	FE
10-J4-2620		Fuel Filter - Secondary Filter	1	FE
10-J6-0820		DEF System w/5 Gallon Tank - Left Rear Under Cab	1	FE
10-J8-2020		DEF Fill w/Door - Left Crew Cab Extension	1	FE
10-M2-0820		Exhaust System - EPA 2022	1	FE
		CAB CONFIGURATIONS - CINDER XD - SMFD thru LFD		FE
12-C2-0220		Custom Cab - Ferrara Extreme Duty	1	FE
12-C4-2220		> Custom Cab - Ferrara XD 96 XMFD	1	FE
12-C6-0820		Cab Roof - 8" Raised	1	FE
12-P2-1020	S	Cab Doors - Barrier, 4 Door Raised Roof Cab	1	FE
12-P4-0220	S	Cab Door Hinges - Consealed	1	FE
12-P6-0820		Cab Door Locks - Manual Paddle Type (4 Door Cab)	1	FE
12-P8-1020		Window Regulators - Electric (4 Door Cab)	1	FE
12-R2-1800		DELETE FIXED WINDOW - LEFT SIDE	1	FE
12-R2-2000		DELETE FIXED WINDOW - RIGHT SIDE	1	FE
12-R4-0420		Cab Tilt Lock Suspension (Full Tilt Cab)	1	FE
12-R4-2020		Cab Tilt Electric Pump	1	FE
		CUSTOM CAB - EXTERIOR TRIM COMPONENTS		FE
14-A2-0420		Front Grille - Stainless Steel	1	FE
14-A2-1620		Front Grille Logo - Ferrara/NON-Lighted	1	FE
14-A2-6220		Side Grille w/Ember Separator - Notched Right Side	1	FE
14-A4-0620		Cab Mirrors - Heated/Remote, Velvac Stainless Steel	1	FE
14-A6-0220		Exterior Trim - Cab Handrails, Knurled Stainless Steel	1	FE
14-A6-1620		Fenderettes - Polished Stainless Steel	1	FE
14-A6-2020		Exterior Trim - Rear Step Well w/Removable Battery Access Covers	1	FE
14-A6-8220		Exterior Trim - Tread Plate, Back of Cab	1	FE
14-A8-0220		Exterior Trim - Tread Plate, Cab Roof	1	FE

PART NO	S	DESCRIPTION	QTY	ID
CUSTOM CAB - INTERIOR TRIM COMPONENTS				
14-G2-1020		Corrosion Protection/Sound Deadening - "F-Shield"	1	FE
14-G4-0220		Interior Cab Finish - "F-Shield" Dark Gray	1	FE
14-G4-2220		Interior Trim - Gray Floor Mats/Engine Tunnel Covering	1	FE
14-G4-6420		Interior Trim - Sprayed Aluminum, Rear Wall	1	FE
14-G6-0420		Interior Trim - Grab Handles (4 Door Cab)	1	FE
14-G6-4020		Interior Trim - Officer's Dash, Glove Box	1	FE
14-G6-6020		Interior Trim - Sun Visors (3)	1	FE
14-H2-0820		Interior Trim - Upper Door Panels "F-Shield" (4 Door Cab)	1	FE
14-H4-1220		Interior Trim - Lower Door Panels Reflective Stop Sign (4 Door Cab)	1	FE
14-H4-2220		Interior Trim - Mounting Plate, Engine Tunnel	1	FE
CUSTOM CAB - INSTRUMENTS AND CONTROLS				
14-K2-0420		Cab Instrumentation & Controls - Standard Gauges	1	FE
14-K2-0620		Driver's Information Display Panel	1	FE
14-K2-0810		Electrical System - Chassis, E2020	1	FE
14-K2-2020		Doghouse Mounted Switch Panel - Ferrara XD Aluminum	1	FE
14-K4-4020		Steering Column w/Self Canceling Turn Signals - Douglas	1	FE
14-P2-1620		Heat/Air Conditioning - Under Dash and Rear Crew Area (L Series Engines)	1	FE
14-P2-2420		A/C Condenser Housings: Black	1	FE
CUSTOM CAB / SEATING / AIR BAG PROTECTION / EMS				
COMPARTMENTS				
16-A2-1220		Seating / EMS Compartments - Bostrom	1	FE
16-A8-0420		Seat Material - Bostrom Durawear	1	FE
16-A8-1220		Seat Color - Gray/Black	1	FE
16-A8-4020		Seat Belts - Standard 3-Point NON ABTS	1	FE
16-A8-6020		No SCBA Bracket Required	1	FE
16-A8-8020		No Filler Panels Required	1	FE
16-B4-0220		Seat - Driver, Bostrom Sierra Air-100 RX	1	FE
16-B4-1440		Seat - Officer Bostrom Sierra Air-100 NON SCBA	1	FE
16-E2-0220	XS	Seat (1) - IB Forward Facing Crew, Bostrom Sierra HBFX Fixed / Non SCBA	1	FE
16-G2-0620	XS <	Seats (2) - OB Forward Facing Crew, Bostrom Sierra HBFX Fixed / NON SCBA / Flip	1	FE
The seat will be equipped with the Bostrom Fold & Hold option.				
16-H2-0220		Compartment - Outboard Rear Facing EMS, Driver's Side	1	FE
16-H2-0820		Door - Driver's Side EMS Compartment, Interior Cargo Net	1	FE
16-H4-0620		Light - Driver's Side EMS Compartment, LED Strip	1	FE
16-H6-0220		Shelf - Adjustable, Driver's Side EMS Compartment	1	FE
16-H8-6220	>	Outlet - Driver's Side EMS Compartment, 12V Power	1	FE
16-J2-0220		Compartment - Outboard Rear Facing EMS, Officer's Side	1	FE
16-J2-0820		Door - Officer's Side EMS Compartment, Interior Cargo Net	1	FE
16-J4-0620		Light - Officer's Side EMS Compartment, LED Strip	1	FE
16-J6-0220		Shelf - Adjustable, Officer's Side EMS Compartment	1	FE
16-J8-0420	>	Outlet - Officer's Side EMS Compartment, 12V Power	1	FE
CUSTOM CAB - ACCESSORIES				
16-M2-0620	<	Accessory Panel - Blue Sea 4365	1	FE
The fuse block will be located on the side of the engine tunnel behind the officer's seat.				

PART NO	S	DESCRIPTION	QTY	ID
16-M2-2220	<	Radio - WB/AM/FM/BT w/Speakers, Jensen JHD62B The radio will be located in the overhead panels per the dash layouts.	1	FE
16-M2-6020		Accessory Power & Ground Stud	1	FE
16-M4-2420		Electronic Siren - Whelen 295SLSA1	1	FE
16-M6-0620		Electric Horn - Single	1	FE
16-M6-2020		Back Up Alarm - NFPA Compliant	1	FE
		CUSTOM CAB - INTERIOR LIGHTING		FE
16-P2-0220		Lights (4) - LED Cab Dome, 6" Red/Clear Whelen 60CREGCS	1	FE
16-P2-2420		Light - Open Door w/Alarm, Whelen TIR3 LED	1	FE
16-P4-0220		Lights (6) - Step Well, LED	1	FE
16-R4-0420		Lights (2) - Engine Maintenance, LED	1	FE
		CUSTOM CAB - EXTERIOR ILLUMINATION		FE
18-A2-0220		Front Cab Lighting - Whelen 600 Series LED	1	FE
18-A4-0830		Headlights - LED, FireTech FT-4X6-4KIT	1	FE
18-A6-0420		Lights (2) - Turn Signal, Whelen 600 Series LED (Headlight Module Mounted)	1	FE
18-A6-1220		Lights (2) - Turn Signal/Marker, Whelen 400 Series LED	1	FE
18-A6-6020		Lights (2) - Cornering, LED	1	FE
18-A6-6420		NO FRONT CAB FACE DOT LIGHTS REQUIRED	1	FE
18-B4-0420		Lights (2) - Inboard Lower Front Warning, Whelen 60R02FRR LED (Red)	1	FE
18-D2-0820		Lights (4) - LED Cab Ground, Whelen 20C0CDCD	1	FE
		AUDIO / VISUAL COMMUNICATION SYSTEMS		FE
18-M2-0420		Camera/Video System - Fire Research inView360 SNB100-C00	1	FE
18-M2-0620	<	Monitor - 7" Color, Fire Research SNB1option-MH0 The monitor will be located in the left front cab corner.	1	FE
		== Chassis Modifications - Custom - 622.001 06/06/22 ==		FE
		NFPA SAFETY SIGNS		FE
18-P2-0220		Safety Signs - General Requirements	1	FE
18-P2-0420		Safety Signs - Battery Explosion, FAMA01	1	FE
18-P2-0620		Safety Signs - Rotating Shafts, FAMA02	1	FE
18-P2-0820		Safety Signs - Hot Surfaces, FAMA03	1	FE
18-P2-1020		Safety Sign - Hot Exhaust, FAMA04	1	FE
18-P2-1220		Safety Sign - Spinning Fan, FAMA05	1	FE
18-P2-1420		Safety Signs - Seated & Belted, FAMA07	1	FE
18-P2-1620		Safety Sign - Air Conditioning Refrigerant, FAMA09	1	FE
18-P2-1820		Safety Sign - Cab Equipment Mounting, FAMA10	1	FE
18-P2-2020		Safety Sign - Fire Service Tire Rating, FAMA12	1	FE
18-P2-2220		Safety Sign - Electronic Stability Control, FAMA13	1	FE
18-P2-2420		Safety Sign - Cab Seating, FEMA14	1	FE
18-P2-2620		Safety Signs - Helmet Worn in Cab, FAMA15	1	FE
18-P2-2820		Safety Sign - Vehicle Backing, FAMA17	1	FE
18-P2-4020		Safety Signs - Intake/Discharge Cap Pressure, FAMA18	1	FE
18-P2-4220		Safety Signs - Hose Restraint Required, FAMA22	1	FE
18-P2-4420		Safety Signs - Climbing Method Instruction, FAMA23	1	FE
18-P2-4620		Safety Signs - Riding on Exterior, FAMA24	1	FE

PART NO	S	DESCRIPTION	QTY	ID
18-P2-4820		Safety Sign - Pump Training, FAMA25	1	FE
18-P2-6020		Safety Signs - No-Step, FAMA26	1	FE
18-P2-6220		Safety Sign - Siren Noise, FAMA42	1	FE
18-P4-1020		Safety Sign - Apparatus Movement Warning	1	FE
18-P6-0220		Plate - Fluid Capacity	1	FE
18-P6-0420		Plate - Overall Height / Length / Weight	1	FE
		== Pump Enclosure - Side Mount - 622.001 06/06/22 ==		FE
20-A2-0220		Pump Module - Side Mounted Extruded / Modular	1	FE
20-A4-2220		Separate Pump Module - Extruded / Modular	1	FE
20-A4-4020		Trim - Dunnage Area, Tread Plate	1	FE
20-C4-0220		Pump Panels - Black Anodized Aluminum	1	FE
20-C6-1020		Pump Panel - Fully Hinged, Right Side	1	FE
20-D6-0220		Light - Left Side Pump Panel, LED Strip	1	FE
20-D6-1220		Light - Right Side Pump Panel, LED Strip	1	FE
20-D8-0620		Light - Pump Compartment, LED	1	FE
20-F4-0420		Running Boards - Aluminum Tread Plate, Left & Right Side	1	FE
20-J2-0220		Gauges - Master Suction/Pressure, 4-1/2" Metal Face	1	FE
20-J4-1620	<	Pressure Governor - FRC Pump Boss PBA400-A00	1	FE
		Production to located the pressure governor do that it does not get kicked when climbing the front compartment face steps.		
20-J4-4020		Return Line - Fill Subsurface	1	FE
20-J6-0220		Gauges - 2-1/2" Pressure, White Face	1	FE
20-J6-6020		Gauge Bezels - Chrome	1	FE
20-M4-0220		Tags - Pump Panel, Color Coded (Metal)	1	FE
		PUMP / COMPONENTS / ACCESSORIES		FE
22-A2-0420	>	Pump System - 1250-2000 GPM Single Stage, Hale QMAX	1	FE
22-F2-0220		Packing Glands - Hale	1	FE
22-G2-0220		Pump Shift - Cab Mounted	1	FE
22-J8-6420	>	Primer - Manual Air, Trident 31.001.2 (1250+ GPM)	1	FE
22-P2-0220		Valve - Master Pump Drain	1	FE
22-P2-1220		Valve - Individual Drain, 3/4" 1/4 Turn	1	FE
22-R2-0220		Pump Test Points - Hale Pumps	1	FE
22-R2-2020		Certification - Pump, 1750 GPM Pump	1	FE
22-R4-0420		Plate - Pump Test Certification	1	FE
24-A2-1620		Steamer Inlets - 6" w/Long Handle Cap, Left & Right Side	1	FE
24-J8-0420		Valve - Intake Relief	1	FE
24-R2-0420		Tank-To-Pump - 3" Valve w/Push-Pull Control	1	FE
24-S6-0820	>	Tank Fill - 2" Valve w/Push-Pull Control	1	FE
24-T2-0420		Cooler - Engine, 1/2" Line w/ 1/4 Turn Valve	1	FE
24-T2-0620		Cooler - Pump, 3/8" Line w/ 1/4 Turn Valve (1/2")	1	FE
24-W2-0220		Plumbing - Stainless Steel	1	FE
24-W2-0620		Plumbing - Stainless Steel Foam Manifold	1	FE
24-W4-0220		Plumbing Finish - Natural	1	FE
26-A2-0220		Apparatus Valves - Akron Brass 8800 Series	1	FE
26-D2-0420		Suction - Left Side, 2-1/2" Valve w/Swing Control at Valve	1	FE
28-00-0100		DISCHARGE OUTLETS - SIDE MOUNT	1	FE

PART NO	S	DESCRIPTION	QTY	ID
28-00-0220		All 2-1/2" Side Discharge Outlets Terminate 30-Degree Elbows	1	FE
28-A2-0220		Discharge - Front Bumper w/ Swivel - thru Tread Plate (DS)	1	FE
28-A8-0220		Discharge - Front Bumper, 2" Valve w/Push Pull Control	1	FE
28-A8-6020		Discharge - Swivel Stop, Tread plate	1	FE
28-D4-0420		Crosslays (2) - Double Lay, 2" Valve w/Push Pull Control	1	FE
28-D8-0820		Cover - Hypalon w/End Flaps, Crosslays	1	FE
28-D8-2220		End Flaps - Hypalon w/Snaps, Crosslays	1	FE
28-D8-6020		Cover/End Flaps Color: Red	1	FE
28-H8-0420		Discharges (2) - Left Side, 2-1/2" Valve w/Push-Pull Control	1	FE
28-K4-0420		Discharges (2) - Right Side, 2-1/2" Valve w/Push-Pull Control	1	FE
28-K4-6220		> Discharge - Right Side, 4" Valve w/Handwheel Control	1	FE
28-Q2-0220		Discharge - Deck Gun, 3" Valve w/Push Pull Control	1	FE
28-V2-1020		Discharge - Left Rear, 2-1/2" Valve w/Push-Pull Control	1	FE
28-V8-8020		Elbow - 2-1/2 FNST x 2-1/2" MNST Chrome 30 Degree, Trident 01.010.0	1	FE
28-W2-1020		Discharge - Right Rear, 2-1/2" Valve w/Push-Pull Control	1	FE
28-W8-8020		Elbow - 2-1/2 FNST x 2-1/2" MNST Chrome 30 Degree, Trident 01.010.0	1	FE
30-C2-0620		Foam System - Foam Pro 2001	1	FE
30-J2-2020		Gauge - Class A Foam, FRC Tank Vision Pro WLA360-A00	1	FE
30-K2-1220		Tank Switch (1) Low Level	1	FE
30-M4-0620		Flowmeter - Tee Mount w/Coupling Kit	1	FE
30-R2-0620		Placard - Operating System, Single Tank	1	FE
30-R8-0220		NFPA Test - Foam Proportioning Systems	1	FE
30-S2-0620		> Foam Tank No. 1 - Polypropylene, 30 Gallons	1	FE
30-T2-0200		FOAM OUTLET LOCATIONS:	1	FE
30-T2-0420		Foam Outlet - Discharge Front Bumper	1	FE
30-T2-0620		Foam Outlet - Crosslay No. 1	1	FE
30-T2-0820		Foam Outlet - Crosslay No. 2	1	FE
30-T6-2220		Foam Outlet - Discharge Rear of Body, Right Side	1	FE
		== Body - Extruded Pumper (500-1250 Gallons) - 622.001 06/06/22 ==		FE
		WATER TANKS / COMPONENTS / ACCESSORIES		FE
32-A2-2820		Water Tank - Polypropylene, 750 Gallons	1	FE
32-A6-0220		> Special Tank Configuration - "L" Shaped	1	FE
32-D8-0420		Certification - NFPA Water Tank Size	1	FE
34-A2-1220		Gauge - Water Level, Tank Vision Pro WLA300-A00	1	FE
52-A2-0220		Body - 96" Wide, Extruded Aluminum	1	FE
52-A6-4020		Body Sub Frame - Extruded Aluminum	1	FE
52-A6-6020		Body/Compartment Construction - 96" Wide Body	1	FE
52-A6-8020		Compartment Tops/Catwalk - Standard	1	FE
52-A8-0220	S	Wheel Well Panels & Fenders - Body, Painted Aluminum	1	FE
52-A8-0620		Fenderettes - Polished Stainless Steel	1	FE
52-A8-1020		Hose Bed - 67-1/2" Wide	1	FE
52-D6-4220	S <	Compartments- Left Side, Rescue Style (36/58/44 w/64" Interior Height)	1	FE
		L1		
		There shall be one-(1) left front compartment installed ahead of the rear axle. The interior dimensions will be approximately 36" wide x 73" high x 25" deep.		
		L2		

PART NO	S	DESCRIPTION	QTY	ID
		There shall be one-(1) compartment installed above the wheel well. The interior dimensions will be approximately 58" wide x 41" high x 25" deep.		
		L3 There shall be one-(1) left rear compartment installed behind the rear axle. The interior dimensions will be approximately 44" wide x 73" high x transverse in the lower section and 25" deep in the upper section.		
52-H4-6220	<	Compartments - Right Side, Rescue Style (36/58/44 w/64" Interior Height) R1 There will be one-(1) right front compartment installed ahead of the rear axle. The interior dimensions will be approximately 36" wide x 73" high x 25" deep in the lower section and 12" deep in the upper section.	1	FE
		R2 There will be one-(1) compartment installed above the wheel well. The interior dimensions will be approximately 58" wide x 41" high x 12" deep.		
		R3 There will be one-(1) right rear compartment installed behind the rear axle. The interior dimensions will be approximately 44" wide x 73" high x transverse in the lower section and 12" deep in the upper section.		
52-J8-0420	S <	Compartment - Center Rear, Standard Height B1 There shall be one-(1) compartment installed at the center rear of the apparatus. The compartment shall have an interior dimension of approximately 46" wide x 28" high x 31" deep.	1	FE
56-D8-0220	< >	Compartment Doors - Hinged, Flush Look The hinged door will be located on compartment B1.	1	FE
56-D8-0620	< >	Compartment Door - Roll Up, Satin Finish There will be a ROM satin finish roll up door installed on compartment L1, compartment L2, compartment L3, compartment R1, compartment R2 and compartment R3.	6	FE
58-A0-0420		Rear Body Construction - Flat Back Design	1	FE
60-A2-4820		Vertical Load Test - Body	1	FE
60-A2-8020	<	Compartment - Full Depth, Per Compartment The left side compartments will be full depth.	3	FE
62-A2-4820		Compartment - Pike Pole/Ladder Storage, Right Side Beside Tank	1	FE
62-B2-1220	<	Tubes (2) - Pike Pole Storage The tubes will be located in the ladder tunnel.	1	FE

PART NO	S	DESCRIPTION	QTY	ID
64-B2-0420	>	Compartment - Wheel Well Double Air Bottle, Left Front (SIG4)	1	FE
64-B4-0420	>	Compartment - Wheel Well Double Air Bottle, Left Rear (SIG4)	1	FE
64-B4-6220	>	Compartment - Wheel Well Double Air Bottle, Right Front (SIG4)	1	FE
64-B6-6220	>	Compartment - Wheel Well Double Air Bottle, Right Rear (SIG4)	1	FE
66-A2-0220		Body Trim Package	1	FE
66-A2-0620		Body Trim - Vertical Handrails (2), Knurled Aluminum	1	FE
66-A2-1220	<	Body Trim - Rear Stanchions	1	FE
		The stanchions will be lowered so that the top of the warning beacons are even with the hose bed sides.		
66-A2-2420		Fuel Fill - Recessed w/Door, Left Side	1	FE
66-A2-4420		Mud Flaps - Rear	1	FE
66-A2-4620		Rub Rail - Extruded Aluminum	1	FE
66-A4-1040		Step - 12" Rear, Aluminum Tread Plate	1	FE
66-A4-4420	<	Step - Chrome Folding, Front of Body	2	FE
		There will be one-(1) step located on each side of the apparatus on the front compartment faces.		
66-A4-6220		Step - Chrome Folding, Rear of Body	3	FE
66-A4-8820		Tow Eyes (2) - Rear, Below Body	1	FE
66-A6-2220		Handrail - Below Hose Bed, Knurled Aluminum	1	FE
66-A6-6420	<	Handrail - Front of Body, 12" Knurled Aluminum	2	FE
		The steps will be mounted at final inspection.		
66-A8-1620		Divider - Hose Bed, Pumper	2	FE
66-A8-4220	S	Cover / End Flap - Hose Bed, Cargo Netting	1	FE
66-A8-8220		Cover/End Flap Color: Black	1	FE
66-A8-8820	<	Hose Bed Capacity	1	FE
		The hose bed shall have the capacity to hold the following (left to right):		
		600' of 1-3/4" Double Jacket Fire Hose		
		1500' of 5" Large Diameter Supply Hose		
		600' of 2-1/2" Double Jacket Fire Hose		
		A safety sign FAMA22, which warns of the need to secure hose, shall be visible to personnel at the hose storage area.		
		== Body Components - Pumpers - 622.001 06/06/22 ==		FE
		== Elec. Components - Pumper Custom - 622.001 06/06/22 ==		FE
		***** ELECTRICAL / COMPONENTS / ACCESSORIES *****		FE
70-A2-2020		Electrical System - Apparatus Body, E2020	1	FE
70-A2-4020		Electrical System - 12 Volt Testing	1	FE
70-A2-6020		12-Volt Wiring Protection - Split Loom	1	FE
70-A2-8020		EMI/RFI Protection	1	FE
		AUDIBLE WARNING DEVICES		FE
		INTERIOR COMPARTMENT LIGHTING		FE
70-D4-0220	< >	Light - LED Compartment, Amdor Luma Bar	14	FE
		There will be two-(2) lights installed in each compartment.		

PART NO	S	DESCRIPTION	QTY	ID
70-E2-2220	< >	Light - LED Compartment, On Scene Solutions Access Series The light will be located on the front inside wall of the hose bed. The light will be wired to the WORK LIGHT switch in the dash panel.	1	FE
70-E8-8220	< >	Guard - Compartment Light, Stainless Steel The guard will be installed over the hose bed light.	1	FE
70-H2-0220		Switch - Compartment Door Ajar Indicator	1	FE
72-G8-4820		Zone A Upper Light Bar - 72" LED, Whelen Freedom IV F4N7QLED	1	FE
72-R8-4020	<	Zone C Upper Lights (2) - Red LED Beacons, Whelen B6LED B6MMRRP There will be one-(1) light located on each side of the apparatus on the the upper stanchions.	1	FE
74-C8-0420	< >	Zone B & D Lower Front (2) - Red TIR6 LED, Whelen 50R03ZRR There will be one-(1) light located on each side of the apparatus on the front bumper ends.	1	FE
74-D8-2420	<	Zone B & D Lower Midship (2) - Red TIR6 LED, Whelen 50R03ZRR There will be one-(1) light located on each side of the apparatus in the body wheel well area.	1	FE
74-G8-1020	<	Zone B & D Lower Rear (2) - Red w/Clear Lens LINZ6 LED, Whelen LINZ6R There will be one-(1) light located on each side of the apparatus below compartments L3 / R3.	1	FE
74-H8-1020	<	Zone C Lower Lights (2) - Red 600 LED, Whelen 60R02FRR There will be one-(1) light located on each side of the apparatus in the rear tail light housings.	1	FE
74-J4-0820		Stop/Turn/Reverse Lights - LED, Whelen 600	1	FE
74-J4-2220		Housing - Rear Tail Light Assembly, CAST4	1	FE
74-J8-1020	<	Light - LED Rear Directional, Whelen TAL65 The control head will be located on top of the driver's dash panel per the dash layouts.	1	FE
74-J9-0220		Rear Directional Light Mounting - Surface Mount 12-VOLT APPARATUS LIGHTING / ACCESSORIES	1	FE
74-L0-2220		Lights - LED Clearance and Maker	1	FE
74-L2-0820	<	Light - 20" LED Underbody, Luma Bar H20 AY-9500-020 There will be one-(1) light located below left pump panel running board, compartment L3, compartment R1, compartment R3 and front bumper.	5	FE
74-L2-1020	<	Light - 40" LED Underbody, Luma Bar H20 AY-9500-040 The light will be centered below the rear step.	1	FE
74-L2-4020		Light - LED License, Whelen OAOECDRCR	1	FE

PART NO	S	DESCRIPTION	QTY	ID
74-L4-4020	<	Fuse Block - 12-Volt 6-Place, Blue Sea 5025 There will be a fuse block located on the upper front side wall of compartment L3 and compartment R3.	2	FE
74-P2-1020	< >	Lights (2) - 600 LED Scene, Whelen 6SC0ENZR There will be one-(1) light installed on each side of the apparatus on the upper rear of the unit. The lights will be controlled by a switch in the driver's overhead dash panel per the dash layouts.	1	FE
74-P2-1420	< >	Lights (2) - 900 LED Scene, Whelen 9SC0ENZR There will be one-(1) light located on each side of the apparatus directly behind the cab front doors in the raised roof section. The lights will be controlled by a switches in the driver's overhead dash panel per the dash layouts.	1	FE
74-P4-0220	< >	Switch - Additional, Scene Light Activation The additional switches will be located in the overhead panels per the dash layouts. The additional switches will control the following: LEFT FRONT TELE-LIGHT RIGHT FRONT TELE-LIGHT FRONT SCENE LEFT SCENE RIGHT SCENE REAR SCENE	6	FE
74-P4-6420		Upper Rear Scene Light Activation - Reverse Circuit	1	FE
74-Q8-9425	>	Light - 12 Volt 75" LED Brow w/DOT Lights, FireTech FT-B-72-ML-W (White Housing)	1	FE
74-S2-0420		Telescoping Light Locations - Back of Cab	1	FE
74-S2-1220		Light - 12 Volt 80 Watt LED Telescoping, Whelen Pioneer Plus PFH1	2	FE
74-S8-0220		Switch - Telescoping Light Activation, Light Head == Paint - SM Extruded - 622.001 06/06/22 ==	2	FE
80-C2-0220		Paint - Body/Cab	1	FE
80-C2-0420	>	Paint Color/Code: Red FBCH 992103 (FFA Red 1)	1	FE
80-D2-1220		Interior Compartment Finish - Natural	1	FE
80-E2-2020		NFPA Striping - Customer / Dealer Supplied	1	FE
80-E8-0220		Striping - Rear Body, Reflective Chevron	1	FE
80-E8-0620		Chevron Striping Colors: 3M Red & Lime Green	1	FE
80-E8-4020		Reflective Material - Designated Walking Surfaces == Warranty / Manuals - Pumpers Custom - 622.001 06/06/22 ==	1	FE
98-A2-0420		Warranty - Body Material & Workmanship, 2-Year / 36,000 Miles	1	FE

PART NO	S	DESCRIPTION	QTY	ID
98-A2-1020		Warranty - Custom Chassis Material & Workmanship, 2-Year / 36,000 Miles	1	FE
98-A4-0210		Warranty - Cab Structural, 10-Year / 100,000 Miles (Aluminum)	1	FE
98-A4-0420		Warranty - Body Structure, 10-Year / 100,000 Miles (Aluminum)	1	FE
98-A6-0210		Warranty - Cab Paint / Perforation, 10 Year	1	FE
98-A6-0220		Warranty - Body Paint / Perforation, 10 Year	1	FE
98-A8-0220		Warranty - Frame Assembly Structure, 20-Year / 100,000 Mile	1	FE
98-A8-0420		Warranty - Meritor Axle, 2-Year/Unlimited Miles	1	FE
98-A8-4220		Warranty - Cummins Engine, 5-Year/100,000 Miles	1	FE
98-A8-4420		Warranty - Allison Automatic Transmission, 5-Year/Unlimited Miles	1	FE
98-A8-4620		Warranty - Anti Lock Brake System, 3-Year/300,000 Miles	1	FE
98-A8-6020		Warranty - Hale Pumps	1	FE
98-A8-8020		Warranty - Plumbing System, 10-Year / 100,000 Miles	1	FE
98-A8-8420		Warranty - Poly Water Tank, Lifetime	1	FE
98-B2-0220		Manuals (2) - Chassis Operation, Digital	1	FE
98-B2-1220		Manuals (2) - Engine/Transmission Operations	1	FE
98-B2-1820		Manuals - Apparatus Body & Components	1	FE
98-B2-2020		Manuals - Pump	1	FE
98-B2-2220		Safety Guide - FAMA	1	FE
98-B2-6020		Wiring Diagrams - Cab/Chassis, Standard	1	FE
98-B2-6620		Wiring Diagrams - Apparatus Body, Standard	1	FE
		== Loose Equipment Pkg. - Pumper - 622.001 06/06/22 ==		FE
90-A2-0220	<	Equipment Package - NFPA 1901 2016, Fire Department Supplied The loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9 thru 5.9.4 shall be provided by the fire department unless it is listed in this proposal. All loose equipment shall be installed on the apparatus before placed in emergency service, unless the Fire Department authorized agent signs the State of Exception as listed in the NFPA 1901 Standard for Automotive Fire Apparatus sections 4.21 thru 4.21.2.	1	FE
90-C2-0420		Ladder - 10' Folding Attic, Alco-Lite FL-10	1	FE
90-C6-0420		Ladder - 14' Roof, Alco-Lite PRL-14	1	FE
90-D6-1020		Ladder - 24' 2-Section Extension, Alco-Lite PEL-24	1	FE
92-C4-2620	U <	Elbow - 4" FNST RL x 5" Storz 30 Degree The elbow will be located on the 4" right side discharge.	1	
92-F4-0820	U <	Cap w/Chain - 5" Storz The cap will be located on the 4" right side discharge elbow.	1	
96-C2-0220		Wheel Chocs (2) - Folding, Ziamatic SAC-44-E	1	FE
96-C2-0420	<	Holders (2) - Wheel Chocs, Ziamatic SQCH-44-H The holders will be located below compartment L1.	1	FE

H7195 Cinder Pumper Retail

== Legals - Pumpers - 622.001 06/06/22 ==

PAYMENT TERMS

Full payment shall be made upon delivery and acceptance of the apparatus. The vehicle(s) shall not be released to the BUYER until payment is made. If the selling price is subject to any taxes, the taxes added will be that which are prevailing at the time of delivery.

Payment shall be made directly to Contractor. Payment shall be made in United States Currency. No checks or any other form of payment shall be made to any sales representatives, dealer, agents, etc.

If these payment terms are not strictly adhered to, Contractor shall assess a daily interest charge based on an annual percentage rate of 18% on the unpaid balance. If more than one vehicle is covered by this contract and the vehicles are shipped on different dates, the terms stated above shall apply to each vehicle.

SINGLE SOURCE MANUFACTURER

To provide the customer with a single point of contact for service, warranty, and parts, proposals shall only be accepted from manufacturers who assemble the complete apparatus in their own facility.

VIRTUAL MANUFACTURING

The manufacturer shall have a web site available for the customers to watch their unit being produced. The "Trucks in Production" photos shall be updated as progress has been made to the unit.

The web site shall also include documentation of cab and body crash tests, take a virtual tour of the production facility, videos of both current and new innovative products, updates on trade shows, photos of new deliveries and the opportunity to include customer 'Action Photo's.

Customer shall be able to access the web site without the requirement of a password.

PRINCIPAL DIMENSIONS

The apparatus shall have the following dimensions:

Overall Length: ~31' 11-1/8" (NOT TO EXCEED 32')

Overall Height: ~9' 6" (NOT TO EXCEED 9' 8")

Wheelbase: ~188" (NOT TO EXCEED 188")

Cab to Axle: ~126" (NOT TO EXCEED 126")

CERTIFIED WELDERS

The manufacturer shall employ individuals that are certified aluminum and stainless steel welders. The welders shall be certified by an outside testing laboratory. The certifications shall be available for viewing through the Human Resources office upon request.

DRAWING, APPROVAL

H7195 Cinder Pumper Retail

Prior to construction, the contractor shall provide three-(3) approval drawings of the apparatus for the fire department's review. The drawings shall show such items as the chassis being utilized, lights, horns, sirens, pump panels, and all compartment locations and dimensions. The blueprint shall be a visual interpretation of the unit as it is to be constructed. In the event of discrepancies on the print the specifications shall prevail. The buying authority shall sign all drawings. One-(1) print shall be retained by the Fire Department, the dealer/sales representative shall retain one-(1) print, and one-(1) print shall be returned to the manufacturer.

TRANSPORTATION

To insure proper break-in of all components while still under warranty, the apparatus shall be delivered over the road under its own power (Rail and/or truck freight shall not be acceptable).

The Fire Department shall be responsible for driving the completed apparatus back to the station.

DELIVERY TIME

The apparatus shall be delivered within One (1) calendar days after receipt of the approved signed off pre construction changes.

The manufacturer shall not be held liable for changes arising from its failure to make or delay in making delivery because of fire, flood, strike, riot, chassis shortage, accidents, acts of God, or any circumstances beyond our control.

VEHICLE FAMILIARIZATION & DEMONSTRATION

Familiarization and demonstration of the vehicle shall be by a competent and qualified person as defined in the current standard of NFPA 1901 standard.

Familiarization of the vehicle shall include the following:

How to locate gauges or indicators and check all fluid levels and operational issues of the vehicle

How to tilt the chassis cab or hood assembly for access to the engine, fire pump, or aerial control, or any other device to allow access to fluids or for required maintenance

Interior cab controls, instruments, mirrors, safety devices or alarms, brake operations, transmission control, pump controls, exhaust regeneration (if provided), seat adjustments, warning light engagement, and other operational equipment

If the apparatus is provided with a fire pump system, the following minimum instructions:

- a) Setting of parking brake, proper transmission gear, and fire pump engagement operations
- b) Throttle control
- c) Primer and tank-to-pump operation
- d) Use of pressure control devices
- e) Tank refilling operations
- f) Proper operation of discharge controls
- g) Proper shutdown and draining of system

If the apparatus is provided with a generator, the following minimum instructions

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- a) Proper engagement if driven by the chassis
- b) Startup, operation, and shutdown of generator
- c) Monitoring of controls and instruments

If the apparatus is provided with a foam system, the following minimum instructions:

- a) Startup, operation, and shutdown of foam system
- b) Setting of foam percentages and other operational settings
- c) Proper flushing and draining of the system

If the apparatus is provided with a water tower or aerial device, the following minimum instructions:

- a) Positioning and locating the vehicle for safe operations
- b) Chassis parking brakes and engagement of hydraulic system
- c) Deployment of stabilization devices and use of ground pads
- d) Operation of elevation, extension, and rotation of the aerial device
- e) Operation of waterway, nozzle, and other firefighting devices of aerial device
- f) Operation and use of breathing air system (if provided)
- g) Specific aerial device maintenance and service areas for operators
- h) Shutdown and return to service operations
- i) Operation of tip controls and platform controls
- j) General familiarization and demonstration of aerial device
- k) Review of all safety devices, interlocks, and operational Hazards

MANUFACTURER SERVICE CONTACTS

The manufacturer must have a 24 hour/ 7 day a week, toll-free emergency hot line. The manufacturer must be capable of providing both in-house and on-site service for the apparatus. The service technicians shall be EVT certified in compliance with NFPA 1071 classifications F2 through F6. On-site service and maintenance shall be the primary function, to eliminate the vehicle having to leave the fire department jurisdiction. Copies of the certifications shall be made available through the Human Resources office.

SERVICE VEHICLES

The manufacturer shall have a minimum of 10 full time, company owned, service vehicles. The vehicles shall be available 24 hours a day, seven days a week to respond to customer needs. The Service Vehicles shall be operated by full time EVT Certified Technicians.

REPLACEMENT PARTS

Replacement parts shall be available directly from the manufacturer, as well as the dealer and or service centers.

== CHASSIS - Ferrara Custom Tilt Cab - 622.001 06/06/22 ==

CUSTOM CHASSIS

It is the intent of the technical specifications contained herein to ensure the custom cab and chassis specified shall be engineered, designed, and manufactured exclusively for heavy-duty continuous use in extreme environments and rigorous adverse conditions.

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Each custom cab and chassis shall be manufactured in strict compliance with all applicable requirements as set forth in the current edition of the NFPA (National Fire Protection Association) pamphlet 1901 with maximum safety as the key focus throughout the design and development phase of each fire and rescue chassis.

CHASSIS WHEELBASE

The chassis wheelbase shall be 188" inches.

CHASSIS FRAME RAILS, DOUBLE

The chassis frame rails shall be constructed of 110,000-PSI minimum yield steel that has been formed into a "C" channel shape with dimension of 10.50" x 3.50" x .375 inches.

An inner frame liner of 110,000 Pound minimum yield with dimension of 9.69" x 3.13" x .313" shall be provided for additional strength and to reduce deflection. The frame liner shall run from centerline of front axle to rear of the main frame rail. This liner shall be mitered at 45 degrees at the front axle.

The resulting frame system shall have a minimum section modulus of 28.50 cubic inches with a resisting bending moment of 3,135,498-inch pounds per rail.

The frame rails shall be powder coated in order to insure superior paint adhesion. Frame cutouts for the engine shall be made with a plasma torch in order to minimize the heat-affected zone caused by the cut.

The left and right side frame systems shall be fastened together using cross members and Grade 8 fasteners.

PAINT, FRAME RAIL

The frame and running gear shall be painted gloss enamel black. The running gear shall consist of the axles, drive lines, air tanks, steering gear, frame mounted brackets, drag link, and fuel tank.

The air system piping and electrical harnesses shall not be installed until after the paint has cured. This shall insure complete coverage behind those items as well as that air piping and wiring harnesses are not.

TOW HOOKS, FRONT

Two-(2) chrome plated tow hooks will be mounted to the bottom of the front bumper frame extension rails. The tow hooks will be attached with Grade 8 bolts.

FRONT BUMPER

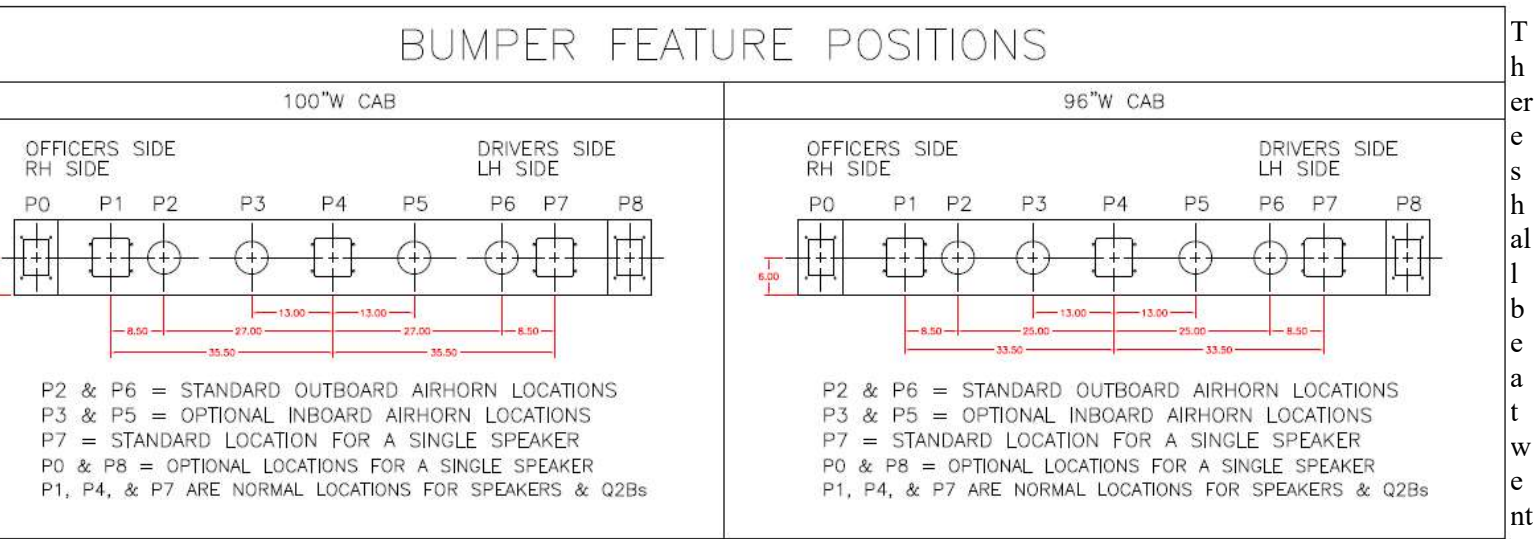
There shall be a 12" high, two rib front bumper constructed of highly polished, 10 gauge stainless steel. The bumper shall be a full wrap around type extending across the entire width of the cab. The return portion of the wrap around shall make up the majority of the bumper extension, measuring up to 24" in length.

There shall be a structural steel backing plate to reinforce the stainless steel bumper. This backing plate shall match the contour of the stainless steel bumper and shall be fabricated from 1/4" steel C-channel. The backing plate shall be attached to the chassis frame rails with Grade 8 bolts.

FRONT BUMPER POSITIONS

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FRONT BUMPER EXTENSION



The es shall be at w ent y-

four inch (24") frame extension provided. The extension shall be made from heavy-duty steel in both C-channel and tubular shapes. The frame rail extension material shall measure 7" high x 3-1/2" wide x .375" wall thickness.

The extension rails shall be bolted to the chassis frame rails through reinforcement plates, backed by the engine mounting cross member. Fasteners utilized shall be Grade 8 bolts.

GRAVELSHIELD

A gravelshield constructed of 1/8" (.125") embossed aluminum tread plate shall be installed above the frame extension between the bumper and the front face of the cab.

BUMPER COMPARTMENT, CENTER

There shall be a compartment provided in the front bumper gravelshield, centered between the frame rails fabricated of 1/8" (.125) smooth aluminum plate with drain holes to allow drainage.

A safety sign FAMA22, which warns of the need to secure hose, shall be visible to personnel at the hose storage area.

COVER, CENTER FRONT BUMPER COMPARTMENT

The center bumper compartment will have a hinged aluminum tread plate cover to secure the contents. The cover will be secured in the closed position with a latch mechanism.

The cover will have a cut-out to allow the hose to be pre-connected.

MECHANICAL SIREN

One (1) Federal Signal Q2B siren model #Q2B-012PSD electro-mechanical siren shall be mounted on the extended front bumper gravelshield. The Q2B siren shall be a streamlined, chrome plated siren designed to provide reliable and long-life operation. The electro-mechanical siren shall produce the distinctive Q2B sound that is a registered trademark of Federal Signal, and shall be provided with a heavy duty clutch and an electric brake.

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The siren will be mounted on the extended front bumper gravelshield on the driver's side.

The siren brake switch will be located in the center dash panel per the dash panel layout.

SIREN WIRING

The siren activation switch shall be wired thru the chassis park brake and operate in the "Response Mode" only.

SIREN FOOT SWITCH

A foot operated switch will be installed on the driver's side wired to the mechanical siren.

Switches - Siren, Officer Overhead

There a officer's side Q2B activation switch will be located in the officer's overhead dash panels per the dash panel layout.

SWITCH, ADDITIONAL SIREN BRAKE

An additional mechanical siren brake switch will be installed in the officer's overhead dash panel per the dash panel layout.

AIR HORN, DRIVER'S SIDE

There will be one-(1) Hadley E-Tone air horn installed in compliance with NFPA thru the driver's side front bumper outboard of the frame rails. The air horn will be plumbed to the chassis air supply system thru an air protection valve. The air horn shall be trumpet style with a chrome finish on the exterior and a painted finish deep inside the trumpet.

The air horn will be located on the driver's side of the front bumper in position P6.

AIR HORN, PASSENGER'S SIDE

There will be one-(1) Hadley E-Tone air horn installed in compliance with NFPA thru the passenger's side front bumper outboard of the frame rails. The air horn will be plumbed to the chassis air supply system thru an air protection valve. The air horn shall be trumpet style with a chrome finish on the exterior and a painted finish deep inside the trumpet.

The air horn will be located on the passenger's side of the front bumper in position P2.

AIR HORN FOOT SWITCH

A foot operated switch will be installed on the driver's side wired to the air horn(s).

AIR HORN WIRING

The air horns shall be active in both the "Scene" and "Response Mode".

SIREN SPEAKER(S)

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{Quantity} Cast Products model SA2401 100-watt speaker(s) will be provided wired to the electronic siren.

The speaker will be located on the passenger's side of the front bumper in position P1.

FRONT AXLE

The front axle shall be a Hendrickson Steertek fabricated box beam axle with an 20,000-pound rating. The axle shall be equipped with removable kingpins & oil seals with transparent covers for oil level inspection.

STEERING SYSTEM

The vehicle shall be equipped with a Sheppard M110 power steering gear, used in conjunction with a M90 power assist gear. The steering assembly shall be rated to statically steer up to a maximum front axle load of up to 23,500-pounds. Relief stops shall be provided to reduce system pressure upon full wheel cut. The system shall operate mechanically should the hydraulic system fail.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer. Cramp angle is set to achieve the greatest turning radius possible with the selected components of the vehicle. Each front wheel is set to zero degrees. The wheel is then turned until it reaches the steering stops. This measurement is the cramp angle.

FRONT SUSPENSION

The front suspension shall be parabolic (taper leaf) spring type, with three-(3) leaves with an 20,000-pound serving rating. The leaves shall be a minimum of 4" wide x 56.4" long (flat), with grease fittings for lubrication installed in the spring pins. Axle stops with energy absorbing bumpers shall be attached to the chassis frame. Two-(2) ZF Sachs twin-tube shocks shall be provided with the front suspension assembly. The shocks shall feature multi-stage piston and base valves.

FRONT BRAKES

The front axle shall be equipped with 16-1/2" x 6" S-Cam air operated brakes and automatic slack adjusters.

CRAMP ANGLE

The cramp angle of the front axle shall be 45 degrees.

FRONT TIRES

The front tires shall be Michelin 385/65R22.5 Load Range "L" X Multi HL Z all-weather treads.

The Intermittent Fire Service load capacity shall be 20,000 pound with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch with steel or aluminum wheels.

The Michelin Intermittent Fire Service Rating limits the operation of the emergency vehicle to one-(1) hour of loaded travel with a one-(1) hour cool down prior to another loaded run.

WHEELS, FRONT ALUMINUM

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The front wheels shall be Alcoa hub piloted, 22-1/2" x 12-1/4" aluminum wheels featuring a mirror polish on the outer face. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

WHEEL TRIM, FRONT WHEELS

The front wheels will be provided with nut covers and baby moon hub caps.

MUD FLAPS, FRONT

The front axle mud flaps shall be constructed from hard black rubber and installed behind the tires.

REAR AXLE

The rear axle shall be a Meritor RS-25-160 with a 27,000-pound service rating. The axle shall be equipped with oil seals.

REAR SUSPENSION

The rear axle suspension shall leaf spring type rated at 27,000 pounds capacity. The main spring pack shall have fourteen (14) leaves with a four (4) leaf auxiliary pack. The suspension shall be a torque leaf, variable rate, self-leveling slipper type.

DIFFERENTIAL, REAR AXLE

The rear axle shall have a standard differential from the axle manufacturer.

VEHICLE TOP SPEED

The rear axle shall be geared for a top speed of 65-68 MPH at governed engine speed.

REAR BRAKES

The rear axle shall be equipped with 16-1/2" x 7" S-Cam air operated brakes with automatic slack adjusters.

REAR TIRES

The rear tires shall be Michelin 12R22.5 Load Range "H" XZE highway threads.

The load capacity shall be 27,000 pound with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch with steel or aluminum wheels.

WHEELS, REAR ALUMINUM

The outer rear wheels shall be Alcoa hub piloted, 22-1/2" x 8-1/4" aluminum wheels with a mirror polished outer surface. The inner rear wheels shall be Alcoa hub piloted, 22-1/2" x 8-1/4" aluminum wheels with bright machine finish. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

WHEEL TRIM, REAR WHEELS

The rear wheels will be provided with nut covers and high hat hub covers.

TIRE PRESSURE MONITORING SYSTEM

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Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap to with an LED tire alert to indicate tire pressure conditions. The LED shall flash when the tire drops 8 psi below the factory setting.

HOSE AND HARNESS ROUTING

Battery cables, hydraulic hoses and air lines shall be routed through the vertical face of the chassis frame rails using bulkhead connectors. The use of grommets through frame rails, as well as running hoses or cables under, over or ahead of the chassis frame rails to achieve positive connections shall not be acceptable.

For ease of maintenance, the wiring harnesses, hydraulic hoses and air hoses shall be divided down each frame rail. The hydraulic and air hoses shall be run, primarily, down the inside of the right side frame rail, while the electrical harnesses shall be run, primarily, down the left side frame rail. Harnesses and hoses shall be mounted using rubber coated, stainless steel holders and, where necessary, heat resistant zip loom.

AIR BRAKE SYSTEM

The air brake system shall meet the requirements of FMVSS-121. The system shall consist of three-(3) reservoirs with a total capacity of 5100 cubic inches. The system shall be of dual circuit and quick build up design powered by an engine mounted gear driven air compressor. The system shall be protected by a heated air dryer with heated automatic moisture ejector on the wet tank and quarter turn brass drain valves on the other tanks.

The entire chassis air system shall be plumbed utilizing reinforced nylon air lines in conformance to SAE J 844-94, Type B and USDOT standards. All of the airlines shall be color coded to correspond with an air system schematic and shall be adequately protected from heat and chafing.

Color coding shall be as follows:

Blue: Supply Lines

Green: Primary Lines

Red: Secondary Lines

Orange: Park Brake Lines

Yellow: Accessory Lines

Purple: Pump Shift - Supply Line

White: Pump Shift / Road Mode Line

Black: Pump Shift / Pump Mode Line

The compressor discharge shall be plumbed with stainless steel braided hose lines with a Teflon lining.

The system shall be plumbed using color-coded nylon airlines with brass push-lock fittings.

COMPRESSOR

Air compressor shall be a Wabco brand, minimum of 18.7 cubic feet per minute capacity. Air brake system shall be the quick build up type. The air compressor discharge line shall be stainless steel braid reinforced Teflon hose.

A pressure protection valve shall be installed to prevent the use of air horns or other air operated devices should the air system pressure drop below 80 psi (552 kPa).

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The chassis air system shall meet NFPA 1901 latest edition for rapid air pressure build-up within sixty-(60) seconds from a completely discharged air system. This system shall provide sufficient air pressure so that the apparatus has no brake drag and is able to stop under the intended operating conditions following the sixty-(60) seconds build-up time.

ANTI-LOCK BRAKES W/ATC & ELECTRONIC STABILITY CONTROL

The apparatus shall have a Wabco ABS-based Electronic Stability Control (ESC), which offers another level of vehicle control. This automatic braking management system reduces the possibility of a side rollover and assists in the directional stability of apparatus. Upon reaching critical lateral acceleration thresholds, the system intervenes to regulate the vehicles deceleration and braking functions. Reducing the engine's RPM by overriding the foot throttle input and applying the engine retarder (if equipped) to slow the apparatus giving the driver added control and maneuverability. The ESC shall also apply braking power to selective wheel of the front and rear axles to assist in stabilizing the apparatus to its intended direction. This selective braking application and reduction of speed and torque reduces the possibility of spinouts and side rollovers even in adverse conditions.

The system includes a Wabco 4-channel Anti-Lock Braking System shall be installed which includes four-(4) wheel sensors and four-(4) modulators to control and compensate braking force at each wheel. This system shall monitor all wheel ends regardless of suspension type, and which axle it sees braking forces first.

An ABS warning light shall be installed on the driver's dash that remains illuminated until the vehicle is moving at least four-(4) miles per hour. An ABS test switch shall be installed in the "Diagnostic Information Panel" that when pressed, sends the system into diagnostic mode causing the ABS light to blink (I/O) indicating a flash code. A listing of flash code definitions is listed in the Wabco Owner's Manual.

Automatic Traction Control (ATC) shall be installed to sense wheel slip, apply air pressure to brakes, and reduce engine torque to provide improved traction. An ATC indicator light shall illuminate when the system is active.

A mud and snow switch shall be provided. When the switch is in the "ON" position, it shall allow momentary wheel slip to obtain traction under extreme mud and snow conditions.

The system also includes a Steering Angle Sensor (SAS), which informs the system of the degree in which the steering is turned to one side or the other. Along with the SAS, an ESC module is mounted mid frame at the rear of the chassis cab to detect roll, pitch, and yaw angles and computes which wheel(s) brake(s) shall be acted upon.

NOTE:

The following restriction apply to the ESC system:

160" - 176" wheel base range with 1500-gallon maximum water on non-aerial units.

177" - 304" wheel base range with 2200-gallon maximum water on non-aerial units.

177" - 304" wheel base range with 2200-gallon maximum water on aerial units.

If the proposed unit does not fall in these parameters then it will have to be tilt table tested.

AIR DRYER

The air system shall include a Bendix AD-9 air dryer with integral 12-volt heated moisture ejector. The air dryer shall have a desiccant cartridge and incorporate an integral turbo cutoff valve. The turbo cutoff allows the air dryer to purge water and contaminants without any loss of turbo boost or engine horsepower.

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ENGINE

The vehicle shall be equipped with a model year 2022 Cummins L9 450 horsepower turbo charged diesel engine.

ENGINE COMPRESSION BRAKE

The engine shall come equipped with a Jacobs "C-Brake" compression brake controlled by two-(2) switches located in the cab, an on/off and low/medium/high. The compression brake shall interface with the anti-lock brake controller to prevent engine brake operation during adverse braking conditions.

A pump shift, interlock circuit shall be provided to prevent the engine brake from activating during pumping operation.

ENGINE COOLING SYSTEM

The engine cooling system shall have the capacity to cool the engine according to the engine manufacture's requirements.

RADIATOR

The engine radiator shall be of a bolted design and have a minimum core area of 1400 square inches. The top and bottom tanks shall be stamped 16-gauge steel. The tanks shall be attached to the header assemblies with a minimum of fifty-(50), 5/16" bolts. The spacing between fasteners shall not exceed 2.00 inches in order to minimize the possibility of leaks.

The header plates shall be made of 16-gauge brass while the tubes shall be .0068-inch thick brass and .076 by .625 inches in size. The tubes shall have a smooth bore with welded seems which allows for cleaning of the radiator.

The radiator shall contain three rows of tubes with a minimum of 87 tubes per row for a total of not less than 261 tubes. The tubes shall be arranged in an inline profile across the core. Louvered serpentine fins constructed of copper with a density not greater than 16 fins per inch shall be used in the construction of the radiator.

The radiator tubes shall be attached to the header plates with a dual bonding process. The coolant side connection shall be welded, while the air side shall be soldered.

The top tank shall include an integral de-aeration tank, which removes air from the engine water. A low coolant warning shall be incorporated to alert the driver.

The bottom tank of the radiator shall incorporate an oil to water plate-type cooler for the transmission. The cooler is designed to cause a turbulent flow of the transmission oil through the core to force heat transfer. The cooler shall be sufficient to cool Allison Transmission without output retarders.

A high efficiency fan shall be direct driven by the engine and surrounded by a fan shroud. The sweep of the fan shall not exceed the width of the radiator core.

CHARGE AIR COOLER

The charge air cooler shall be constructed of aluminum with cast, aluminum side tanks. The cooler shall have a frontal core area of not less than 888 square inches.

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The exterior fins shall be louvered serpentine design constructed of .006-inch thick aluminum and have a density no greater than seven-(7) fins per inch. The internal fins shall be designed to create air turbulence in order to increase heat transfer efficiency.

The charge air cooler shall be mounted directly ahead of the radiator and to the radiator headers. Rubber isolators shall be used at the mounting points to reduce transmission of vibrations.

The piping between the charge air cooler and engine shall use four-(4) ply silicone woven Nomex hoses with stainless steel bands. The bands are used to maintain the shape of the hose during changing turbo boost pressures. The hoses shall be attached with stainless steel constant tension hose clamps.

COOLING SYSTEM FAN

The engine cooling system shall incorporate a thermostatically controlled fan clutch. When the fan clutch is disengaged, the vehicle shall have improved vehicle performance, cab heating in cold climates, and fuel economy.

The fan shall automatically lock-up when the vehicle is placed in pumping mode.

A shroud and recirculation shields system shall be used to ensure that once air has passed through the radiator, the same air is not drawn through again.

RADIATOR COOLANT, LONG LIFE

The coolant system shall contain a mixture to keep the coolant from freezing to a temperature of -34 degrees F.

The coolant supplied shall be Long Life Coolant compatible with the engine manufacturer's requirement.

COOLANT HOSES

The entire chassis cooling system shall have premium rubber hoses.

COOLANT HOSE CLAMPS

Gates PowerGrip clamps shall be provided for all coolant and heater hoses. The maintenance-free clamps retain dynamic tension and never need re tightening. These clamps stop leaks, even on out-of-round applications. The clamps are made from a heat sensitive thermoplastic with memory to prevent over or under tightening. The clamps shall have a temperature range of -40 degrees F to -302 degrees F.

AUXILIARY ENGINE COOLER

The cooling system shall have a tube and bundle engine cooler mounted in the upper radiator water pipe. Water from the fire pump shall be circulated through 1/2" tubing to the cooler. A valve located on the pump panel shall control the cooling circuit.

ALTERNATOR

The alternator shall be a Delco Remy model 55SI 430 amp. The alternator shall be engine driven via a poly-groove power belt with an automatic tensioner. The alternator shall be a brush less design. The alternator shall meet all current applicable NFPA 1901 Edition requirements for performance.

BATTERY SYSTEM

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The battery system shall be a single system consisting of four-(4) Exide Group 31, 12-volt DC, heavy-duty, high cycle automotive batteries. The battery bank shall have a group rating of 3000 cold cranking amperes (CCA) and a reserve of 720 minutes at zero degrees Fahrenheit.

All battery wiring shall be welded battery cable capable of handling 125% of the actual load. It shall be run through a heat resistant flexible nylon "HTZL" loom rated at a minimum of 300 degrees Fahrenheit. All cable connections shall be machine crimped and soldered.

BATTERY BOXES

The chassis batteries shall be mounted in welded and bolted stainless steel battery box. The battery hold-downs shall be made of structural, stainless steel angle. Painted carbon steel battery boxes shall not be acceptable.

BATTERY JUMPER STUDS

One-(1) set of battery jumper studs shall be provided on the chassis. The studs shall be connected to the chassis batteries with 1/0 color coded cables, red for the positive cable and black for the negative cable. The studs shall be protected with color coded plastic covers when not being used.

A tag shall be provided for positive/negative terminals.

The battery jumper studs shall terminate at the driver's side battery box.

SWITCH, MASTER BATTERY DISCONNECT

The chassis batteries shall be wired in parallel to a single 12-volt electrical system, controlled through a heavy-duty, Guest brand rotary type, master disconnect switch. The master disconnect switch shall be located within easy access of the driver upon entering or exiting the cab. All electrical circuits shall be disconnected when the switch is in the "OFF" position.

AIR COMPRESSOR/BATTERY CHARGER

A Kussmaul Pump Plus 1200 air compressor and battery charger package Model 091-9-12V-1200 shall be installed. The Auto Pump 12 volt driven air compressor shall ensure that the air brake system is properly pressurized for immediate response of the unit. A pressure switch shall regulate operation and shall automatically sense low air pressure in the brake system and restore the proper pressure. The unit shall have no interference with the vehicle mounted air compressor. The compact compressor shall have sealed bearings and a 15 amp circuit breaker installed in pressure switch assembly. The air compressor power mode selector switch shall select: 1) DC power full time from vehicle battery 2) AC powered only from the battery when vehicle is plugged into shore power and automatically shuts off air compressor when disconnected from shore power.

The air compressor shall have the following ratings:

- 1) 100 PSI maximum rating
- 2) Pre-set at 75 PSI "ON" and 95 PSI "OFF"
- 3) Adjustable differential range of 20 PSI to 100 PSI
- 4) Output:
 - 0.30 SCFM @ 80 PSI
 - 0.35 SCFM @ 60 PSI

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5) Rating: 12 volt at 11 amps

The battery charger shall be a Pump Plus 1200 Series 40 amp high output battery charger shall be installed.

The charger shall have the following operational specifications:

- a) 120 volts AC input at 10 amps
- b) 12 volts DC output at 40 amps

The battery charger shall supply a 'single battery bank' with automatic operation and with an aluminum enclosure. The system shall have a built-in sense circuit to check battery voltage 120 times a second; the system shall compensate for voltage drop in charging wires and provide quick recharging with no over-charging. The unit shall include front panel connections for a remote display and auxiliary loads.

SUPER AUTO-EJECT(S), 20 AMP

one (1) Kussmaul Super Auto-Eject type receptacle(s) model 091-55-20-120, 20 amp 120 volt shore power assembly shall be installed. A solenoid wired to the vehicle starter is energized when the engine is started. This instantaneously drives the plug from the receptacle. The receptacle shall be provided with a weatherproof cover. The cover shall be spring loaded to close, preventing water from entering when the shoreline is not connected. The super auto eject receptacle shall be mounted in a location specified by the department and is designed to accept a 120V AC from a shoreline plug.

The UL maximum allowable amperage draw on receptacles is generally 80% of their listed rating, for example, the 20-amp receptacle should not carry more than 16-amp continuous load. When adding the different amperage draws of the components being installed on the chassis, be sure to figure in whether the components shall draw a continuous load or intermittent load.

The receptacle shall be located in the driver's side cab wheel well area.

The Auto Eject cover(s) shall be a Kussmaul 091-55-234-YW, yellow in color.

The cover shall include a built in easy to see bar graph indicator display for charging status.

SHORE POWER INLET PLATE

A shore-power "Inlet Plate" shall be permanently affixed at or near the power inlet.

The plate shall indicate the following:

- Type of Line Voltage
- Current Rating in Amps
- Power Inlet Type (DC or AC)

TRANSMISSION

The chassis shall be equipped with an Allison 3000 EVS automatic transmission. It shall have 4th gear operating controls and programmed for Fire Apparatus vocation. An electronic oil level indicator shall be provided as well as a diagnostic reader port connection. The transmission shall be geared to provide one-to-one ratio in fourth gear for fire pump applications. This dedicated "lockup" circuit is provided for pump operation. The transmission fifth gear shall be an overdrive ratio, permitting the vehicle to reach its top speed at the governed engine speed.

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The transmission shall be equipped with an automatic neutral feature. Applying the parking brake shall command the transmission to neutral, regardless of drive range requested on the shift selector which shall require re-selecting the drive range to shift out of neutral.

The transmission shall be equipped with dual PTO ports with engine speed capabilities. The transmission shall be cooled by the radiator-mounted heat exchanger. The transmission fluid shall meet Allison specification TES-295.

TRANSMISSION SHIFTER, PUSH BUTTON

The transmission shall be controlled by an Allison push button shifter internally illuminated for night operation. The shifter shall be mounted on the dash to the right of the steering column. The transmission shall be capable of five-(5) speed operation.

The transmission shall be equipped with the oil level sensor (OLS); this sensor shall allow the operator to obtain an indication of the fluid level the shift selector. The sensor display shall provide the following checks, correct fluid level, low fluid level and high fluid level.

DRIVELINES

The chassis shall be equipped with Neapco 1710 series drive shaft with full round yokes and universal joints. The drive shaft tubing shall be a minimum of 4.00" diameter with .134" wall thickness. The drive lines shall be balanced at a minimum of 3000 RPM.

FIRE PUMP MOUNTING

Extra heavy-duty mounting brackets shall be bolted to the chassis frame rails for the installation of the fire pump. The mounting brackets shall be positioned aligning the pump insuring the angular velocity of the drive line joints are the same at each end allowing for full capacity performance with minimal vibration.

FUEL TANK

The chassis will be equipped with a 65-gallon rear mounted fuel tank. The tank will be constructed of 12-gauge steel with stainless steel mounting straps and rubber isolators secured to the bottom flange of the chassis frame rails. The tank will be baffled to prevent sloshing, vented, and have a drain plug installed on the bottom. A 240-33 ohm fuel-sending unit will be provided and broadcast across the SAE J1939 data link.

The tank will be certified to meet FMCSR 393.65 and 393.67.

FUEL LINES

The fuel lines shall be wire braid reinforced fuel grade hose. They shall have reusable fittings and be routed along the inside of the frame rails. Fuel lines shall be protected against chaffing by non-conductive, frame mounted standoff fasteners and, where necessary, with heavy-duty plastic zip loom.

FUEL/WATER SEPARATOR, PRIMARY FILTER

The Cummins ISL engine shall be supplied with a primary fuel water separator with a bottom drain valve mounted in the chassis frame. The LMC will display "WATER IN FUEL" and an alarm will sound when the water needs to be drained from the fuel water separator.

FUEL FILTER, SECONDARY

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The Cummins engine shall be supplied with a secondary fuel filter mounted to the engine.

UREA STORAGE TANK

There shall be a 5-gallon urea tank located under the extended portion on the cab. A urea level gauge shall be provided in the cab on the main instrument panel.

There shall be a DEF fuel fill assembly mounted in the left crew cab extension. The fill assembly shall have cast aluminum door and fuel fill cap with retention ring. The assembly shall be properly labeled "DIESEL EXHAUST FLUID ONLY".

EXHAUST SYSTEM

The apparatus shall contain a single module device that houses a particulate filter and SCR (Selective Catalytic Reduction) downstream of the engine's turbo. This single module device is required to maintain US 2022 Emissions Certification. This filter and SCR device replaces the conventional style filter. The location has been engineered, tested, and set to allow for proper regeneration. Therefore, this filter cannot be removed, altered, or relocated.

A LMC (Lightbar Message Center) shall include lights for this system and shall be located in the cab informing the driver of the systems status. At times a forced regeneration may be required, which would be indicated by a combination of illuminating and/or flashing lights depending on the engine model.

A dual momentary switch labeled "REG. INHIBIT / NORMAL / REG. FORCED" shall be located within reach of the driver's seated position. The momentary REG. FORCED position initiates the forced regeneration if a regeneration is required. The momentary REG. INHIBIT position prevents the vehicle from having the ability to regenerate. Once the inhibit feature has been activated the ignition switch must be cycled off/on to return the vehicle to normal regen. All vehicles equipped with pumping applications shall allow for passive regeneration whenever the system requires and the engine is at its proper parameters unless inhibited by the DPF inhibit switch. In no way shall this feature affect the RPM of the engine being controlled by the pump operator.

The engine exhaust system shall be horizontal in design using stainless steel tubing mounted under the frame rail right side extending forward of the rear wheels.

An exhaust temperature mitigation device shall be installed. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.

HEAT SHIELDS EXHAUST SYSTEM

Heat shields shall be provided as needed to prevent damage to body and wiring from excessive exhaust temperatures. The exhaust pipe shall be wrapped in multi-layered insulation blankets, from just aft of the turbo down to inlet side of the DPF. Each blanket shall have a fiberglass inner layer and a silicone impregnated fiberglass cloth outer layer.

All harnesses and cables, in proximity to exhaust system components, shall be protected with insulation.

DPF REGENERATION PROCESS

NFPA 12.2.6.7.1 the regeneration process shall be activated by two methods:

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1) Automatically by the engine system but only when the transmission is in gear and the speedometer indicates a speed above 5 mph (8km/hr) whether the apparatus is in motion or is operating in stationary pump mode with an engine rpm sufficient to register 5 mph (8 km/hr) on the speedometer.

2) Manually when initiated by activation of a switch located in the driver's area of the driving compartment.

There shall also be an inhibit switch placed near the driver to inhibit an automatic Regen.

The LMC shall include the following three lights. HIGH EXHAUST TEMP, REGEN INHIBIT and DIESEL PART FILTER.

The dual momentary switch labeled "REG. INHIBIT / NORMAL / REG. FORCED" shall be installed to the right of the steering column, momentary up shall be Regen Inhibit, middle shall be Normal, and momentary down shall be Reg. Forced. The LMC will light up indicating the regeneration is inhibited whenever the Inhibit has been selected.

CUSTOM CAB

The cab shall be custom, fully enclosed, engine forward full tilt cab. The cab shall be an "Open Interior" roll cage design requiring no inner walls or vertical interior supports.

All storage areas inside the cab shall fully comply with NFPA 1901 restraint requirements of 9G's.

Crash Test

The cab shall exceed the strict and detailed requirements of the Economic Commission for Europe Structural Standard, ECE-29R. The test shall consist of an impact load test and a vertical load test to the cab.

The cab shall have a frontal impact tests via pendulum, with an impact load in excess of 127% of the ECE-29R Standard. The estimated speed of the 3736-lb (1698-kg) pendulum shall be a minimum of 18.2 mph. The cab doors shall be closed during the impact test but be able to open after impact. There shall be no passenger intrusions or any structural component failures. The cab shall meet or exceed all criteria of this portion of the test.

In conjunction with the frontal impact test, a vertical load test shall be implemented to the cab. The cab roof shall be loaded with a minimum of 65,979 lbs. (29.53 metric tons). There shall be no failure to the cab structure or mountings, any passenger compartment intrusion or degradation of occupant survival space, or any other structural failure. The cab shall meet or exceed all criteria of this portion of the test.

A complete photographic, video, data, and dimensional record of these tests shall be available and placed on record for customer evaluations.

Cab Material

The cab shall be constructed entirely of aluminum alloy extrusions and 3/16" (.188) thick, 5052-H32 alloy, marine grade aluminum sheets. The corner posts, door slam posts, roof rails and doorframes shall be made of custom extrusions designed specifically for this cab with slots for inserting the skin. The rear wall and roof shall be reinforced with a grid of rectangular extrusions, which are welded to the overall cab extrusion framework. The front corner caps shall consist of

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castings designed specifically for this cab with relief areas cast in place for attachment of roof skin and intersecting structural extrusions. Overlapping formed corner caps are not acceptable.

Cab Face, Double Wall

The cab front shall be of double wall construction resulting in a sealed firewall. The inner and outer shall both be formed from 3/16" thick, 5052 H32 alloy aluminum with structural aluminum reinforcements. This design provides for increased structural integrity, crew safety, and reduced road noise in the passenger area. The outer wall is used for mounting forward lighting, grill and windshield wipers. The inner portion shall be treated with a heavy black undercoating material for corrosion prevention.

Cab Floor

Cab floors shall be constructed from an aluminum extruded frame and 3/16" thick aluminum plate. Floor mats and insulation are detailed later in this specification.

The forward cab floor shall be as large as possible for both the driver and officer. Floorboards shall extend in width from the side of the engine tunnel, all the way to the cab door inner panel. They shall extend forward from the seat riser to the inner portion of the double wall cab face. The officer shall have approximately 28" of foot room.

The entire rear floor of the cab, to reduce trip and fall hazards, shall be a single plane. In applications requiring the use of a top-mounted PTO, a raised area in the floor may be required.

For maximum crew comfort and eliminate leg fatigue during emergency responses, the floor beneath the rear facing jump seats shall be large enough for a seated firefighter to rest both feet side-by-side. Cab floor designs that are wide enough for only one foot shall not be accepted.

Cab Corrosion Protection

A corrosion preventative material shall be applied during cab construction. A ten-(10) year warranty against corrosion perforation shall be provided for the cab.

Wheel Well Liners

Full wheel well liners shall be installed beneath the cab to protect the bottom of the cab from road splash. The liners shall be constructed of aluminum and be full width.

The wheel well liners shall be attached with threaded fasteners and be easily removable for service.

Windshield Wipers, Intermittent

Two-(2) electric "Pantograph" style windshield wipers shall be installed on the front face of the cab. The motors shall operate through a 72-degree sweep and include 24-inch blades to give superior wiper coverage. A washer reservoir of not less than 70 ounces shall be mounted a latched door recessed in the officer's step.

A switch located on the turn signal control arm shall operate the intermittent wipers.

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Cab Interior, Extreme Duty

Cab floors shall be covered with a pebble grain rubber matting with barrier type insulation. Edges of the insulation shall be trimmed with a cast aluminum foot plate for a pleasing appearance.

An insulated covering shall be fitted over the engine tunnel. Made from the same material as the cab floor insulation, this covering shall insulate the cab from engine heat and noise. A Cast Products aluminum door on the engine tunnel shall provide access for fluid checks.

The back side of the engine cover, as well as a 2" to 3" return on the top side, shall be covered with a sprayed aluminum panel and be of sufficient strength to allow for 9G resistant mounting of any optional hand lights, entry tools, or other fire rescue equipment specified by the customer.

The cab shall have a custom built, smooth aluminum plate dashboard, overhead console, glove box, instrumentation panel and switch panel. The front overhead shall include room for the three sun visors and the door open indicator light.

The front door posts shall be trimmed with styled aluminum covers that conceal any wiring, as well as including a mounting area for rubberized grab handles. The center windshield post shall be covered F-Shield paint finish.

Prior to installing the headliner and rear wall padding, minimum R-7 insulation, shall be installed between the interlocking extrusions.

These covers serve to finish the interior, cover wiring harnesses and insulate the interior from sound and heat.

Cab Steps

All cab steps shall be of a stationary, fixed design that use no moving parts and requires no periodic maintenance other than cleaning.

There shall be an open-grip, bright finish step at each cab door opening. The area under the step shall be enclosed to prevent road dirt from entering the cab. There shall be provisions made at the front of the step for easily flushing out any dirt accumulation.

At each door, opening there shall also be an intermediate cab step. Intermediate steps shall be full width of the doorstep area and overlaid with embossed aluminum tread plate.

Cab Step Heights

The distance from level ground to the first cab step shall be 19-21 inches without using swing-down style or under-cab stirrup auxiliary steps.

The distance from first cab step to intermediate step shall be approximately 12-1/2 inches front and rear.

The distance from intermediate step to cab floor shall be approximately 9-1/2 inches in the front and 12 inches in the rear.

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Cab Style

The cab will be a XMFD (extended medium four door) with seating up to eight-(8) seating positions.

Cab Dimensions

The exterior width of the cab will be 96" wide (skin to skin) and 116" wide with standard mirrors. The overall cab length will be 136" with a dimension of 62" from the centerline of the front of the axle to the back of the cab.

Sealed Engine Tunnel

The engine tunnel shall be a structural part of the passenger cab, constructed from welded 3/16" aluminum plate and reinforced with aluminum extrusions. The rear of the engine tunnel shall be no less than 57" inches from the rear wall of the cab, allowing maximum legroom for forward facing passenger. After welding, the seams shall be completely sealed with silicone caulking.

Engine enclosures that are not an integral part of the cab structure are not acceptable.

The interior of the engine tunnel shall be insulated with 1" thick foil backed insulating foam, attached with stud and button method. A cross-section analysis of the insulation shall reveal a 1/8" thick barrier material for additional noise and heat insulation.

The engine tunnel height will not exceed 27-1/2" front to back and side to side. The driver will have no less than 24-1/2" hip room and the officer no less than 23-1/2" of hip room.

Windshield

The standard windshield shall have approximately 4100 square inches of unobstructed viewing area. It shall be a two-(2) piece design with tinted automotive safety glass, with a wraparound design. A .030-inch thick vinyl layer shall separate the laminated glass.

All other cab glass shall be tinted and tempered.

Cab Roof

The cab roof will be raised 8" providing additional headroom above the crew area. The raised portion will start midway over the driver and officer seats.

The cab will offer an interior height of 60" from the front floor to the headliner in the non-raised roof area and a rear floor to headliner height of 66" in the raised roof area.

CAB DOORS

HINGES, CAB DOOR

Each cab door will be attached to the cab with consealed stainless steel hinge with restraining strap.

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CAB DOOR LOCKS

There shall be individual manual twist type door locks at each door interior handle. In accordance with FMVSS 206 all exterior door locks shall be keyed alike.

CAB DOOR WINDOWS, ELECTRIC

All cab door windows shall be electrically operated. The driver shall have four-(4) switches located overhead to control the operation of each door. All remaining doors shall contain one-(1) heavy-duty switch to control the window operation located on top of the door panel.

NOTE: On the E2020 electrical system the power windows can't be wired to direct battery power.

DELETE LEFT SIDE FIXED CAB WINDOW

The left sidewall cab window between the front and rear door will be deleted to accommodate an exterior access door for the crew cab EMS compartment or a smooth exterior surface.

DELETE RIGHT SIDE FIXED CAB WINDOW

The right sidewall cab window between the front and rear door will be deleted to accommodate an exterior access door for the crew cab EMS compartment or a smooth exterior surface.

CAB TILT LOCK

The cab shall be supported at four points. At the front, there shall be two center bonded bushings. At the rear, there shall be two hydraulic locking latches.

The cab shall tilt 45 degrees by means of a pair of hydraulic cylinders driven by the electric pump. The tilt system geometry shall be designed in such a way that the maximum hydraulic pressure in the system does not exceed one-half the pressure rating of the cylinders or pump when the cab is empty. This allows the Fire Department to leave some equipment in the cab when maintenance is required (although this equipment must be secured).

Once the cab is fully tilted, a safety latch shall automatically engage and act as a positive lock. The lock is released by a pull cable. The hydraulic cylinders shall be equipped with velocity fuses to prevent the cab from falling, should the hydraulic system fail.

The front of the cab pivots and rides on the center bonded bushings by means of lubricated pivot pins that retain the cab yoke in the bushings. The bushings allow limited movement of the cab, and isolate the cab from noise and vibration.

The rear mounts consist of a pair of hydraulic cab latches mounted on rubber cushioned mounting brackets. Latches release when the pressure in the tilt system exceeds 500 PSI.

An ignition interlock system shall be installed for cab tilt operation. Cab tilt operation requires the master battery switch to be in the on position with the parking brake applied.

CAB TILT PUMP

An electric over hydraulic cab lifting pump shall be provided to tilt the cab for engine and transmission service. The pump shall be operated by a remotely wired control box with coiled cord, weather resistant plug, and receptacle. An

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interlock shall be provided preventing the cab from inadvertently rising until the transmission is placed in the neutral position and the parking brake is set.

The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission.

FRONT GRILLE

The front grille will be a mirror polished stainless steel box style assembly with 470 square inches of open area on 100" wide cabs and 430 square inches of open area on 96" wide cabs. The grille will be backed with an aluminum honeycomb mesh to protect the radiator.

FRONT GRILLE LOGO

The front grille will be a non-lighted Ferrara logo.

INTAKE GRILLE, RIGHT SIDE W/EMBER SEPARATOR

A right stainless steel grille shall be installed approximately 70" above ground level on the right side of the cab between the front and rear cab doors. The grille shall have a minimum open area of not less than 119 square inches serving as an air intake and warm air dispersant system.

An Ember Separator shall be installed between the stainless steel grill and the air filter system allowing fresh air to pass through to the engine while preventing particles of .039 inches (1.0 mm) or larger from entering the system in accordance with the latest version of NFPA easily accessible through the exterior stainless steel grille.

The grille shall be notched to allow easy access without removing the cab handrail.

HEATED/REMOTE CAB MIRRORS

Two side-mounted Velvac model 713760 rear view mirrors shall be installed with an 8" X 16" mirror head and a separate 6" x 6-1/2" parabolic mirror. The mirror head shall be heated and remotely adjustable by the driver. The mirrors shall be aerodynamically designed to reduce wind buffeting and resultant vibration. The housings shall be polished stainless steel.

The mirrors support tubes shall be stainless steel, with breakaway mounting brackets.

EXTERIOR HANDRAILS, CAB

Four-(4) exterior handrails shall be installed on the cab, one-(1) each side just rearward of the front doors and one-(1) each side just rearward of the rear doors. The handrails shall be 24" in length and constructed from knurled stainless steel with a slip-resistant finish. The handrails shall be mounted with chrome plated end stanchions and will have a molded rubber gasket shall be mounted between the handrails and the cab in order to prevent corrosion.

FENDERETTES, POLISHED STAINLESS STEEL

The cab fenderettes will be bright polished stainless steel securely fastened to the cab wheel wells on each side. A rubber gasket will be installed between the fenderettes and cab to eliminate contact of dissimilar metals.

EXTERIOR TRIM, REAR CAB STEP WELL

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The rear cab door stepping surfaces shall be trimmed with aluminum tread plate. There shall be tread plate covers that provide access to the chassis battery system.

TREAD PLATE BACK OF CAB

The entire back wall of the cab shall be covered with 1/8" (.125") thick aluminum tread plate. The tread plate shall be fastened to the cab with stainless steel fasteners. A bead of caulking shall be applied to the perimeter of the tread plate.

TREAD PLATE CAB ROOF

The roof the cab shall be covered with 1/8" (.125") aluminum tread plate. The tread plate shall be fastened to the cab with stainless steel fasteners. A bead of caulking shall be applied to the perimeter of the tread plate.

CAB CORROSION PROTECTION AND SOUND DEADENING

The apparatus cab shall be completely covered in one of two types of paint, prior to installation of any interior or exterior components, including insulation and floor mats. This process shall be required to guard against corrosion as well as to keep the cab as quiet as possible for firefighters.

The entire underside and double wall area at the front of the cab shall be cleaned, primed and sprayed with black F-Shield as a finish coat. This shall include any areas that are not normally visible after the cab is complete.

The entire cab interior shall be sprayed with F-Shield, as described later in these specifications. F-Shield shall be sprayed over the ceiling, floor, side walls, forward fire wall, rear wall, dash, engine tunnel, interior cab doors and both sides of the cab door panels.

The cab exterior shall be completely finish painted as described later in these specifications. This shall include the areas under any optional rear wall or cab roof diamond plate overlays.

The fire department shall, through the Virtual Manufacturing feature described earlier in these specifications, have the ability to see these areas covered with F-Shield prior to installation of items such as engine tunnel insulation, cab interior insulation and headliners, engine tunnel covering, floor mats, cab inner door panels, etc.

As a result of these cab corrosion protection measures, a ten-(10) year warranty against cab corrosion shall be provided to the fire department.

INTERIOR CAB FINISH

The interior of the cab shall be painted with a dark gray "F-Shield". The cab metal finish shall be covered with a coat of adhesion promoting primer.

The headliner (front and rear) and rear wall (if applicable) shall be covered with heavy-duty gray vinyl.

FLOOR MATS/ENGINE TUNNEL COVERING

The floor mats and engine tunnel shall be covered with gray pebble grain vinyl with 1/4" (.250") foam backing. The edges of the floor mats shall be trimmed with a cast aluminum foot plate for a pleasing appearance.

INTERIOR TRIM, REAR WALL ALUMINUM PANEL

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The entire interior rear wall of the cab shall be covered with 3/16" (.1875") smooth aluminum plate coated with "F-Shield".

The color of the rear wall panel shall match the interior of the cab.

CAB GRAB HANDLES, INTERIOR

Two-(2) interior grab handles installed in the cab on the "A" posts, one-(1) each side. The grab handles shall be constructed of rubberized steel.

Four-(4) interior grab handles installed in the cab, one-(1) each side on top of the front door panels adjacent to fixed window and one-(1) each side on the rear door panels mounted diagonally. The grab handles shall be constructed of 1-1/4" knurled stainless steel. The grab rails shall be mounted with chrome plated end stanchions.

There shall be one-(1) interior grab handle installed on the inside of each rear cab door. The handles shall extend horizontally with width of the window just above the window sill. The grab handles shall be constructed of bright stainless steel.

GLOVE BOX

The glove box will be an integral part of the welded aluminum dashboard assembly and located in front of the officer's seat. The door will be drop down style and constructed from aluminum with latch. The area above the glove box will be flat for a work surface or optional MDT mounting.

SUN VISORS

The cab shall be equipped with three-(3) sun visors. The visors shall be installed on the overhead panel and provide approximately 90 percent coverage across the width of the cab. The visors shall be approximately 26" wide and 6" tall.

UPPER DOOR PANELS, INTERIOR

There shall be four-(4) interior upper front and rear door panels installed covered with "F-Shield" extending from the window down to the lower kick plate. The color of the panels shall match the interior of the cab.

REFLECTIVE STOP SIGNS

There shall be four-(4) "STOP" signs installed in the cab, one-(1) on the lower door panel of each cab door.

EQUIPMENT MOUNTING PLATE, ENGINE TUNNEL

There will be one-(1) equipment mounting plate installed on the engine tunnel constructed of 3/16" smooth aluminum plate covered with "F-Shield".

INSTRUMENTATION

For easy viewing, gauges shall be white faced with black lettering and adjustable intensity LED backlighting. The gauges shall meet SAE J-1939 protocol to eliminate redundant sending units. The gauge crystal shall be flat glass with rubber o-ring seal. The panels shall be divided into groups of instruments that make identification sensible and easy to view.

The following instruments shall be included in the gauge panel in front of the driver:

Left Side-

An all in one gauge that contains; dial type tachometer, dial type engine oil pressure with warning light and alarm and dial type engine coolant temperature with warning light and alarm.

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Center-

- Driver information display panel with alarm output for gauge warning lights
- Dial type transmission temperature gauge with warning light
- Dual diesel fuel/DEF level gauge with low level indicators

Right Side-

An all in one gauge that contains; dial type speedometer, dial type primary air pressure gauge with warning light and alarm and dial type secondary air pressure gauge with warning light.

The following indicator lights shall be provided in the gauge panel:

- Air cleaner restriction light
- High beam indicator
- Parking brake indicator
- Turn signal indicators
- Low primary air
- Low secondary air
- Battery voltage error
- Door ajar
- Auto chassis lubrication system (if equipped)
- Emergency engine shutdown (if equipped)
- Diagnostic indicators for airbag (if equipped), engine, transmission and ABS

The electronic diagnostic connections for the engine, transmission, and ABS brakes shall be located in the lower left firewall.

Service Access

The driver's instrumentation area shall be made of textured black non-glare panels affixed to the aluminum dash. There shall be a single gauge panel, secured with a bottom hinge and four-(4) quarter-turn fasteners. Access to the gauge clusters shall be accomplished simply by releasing the latches and pulling the panel outward. Other gauge access designs are not acceptable.

The chassis electrical access panel shall be located in the center of the aluminum dash, between the switch panel and the windshield. There shall be a lift up cover, with two-(2) recessed lift-and-turn latches for quick access to the panel. The opening to the electrical shall measure approximately 15" wide near the switch panel and 37" wide toward the windshield.

DRIVER'S INFORMATION DISPLAY

There shall be a 10.8" x 2.44" display panel on the driver's gauge cluster that will illuminate various caution and warning indicator lamps. This display also contains a 340 x 90 monochrome LCD for display of specific and user selectable data. The display unit reads data from the J1939-11 power train communications network. Display will be capable of but not limited to the following features:

- Auto Self-Test

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- Viewing the state of each digital or analog input to the unit
- Viewing the state of each output
- Allows users ability to set service reminders by distance or hours of operation
- Allows users ability to set data screens in various formats i.e. bar graph / text
- Viewable active and stored power train ECU fault data.
- Diagnostics screen allows user to select and view a specific source such as engine / transmission
- Display is selectable between English and metric readings.
- Messages and Icons will pop up in display when a condition exists such as: transmission oil life, filter or other service needed as reported by the Allison Transmission ECU engine conditions: low oil pressure, high coolant temperature, low coolant level, water in fuel, check / stop engine, regeneration needed, high exhaust temperature

Indicator lights may also accompany pop up messages:

Door ajar indicator will also pop up a "Do Not Move Vehicle, Check all doors and Items that Raise or extend beyond apparatus cab or body" message

ELECTRICAL SYSTEM, CHASSIS

The electrical system shall consist of all solid-state components contained inside sealed aluminum castings and/or weatherproof Deutsch enclosures. Each module is to have a set of diagnostic LED indicators. All inputs and outputs shall be configured into a scalable electrical harness utilizing Deutsch connectors. The modules shall not have special mounting requirements.

The system shall consist of a main solid-state control module and the appropriate combination of solid-state distribution modules, switch modules, and other solid-state modules as required for the application. The system will also include a 5-inch screen mounted in the driver side overhead area. This screen will display door ajar & seat belt warnings, electrical system diagnostics and informational screens. The electrical system will also utilize programable Smart Switches, these switches will utilize both ICON and text engraved covers. The switches will be backlit Red when the system is powered up & the switch is not active. When the switch is activated, the ICON on the switch will change color to either, Green, Blue or Cyan, depending on the switch function.

The system, at a minimum, shall be capable of performing the following functions:

- Load management and sequencing
- Switch loads
- Receive digital and analog signals
- Perform and report diagnostics
- Continuously report vehicle status
- System is expandable

The main solid-state control module shall have an integrated Load Manager. The Load Manager Sequencer shall assure that loads are applied and removed gradually, thus eliminating the possibility of inducing failures in the vehicle's equipment.

The load manager shall be a precision, solid state controller which sequentially switches "ON" multiple circuits at 1/2 second intervals. The sequencer shall be initiated by the "Emergency Master" switch. The sequencer priority shall be set at the apparatus pre-build conference.

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The Load Manager shall monitor the vehicles battery voltage. Loads may be shed at any voltage at one tenth of volt increments. A low voltage warning may be set at any set point (usually 11.5 volts). The load manager can shed any output that is controlled by the system (there is no limit to the number of loads that may be managed by the network).The load shed priority shall be set by the circuit significance, followed closely by circuit draw. The Load Manager shall shed loads until the voltage level begins to rise.

A voltage monitor shall be built into the electrical system. It shall activate a warning when the alternator output voltage falls below any desired voltage (usually 11.8 volts).

Placement of modules within the cab enables a reduction in wire harness bundles. Elimination of redundant harnessing and separate circuit boards, relay and circuit breakers & electrical hardware. Reducing separate electrical or interlock subsystems and associated electronics for controlling various electrical loads and inputs.

The electrical system shall utilize a Controller Area Network (J1939) protocol to provide control signals for "real time" operation.

The electrical system shall be field reprogrammed and re-configurable by an authorized service center. This complete system eliminates the need for the following separate components or devices: load manager, load sequencer, warning lamp flasher, headlamp flasher, door open notification system, interlock modules, and VDR.

The base system includes:

- Total Load Management
- Load Shedding Capabilities
- Load Sequencing Capabilities
- On- Board Diagnostics Readout
- Very reliable, solid- state hardware
- Error Reporting
- Continuous system monitoring and reporting
- Emergency warning lamp flasher
- Field Configurable
- Expandability Capabilities
- Advanced PC Diagnostics
- VDR

The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in loom with a minimum 289 °F rating. All wiring looms shall be properly supported and attached to body members along the entire run. All wiring shall be mounted as to provide protection from water and heat. All connections shall be crimp type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather resistant connectors shall be provided throughout to ensure the integrity of the electrical system. Gold contacts shall be used where required for superior connectivity and improved performance. All wiring looms shall be properly supported and attached along the entire run. At any point where wire or looms must pass through metal, rubber grommets shall be installed to protect the wire from abrasion.

Wiring shall be individually and permanently numbered, function and color-coded using an indexing numbering system in which all circuits are categorized by function and shall be permanently marked every three-(3) inches on the insulation to allow for easy identification.

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All internal wire end terminals, including locking bulkhead connectors, shall be mechanically affixed to the wire ends by machine terminal crimping presses. No hand-crimped terminals shall be acceptable.

All internal splices shall be ultrasonically welded connections - no butt style connections shall be acceptable. All internal wiring shall be of the high temperature GXL type wire and shall be protected by wiring duct wherever possible.

As programmed electrical system reports shall be generated by the electrical system software and furnished in the apparatus manuals. A master circuit list of electrical circuits that the apparatus builder installs shall be furnished in the delivery manuals.

MAIN CENTER DASH

The main center dash area shall include three-(3) removable panels located one-(1) to the right of the driver position, one-(1) in the center of the dash and one-(1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer. The panel shall be constructed of 5052-H32 Marine Grade, 1/8 inch thick aluminum plate.

STEERING COLUMN

The steering column shall be a Douglas Autotec tilt and telescope. A lever mounted on the side of the column shall control the tilt and telescope features. A Signal-Stat (self-canceling) turn signal switch shall be mounted to the column. The steering shaft from the column to the meter box shall have a rubber boot to cover the shaft slip and a second rubber boot to seal the passage hole in the floor.

The steering wheel shall be 18 inches in diameter.

The Signal-Stat turn signal switch shall include the following functions:

- Left and right turn signals
- High beam dimmer control
- Hazard warning switch
- Two speed with intermittent windshield wiper control
- Windshield washer control

HEATING/AIR CONDITIONING SYSTEM

The climate control system shall use three-(3) heater-air conditioner units.

The front circuits shall use two-(2) heater-air conditioning units, mounted under the dash on the driver's side and under the officer's side. These units are each rated at 14,700 BTU heating and 19,200 BTU cooling. The units shall blow up toward the windshield through four-(4) fixed vents in the dash. Additionally, there shall be two-(2) adjustable vents each side to direct air at the lower portion of the driver and officer seating areas. Two-(2) switches, including low/med/high and heat/off/ ac, shall control the front system.

A DEFROST / DEFOG switch shall be installed to operate both the front heating, systems in the DEFROST selection to provide pure heat for defrosting. In the DEFOG selection the front heating, and cooling systems are activated. This provides hot and dry air for defogging purposes. In either position the hot and dry air shall vent through the fixed vents in the dash.

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The two-(2) front systems shall combine to put out a total of 688 CFM air flow.

The rear circuit shall use one large heater-air conditioner unit with a rating of 34,150 BTU cooling and 36,000 BTU heating. It shall be mounted under the forward facing rear seats. Ducting shall run up the rear wall to adjustable vents (minimum of six) running along the center of the ceiling toward the front of the cab. Two-(2) switches including high/med/low and heat/off/AC shall control the unit. In addition to the rear control switches, there shall be an ON/OFF switch located near the driver to disable the rear unit if needed.

The rear system shall put out a total of 640 CFM air flow.

The total system shall have a capacity of 72,550 BTU cooling, 65,400 BTU heating and a total in-cab air flow of 1,328 CFM.

The entire roof and back wall shall be heavily insulated with 1" foam to enhance the cooling system.

All three-(3) heaters shall be plumbed with a shut off valve at the engine.

The air conditioning system shall be powered through two-(2) engine driven 9-1/2 cubic inch compressors.

Two-(2) roof top condensers, each rated at 38,700 BTU, shall be provided.

The two-(2) roof top condenser housings shall be black in color.

SEAT MATERIAL

The seats shall be covered with Bostrom Durawear material.

SEAT COLOR

The cab seats shall be gray/black in color.

SEAT BELTS

The seats shall be equipped with a standard 3-point seat belt with single automatic retractor.

NO SCBA BRACKETS REQUIRED

The SCBA brackets shall be provided and installed by the Fire Department, unless otherwise stated later in the specifications.

NO FILLER PANELS REQUIRED

No SCBA seat filler panels shall be provided with the apparatus.

DRIVER'S SEAT

The driver's seat shall be a H. O. Bostrom Sierra, Air-100 RX air suspension, high back bucket seat.

H7195 Cinder Pumper Retail

The seat shall have a tapered and padded seat cushion. The seat shall have a five inch fore and aft adjustment, a four inch height adjustment with a reclining seat back. The seat air ride suspension shall be pneumatically controlled from a control switch on the forward lower edge of the seat.

OFFICER'S SEAT

The officer's seat will be a H. O. Bostrom Sierra, Air-100 air suspension, high back bucket seat.

The seat will have a tapered and padded seat cushion. The seat will have a five inch fore and aft adjustment, a four inch height adjustment with a fixed seat back. The seat air ride suspension will be pneumatically controlled from a control switch on the forward lower edge of the seat.

CREW SEAT, INBOARD FORWARD FACING

The inboard forward facing seat installed against the rear cab wall will be a H. O. Bostrom Sierra, 400 Series, FX fixed high back non SCBA bucket seat.

The seat will have a tapered and padded seat cushion.

The forward facing center seating position will include an enclosed style seat riser located and installed at the rear wall. The seat frame will be constructed of Marine Grade aluminum plate and will be sprayed with F-Shield to match the cab interior.

CREW SEATS, OUTBOARD FORWARD FACING

The two-(2) outboard forward facing seats installed against the rear cab wall will be a H. O. Bostrom Sierra, 400 Series, FX fixed high back non SCBA bucket seat with flip bottom.

The seats will have a tapered and padded seat cushion.

The forward facing seating positions will include an enclosed style seat riser located and installed at the rear wall. The seat frame will be constructed of Marine Grade aluminum plate and will be sprayed with F-Shield to match the cab interior.

The seat will be equipped with the Bostrom Fold & Hold option.

COMPARTMENT, DRIVER'S SIDE OUTBOARD REAR FACING

One-(1) EMS compartment constructed of 1/8" smooth aluminum will be mounted in the cab. This cabinet will be installed rear facing behind the driver's seat. The interior dimensions will be approximately 23-1/4" wide x 18-1/4" deep x height to be determined. The cabinet will be supplied with a sprayed finish to match the interior of the cab.

EMS COMPARTMENT NETTING, INTERIOR

Cargo netting will be installed over the interior opening of the driver's side EMS compartment. The netting will be permanently fixed at the bottom of the compartment with self-locking seat belt latches at the top and sides.

LIGHT(S), EMS COMPARTMENT

There will be one (1) LED strip light will be installed in the driver's side EMS compartment.

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SHELF, EMS COMPARTMENT

There will be one (1) vertically adjustable shelf (shelves) will be installed in the driver's side EMS cabinet. The shelf will be constructed of smooth aluminum and have a 2" lip at the front, sides and rear of the shelf.

12V POWER OUTLET(S), EMS COMPARTMENT

There will be one (1) 12-volt power outlet(s) installed in the driver's side EMS compartment.

COMPARTMENT, OFFICER'S SIDE OUTBOARD REAR FACING

One-(1) EMS compartment constructed of 1/8" smooth aluminum will be mounted in the cab. This cabinet will be installed rear facing behind the officer's seat. The interior dimensions will be approximately 23-1/4" wide x 18-1/4" deep x height to be determined. The cabinet will be supplied with a sprayed finish to match the interior of the cab.

EMS COMPARTMENT DOOR, INTERIOR

Cargo netting will be installed over the interior opening of the officer's side EMS compartment. The netting will be permanently fixed at the bottom of the compartment with self-locking seat belt latches at the top and sides.

LIGHT(S), EMS COMPARTMENT

There will be one (1) LED strip light will be installed in the officer's side EMS compartment.

SHELF, EMS COMPARTMENT

There will be one (1) vertically adjustable shelf (shelves) will be installed in the officer's side EMS cabinet. The shelf will be constructed of smooth aluminum and have a 2" lip at the front, sides and rear of the shelf.

12V POWER OUTLET(S), EMS COMPARTMENT

There will be One (1) 12-volt cigar lighter style power supply installed in the officer's side EMS compartment.

ACCESSORY PANEL, BLUE SEA

There shall be a blue sea model 4365 12-volt accessory panel. The panel shall be equipped with one-(1) 12-volt socket outlet and two-(2) 2.1 amp USB connections.

The panel shall be wired to direct battery power with the appropriate wire size and fuse.

The panel shall be in the center emergency switch panel below the Whelen siren.

The fuse black will be located on the side of the engine tunnel behind the officer's seat.

RADIO

A Jensen brand heavy-duty radio with weather band, AM/FM stereo receiver and Bluetooth capabilities will be installed in a customer specified location. Radio will be the current, commercially available heavy-duty single-DIN automotive model at time of vehicle manufacturing date.

A small antenna will be located on the cab roof for AM/FM and weather band reception.

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There will be two-(2) speakers installed in the front portion of the cab recessed overhead and two-(2) speakers installed in the rear portion of the cab overhead. The speakers will be provided for connection to the sound system.

The radio will be located in the overhead panels per the dash layouts.

ACCESSORY POWER

The electrical distribution panel shall include two-(2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One-(1) power stud shall be capable of carrying up to a 40 amp battery direct load and one-(1) power stud shall be capable of carrying up to a 20 amp ignition switched load. The two-(2) power studs shall share one-(1) #10 ground stud.

ELECTRONIC SIREN

There shall be one-(1) Whelen model 295SLSA1 siren provided in the cab. The siren amplifier shall incorporate a 12V/200W siren installed on an aluminum alloy chassis covered by a black polycarbonate powder coated housing for maximum protection. The 295SLSA1 shall have the ability for either 100 or 200 watt output. The front overlay shall be made of velvet Lexan™ with a matte finish. The lettering and artwork on the overlay shall be illuminated with adjustable backlighting of soft LED non-glaring green. The operating controls will consist of a power switch, manual button, PA volume switch, horn button, and rotary switch. The 295SLSA1 PC board shall have input polarity protection, output short circuit protection. The siren amplifier shall include a 20A/32V fuse. The solid state siren speaker amplifier shall be vibration resistant. The microphone shall be hardwired to the 295SLSA1.

The 295SLSA1 shall have 21 Scan-Lock™ siren tones with two manual functions for additional siren tones. The siren amplifier shall have the ability to customize the placement of each siren tone with the rotary switch. The siren amplifier shall have a “Siren in Use” icon driver and adjustable preset repeat radio volume. The 295SLSA1 shall have a “Park Kill” feature that disables the siren when the vehicle is in park. The PTT (push to talk) switch on the microphone shall override all siren functions. The 295SLSA1 shall have a combination On/Off and horn ring transfer switch with Bi-polarity horn/ring activation control. The 295SLSA1 shall have SI Test® capability to perform a complete diagnostic silent test of amplifier and speaker(s). The siren amplifier shall have a quick disconnect plug. The 295SLSA1 shall have the ability to activate siren tones with “Aux Enable” input either with a slide switch, power controls, or relay-to-ground connector. The 295SLSA1 shall meet Class A requirement for SAE, AMECA, KKK1822, and California Title XII. The siren amplifier shall have an adjustable bail bracket with installation hardware. The 295SLSA1 is covered by a two year factory warranty.

HORN, ELECTRIC

A single electric horn activated by the steering wheel horn button shall be provided.

BACK-UP ALARM

There shall be one-(1) NFPA compliant electronic back-up alarm installed at the rear of the apparatus. The alarm shall be wired to the transmissions output signal and is automatically activated when the transmission is shifted into reverse.

LIGHTS, CAB DOME

Four-(4) Whelen 6" Round Super-LED model 60CREGCS shall be provided in the cabs headliner. The steady burn 12v interior light shall incorporate six red and six clear Super-LEDs and a clear non-optic translucent hard coated polycarbonate lens for maximum output. The hard coated lens shall provide extended life/luster protection against UV

H7195 Cinder Pumper Retail

and chemical stresses. The conformal coated PC board and foam in place gasket shall provide additional protection against environmental elements. The 60CREGCS includes Hi/Low intensity mode standards and On/Off dual switch function. The solid state interior light shall be vibration resistant. The interior light is covered by a five year factory warranty

The white LED lights shall be activated when any cab door is in the open position automatically switching off all red lights currently on and reactivated when the door is closed.

LIGHT, DOOR AJAR

A Whelen model TIR3 door ajar light shall be located on the cab's ceiling. This light shall be a self-contained flashing light that activates when any of the apparatus doors are open. The lens color shall be red.

An audible alarm shall be installed in conjunction with the door-ajar warning light system. The panel only operates when the ignition switch is in the "On" position and the parking brake released.

LIGHTS, STEP WELL

Six-(6) LED lights shall be provided, two-(2) in each front cab step well and one-(1) in each rear cab step well. Each light shall activate when the cab door is opened.

LIGHTS, ENGINE MAINTENANCE

Two-(2) white 4" LED round lights shall be mounted under the cab. The lights shall automatically activate when the cab is tilted.

FRONT LIGHTING

The headlamps, turn signals, front warning and intersection lights shall be located within chrome warning light modules, one-(1) each side front of the apparatus.

HEADLIGHTS

Four-(4) FireTech LED rectangular headlights model FT-4X6-4KIT shall be installed in the warning light modules, two-(2) each side. The headlights shall be mounted in the upper positions of the module.

The kit shall consist of 2 fixtures which operate as SAE VOR "high/low" beams, and 2 fixtures which operate as SAE VO "high-only" beams. All 4 headlights shall have a SAE "P" parking lamp halo surrounding the driving beams, which shall be energized any time the vehicle marker lights are turned "on" (first click of the headlight switch). Optically, on the high/low headlight, an articulated set of elliptical optics must be used to illuminate the foreground while operating in "low" beam mode. The lens of the high/low beam headlight shall be marked "DOT VOR SAE HL P 16." The lens of the high-only beam shall be marked "DOT VO SAE HL P 16." All circuits of the headlights shall be designed to operate from 9-32v DC.

All 4 fixtures must be manufactured such that the internal pressure of the headlight remains constant regardless of operating temperature. The housing shall be equipped with a mechanically fastened GORE PolyVent. Similar functioning vent materials affixed to the housing using adhesive shall not be acceptable for substitution.

The headlights shall be installed, wired, and aimed, in accordance with FMVSS108. The manufacturer of the headlights shall warrant the headlights against defects for the life of the apparatus.

H7195 Cinder Pumper Retail

TURN SIGNALS, FRONT

Two-(2) Whelen 600 series 5mm LED model 60A00TAR turn signal lamps shall be installed, one-(1) each side directly below the low beam headlights in the warning light modules. The turn arrow light shall incorporate 92 amber 5mm-LED and a clear non-optic hard coated polycarbonate lens. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The encapsulated 5 mm-LED populated arrow shaped PC board and foam in place gasket shall provide additional protection against environmental elements. The solid state turn arrow light shall be vibration resistant. The turn arrow light is covered by a five year factory warranty.

LIGHTS, TURN SIGNAL/MARKER

Two-(2) Whelen 400 series model 40A00AAR amber LED lights shall be mounted, one-(1) each side outboard of the turn signal at a 45-degree angle off the front of the cab. The lights shall be part of the warning light module and are visible from both the front and sides of the vehicle.

LIGHTS, LED CORNERING

Two-(2) Whelen 400 series model 40R02Z*R flashing LED cornering lights shall be mounted, one-(1) each side below the marker lights in the warning light module. The lights shall be mounted at a 45-degree angle off the front of the cab and are visible from the sides and front of the vehicle. The warning light shall incorporate four red Super-LED, an optic hard coated polycarbonate lens, and utilize a metalized reflector with integrated TIR hybrid optics for maximum output. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The conformal coated PC board and with the lens fitted with foam in place gasket assembly shall provide additional protection against environmental elements. The solid state warning lights shall be vibration resistant. The self-contained flashing light shall have 25 Scan-Lock™ flash patterns including synchronize feature and steady burn. An installation kit including mounting hardware and rubber gasket shall be provided for surface mounting. The 40R02Z*R will contain a 12" non-terminated pigtail. The warning light is covered by a five year factory warranty.

LIGHTS, FRONT DOT

There will be five-(5) DOT required marker lights will be provided in the specified brow light and not mounted to the cab roof.

LIGHTS, INBOARD LOWER FRONT

Two-(2) Whelen 600 Series Super-LED model 60R02FRR shall be installed, one-(1) each side inboard of the turn signal in the warning light modules. The warning lights shall incorporate red Linear Super-LEDs, a red optic hard coated polycarbonate lens, and utilize a metalized reflector with integrated TIR hybrid optics for maximum output. The warning lights is covered by a five year factory warranty.

LIGHTS, CAB GROUND

There shall be one-(1) Whelen 2G Series model 20C0CDCD 4" LED light mounted under each cab door illuminating the area below providing a safe entrance and exit for cab occupants. All cab ground lights shall automatically activate when any cab door is opened and by a switch located on the dash.

The 12v steady burn light(s) shall incorporate 12 clear LED and a clear optic hard coated polycarbonate lens. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The encapsulated coated PC board and lens fitted with foam in place gasket assembly shall provide additional protection against environmental

H7195 Cinder Pumper Retail

elements. The solid state light shall be vibration resistant. The 20C0CDCD will contain 350 usable lumens. An installation kit including mounting hardware and rubber gasket shall be provided. The 20C0CDCD will contain a 12" terminated pigtail with a waterproof Deutsch® connector. The light is covered by a five year factory warranty.

VIDEO SYSTEM KIT, FRC INVIEW360

The vehicle shall be equipped with an FRC, model SNB100-C00 inView™ 360 Video system. This system shall provide the driver with a 360 degree birds-eye style view of the apparatus, along with individual camera views based on determined conditions.

The inView™ 360 system shall include-(4) four camera's standard, an Electronic Control Unit (ECU), required harnesses and a manual camera switch. The kit shall provide split video feeds with bird's-eye view and individual camera views. It shall be capable of integrating with an existing vehicle system for an automatic camera view, which seamlessly switches from front/left/right/rear views based on turn signal and reverse activation.

The cameras shall have dimensions of 1.3" L (34mm) x 1.9" H (48mm) x 2.4" W (61mm). The cameras shall have a 190-degree horizontal lens view angle, a relative aperture (F-stop) 2.0, and an HD resolution of 1920 x 1080 at 30 FPS (frames per second). The indoor/outdoor camera housing shall be aluminum die cast and be waterproof, rated to IP69.

The ECU (Electronic Control Unit) shall feature AHD video inputs from the cameras. The system shall have two-(2) video outputs, (1) HD (1920 x 1080) and (1) CVBS (SD) 720 x 480. It shall also feature a switch that allows the operator to override the default camera view, a second event switch to flag an event, so the video footage can be located easily at a later time and a third switch to activate a vehicle specific overlay. The ECU shall have dimensions of 6.8" L (173mm) x 1.5" W (38mm) x 4.9" H (123mm). The system operating voltage shall be from 10 to 32 VDC, and shall consume no more than 2.2 amps. The ECU shall feature built-in recording to record each camera input separately and support four-(4) 256GB SD cards (SD card sold separately). The system shall support six-(6) different view modes, configure & customize set up shall be supported via monitor and IR remote control.

IN CAB MONITOR, COLOR

An FRC SNB1option-MH0 360, 7" in cab video monitor shall be provided. The monitor shall include a 7" diagonal color LCD TV display monitor with viewing dimensions of 6.06" W x 3.42" H. The monitor shall be a TFT Active Matrix System display with an 800 x 480 resolution and a display format of 16:9 (aspect ratio).

The monitor will be located in the left front cab corner.

== Chassis Modifications - Custom - 622.001 06/06/22 ==

SAFETY SIGNS, GENERAL REQUIREMENTS

Safety signs with text will conform to the general principles of ANSI/NEMA Z535.4, *Product Safety Signs and Labels*. Safety signs without text will conform to the general principles for two-panel safety signs of ISO 9244, *Earth-Moving Machinery - Machine Safety Labels*.

Apparatus built for sale in the United States will employ safety signage that complies with ANSI/NEMA Z535.4.

Apparatus built for sale outside the United States will employ safety signage that complies with ANSI/NEMA Z535.4 or ISO 9244.

H7195 Cinder Pumper Retail

Safety signs referenced in this standard beginning with the letters FAMA will conform to the text and graphics of the referenced safety sign number found in FAMA TC010, *Standard Product Safety Sign Catalog for Automotive Fire Apparatus*.

SAFETY SIGNS, BATTERY EXPLOSION

A safety sign(s) FAMA01, will be provided near the battery location that warns of potential injury or death that could be caused by the batteries. The label will also state precautions that should be taken while working on or around the batteries.

SAFETY SIGNS, ROTATING SHAFTS

Safety signs FAMA02, will be provided on each side of the frame rail and in any other location(s) where rotating shaft hazards are apparent. The label will warn of potential injury or death that could be caused by the movement of the shaft(s) as well as precautions that should be taken while working on or around them.

SAFETY SIGNS, HOT SURFACES

Safety sign(s) FAMA03, will be provided near any hot surface that warns of potential injury or death that could be caused by contact with the surface. The label will also state precautions that should be taken while working on or around the surface.

SAFETY SIGNS, HOT EXHAUST

A safety sign FAMA04, will be provided near any hot exhaust surface that warns of potential injury or death that could be caused by contact with the surface. The label will also state precautions that should be taken while working on or around the surface.

SAFETY SIGN, SPINNING FAN

A safety sign FAMA05, shall be provided on both sides of the engine fan. The label will warn of potential injury or death that could be caused by the movement of the fan as well as precautions that should be taken while working on or around them.

SAFETY SIGNS, SEATED & BELTED

Safety signs FAMA07, which warns of the importance of seat belt use, will be visible from each seat that is intended to be occupied while the vehicle is in motion.

SAFETY SIGN, AIR CONDITIONING REFRIGERANT

If the apparatus is equipped with any type of air conditioning system, a safety sign FAMA09, will be provided that is located in an area that would be visible to service personnel. The label will state that the system contains R134A, the necessary precautions that should be taken and the dangers of working on or around the system.

SAFETY SIGN, CAB EQUIPMENT MOUNTING

A safety sign FAMA10, which warns of the need to secure items in the cab, will be visible inside the cab.

SAFETY SIGN, FIRE SERVICE TIRE RATING

H7195 Cinder Pumper Retail

A safety sign FAMA12, which warns of the special requirements for fire service-rated tires, will be visible to the driver entering the cab of any apparatus so equipped.

SAFETY SIGN, ELECTRONIC STABILITY CONTROL

If the apparatus is equipped with an electronic stability control system, a safety sign FAMA13, will be provided inside of the cab in view of the driver warning of the dangers of improper operation of the apparatus and the importance of safe driving. The label will also warn of potential injury or death that could be caused by improper operation of the apparatus.

SAFETY SIGN, CAB SEATING

A safety sign FAMA14 will be located in the cab visible to the operator.

The sign will read:

This vehicle has a seating capacity of __ personnel.

Carrying additional personnel may result in death of serious injury.

SAFETY SIGNS, HELMET WORN IN CAB

A safety sign FAMA15, which warns not to wear helmets while the vehicle is in motion, will be visible from each seat that is intended to be occupied while the vehicle is in motion.

SAFETY SIGN, VEHICLE BACKING

A safety sign FAMA17, will be provided inside of the cab in view of the driver advising of proper procedures to following when the apparatus is in reverse motion. The label will also warn of potential injury or death that be caused by failing to follow proper procedures.

SAFETY SIGNS, INTAKE/DISCHARGE CAP PRESSURES

If the apparatus is equipped with a pump system, safety signs FAMA18, will be provided in all areas that intakes and discharges are capped. The label will give instruction on how to properly remove the cap. The label will also warn of potential dangers, injury or death that be caused by failing to follow proper cap removal procedures.

SAFETY SIGNS, HOSE RESTRAINT REQUIRED

A safety sign FAMA22, which warns of the need to secure hose, will be visible to personnel at each hose storage area.

SAFETY SIGNS, CLIMBING METHOD INSTRUCTION

Safety signs FAMA23, which warns of the proper climbing method, will be visible to personnel entering the cab and at each designated climbing location on the body.

SAFETY SIGNS, RIDING ON EXTERIOR

H7195 Cinder Pumper Retail

Safety signs FAMA24, which warns personnel not to ride on the vehicle, will be located at the rear step areas and at any cross walkways.

SAFETY SIGN, PUMP TRAINING

A safety sign FAMA25, which warns of the need for training prior to operating the apparatus, will be located on the pump operator's panel.

SAFETY SIGNS, NO-STEP

Safety signs FAMA26, will be provided in any horizontal location that a firefighter may feel tempted to use as a step but is not designed, constructed or intended to be a stepping, standing or walking surface. The label will state that the surface is not intended for this purpose and indicate potential injury or death in doing so.

SAFETY SIGN, SIREN NOISE

A safety sign FAMA42, will be provided inside the driver's door warning of potential injury that could be received from the noise of the siren. The label will also state safety precautions that should be taken when the siren is in use.

SAFETY SIGN, APPARATUS MOVEMENT

A permanently affixed movement warning plate will be installed near the door ajar light that reads:

"DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

PLATE, FLUID CAPACITY

A permanently affixed fluid data plate will be installed in the driving compartment to indicate the type and quantities of the following fluid used in the vehicle.

Engine Oil
Engine Coolant
Chassis Transmission Fluid
Pump Transmission Lubrication Fluid (if applicable)
Pump Primer Fluid (if applicable)
Drive Axle Lubrication Fluid
Air Conditioning Refrigerant
Air Conditioning Lubrication Oil
Power Steering Fluid
Cab Tilt Mechanism Fluid
Transfer Case Fluid
Equipment Rack Fluid
Air Compressor System Lubricant
Generator System Lubricant
Front Tire Pressure - Cold
Rear Tire Pressure - Cold

The following information will also be supplied on the fluid data plate:

Chassis Manufacturer
Production Number

H7195 Cinder Pumper Retail

Paint Number
Year Built
Date Shipped
Vehicle Identification Number

PLATE, OVERALL HEIGHT / LENGTH / WEIGHT

An overall height / length / weight information plate will be installed that can be clearly identified and visible to the driver while in the seated position showing the apparatus completed overall height, length, (in feet and inches) and gross vehicle weight (in tons) current to the apparatus manufactured date.

If changes to the vehicle occur while in service, the department must revise the overall height-length-weight plate.
== Pump Enclosure - Side Mount - 622.001 06/06/22 ==

PUMP ENCLOSURE, SIDE CONTROL

The pump enclosure superstructure shall be constructed of aluminum tubing.

The front of the pump module shall be covered with aluminum tread plate to keep road debris from the front of the pump.

The pump enclosure shall be supported at the top of the frame rails, in a minimum of four-(4) places. The module shall be secured with brackets bolted to both the pump enclosure support cross rails and the side of the chassis frame rails. This design is required to eliminate shifting and stress on the pump enclosure, pump panels and running boards.

The pump enclosure provides an area above the pump for the installation of crosslays or dunnage area.

Any pump enclosure constructed using any material other than aluminum or utilizing any other mounting method is not acceptable.

SEPARATE PUMP MODULE

The pump module will be a self-supported structure mounted independently from the body and chassis cab. The pump module design must allow normal frame deflection without imposing stress on the pump module structure or side running boards.

DUNNAGE AREA

An open area above the pump enclosure will be provided for additional equipment storage and will be trimmed with 1/8" aluminum tread plate on all vertical interior walls and shall have slotted aluminum floors.

PUMP PANELS

The operator's controls and gauges shall be mounted on pump panels constructed of 1/8" (.125) black anodized, non-glare aluminum. No vinyl coverings shall be acceptable as these surfaces are subjected to rough service and vinyl is susceptible to tearing.

H7195 Cinder Pumper Retail

The operator's master gauge panel shall be vertically hinged with push style latch for access to gauges and auxiliary controls.

The operator's control panel shall be located below the master gauge panel and constructed of 1/8" (.125) black anodized, non-glare aluminum.

All gauges and controls shall be properly identified with color-coded metal tags. The tags shall be affixed with industrial adhesive. The gauges shall be functionally grouped above each control.

The right side upper panel shall be vertically hinged with double doors and push style latches for pump compartment access. The doors shall be constructed of .1/8" (.125) black anodized, non-glare aluminum.

The right side lower panel shall be removable for serviceability. The panel shall be constructed of 1/8" (.125) black anodized, non-glare aluminum.

All instruments and controls shall be provided and installed as a group at the pump panel. The central midpoint or centerline of any valve control shall be no more than 72" vertically above the ground or platform that is designed to serve as the operator's standing position. The instruments shall be placed to keep the pump operator as far as practical from all discharge and intake connections and in a location where they are readily visible and operationally functional while the operator remains stationary.

A safety sign FAMA25, which warns of the need for training prior to operating the apparatus, shall be located on the pump operator's panel.

FULLY HINGED PUMP PANEL, RIGHT SIDE

One-(1) vertically hinged pump panel with push style latch shall be installed and constructed of the same material as stated in the pump module specifications. The hinged panel replaces the current right hand lower removable panel for ease of access to the pump compartment during routine maintenance.

PUMP PANEL LIGHT, LEFT SIDE

One-(1) LED pump panel strip light will be mounted under a light shield above the left pump panel. The light will be control with an on/off switch on the pump panel.

PUMP PANEL LIGHT, RIGHT SIDE

One-(1) LED pump panel strip light will be mounted under a light shield above the right pump panel. The light will be control with an on/off switch on the operator's pump panel.

LIGHT, PUMP COMPARTMENT

One-(1) LED compartment light shall be installed in the pump compartment for inspection or routine maintenance. The light shall be wired to the pump panel light switch.

RUNNING BOARDS, LEFT & RIGHT SIDE

Running boards shall be provided on the left and right side of pump module constructed of "Embossed" 3/16" (.1875) aluminum tread plate that flanges down 2-1/2" and in 1.00" for maximum rigidity then bolted to the modules substructure to facilitate removal.

H7195 Cinder Pumper Retail

The running board stepping surfaces shall comply with the latest version of NFPA 1901.

MASTER GAUGES, 4-1/2"

Two compound 4-1/2" master gauges shall be provided and installed on the pump operator's panel. The intake and discharge gauges are liquid filled with a solution to assure visual readings and reduce inner lens condensation. The body of the gauges shall be constructed of Zytel nylon with chrome-plated bezels. The face of the gauges shall be Spun Metal with black background and white markings accurate within 1%.

The pressure gauges shall maintain performance of all features and be free from defects in material and workmanship which includes fluid fill leakage and discoloration for seven years.

PRESSURE GOVERNOR and ENGINE MONITORING DISPLAY

Fire Research PumpBoss series PBA400-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 6 3/4" high by 4 5/8". The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored engine information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus or engine specific wiring. Inputs from the pump discharge and intake pressure sensors shall be electrical.

The following continuous displays shall be provided:

- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Engine oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display
- Pressure and RPM operating mode LEDs
- Pressure / RPM setting; shown on a dot matrix message display
- Throttle ready LED.

A dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs 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 Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature

H7195 Cinder Pumper Retail

Out of Water (visual alarm only)
No Engine Response (visual alarm only).

The program features shall be accessed via push buttons located on the front of the control module. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor and monitoring pressure display shall be programmed at installation for a specific engine.

Production to located the pressure governor do that it does not get kicked when climbing the front compartment face steps.

FILL SUBSURFACE/RETURN LINE

There shall be one-(1) subsurface/return line installed in the booster tank. The subsurface/return line shall prevent aeration of the water in the booster tank under low water conditions. The subsurface/return line piping shall be of the same size as the "Tank Fill".

PRESSURE GAUGES, 2-1/2"

The discharges will be provided with 2-1/2" pressure gauges. The discharge gauges will be liquid filled with a solution to assure visual readings and reduce inner lens condensation. The body of the gauges shall be constructed of Zytel nylon with chrome-plated bezels. The face of the gauges shall be white with black markings reading from zero to 400 PSI.

The gauges shall be installed at each discharge control on the pump operator's panel. On side mount pump applications with push pull handles each gauge shall incorporate a 1-piece module assembly consisting of the gauge, push-pull and trim bezel.

GAUGE BEZELS, CHROME

The pump panel master and pressure gauge bezels will be standard chrome finish.

PUMP PANEL TAGS

All discharges, gauges, and controls will be properly identified by color-coded metal tags. The metal tags will be affixed with 3M industrial adhesive.

PUMP SYSTEM, HALE QMAX SINGLE STAGE

PUMP ASSEMBLY

The entire pump shall be cast, manufactured, and tested at the pump manufacturer's factory.

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The pump shall be driven by a drive line from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance specs as outlined by the latest NFPA Pamphlet No. 1901. The pump shall be free from objectionable pulsation and vibration.

The pump body and related parts shall be of fine grain, cast iron alloy, with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.

Pump body shall be horizontally split, on a single plane, in two sections, for easy removal of entire impeller assembly including wear rings and bearings from beneath the pump without disturbing piping or the mounting of the pump in chassis.

The pump shall have one double suction impeller. The pump body shall have two opposed discharge volute cutwaters to eliminate radial unbalance.

Pump shaft to be rigidly supported by three bearings for minimum deflection. One high lead bronze sleeve bearing shall be located immediately adjacent to the impeller (on side opposite the drive unit). The sleeve bearing is to be lubricated by a force-fed, automatic oil lubricated design, pressure balanced to exclude foreign material. The remaining bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

The pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground and individually balanced. The vanes of the impeller intake eyes shall be hand ground and polished to a sharp edge, and be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

The impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wraparound double labyrinth design for maximum efficiency.

The pump shaft shall be heat-treated, electric furnace, corrosion resistant, stainless steel, to be super-finished under packing with galvanic corrosion (zinc separators in packing) protection for longer shaft life. Pump shaft must be sealed with double lip oil seal to keep road dirt and water out of drive unit.

DRIVE UNIT

The drive unit shall be cast and completely manufactured and tested at the pump manufacturer's factory.

Pump drive unit shall be of sufficient size to withstand up to 16,000 ft. Lbs. Torque of the engine in both road and pump operating conditions. The drive unit is designed with ample capacity for lubrication reserve to maintain proper operating temperature.

The gearbox drive shafts shall be of heat-treated chrome nickel steel and at least 2-3/4" in diameter, on both the input and output drive shafts. They shall withstand the full torque of the engine in both road and pump operating conditions.

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All gears drive and pump, shall be of highest quality electric furnace, chrome nickel steel. Bores shall be ground to size and teeth integrated, crown-shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrusts.

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected.

If drive unit is equipped with a power shift, the shifting mechanism shall be a heat-treated, hard-anodized aluminum power cylinder, with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in road or pump.

Three warning lights with plates shall be provided to alert the operator when the drive unit has fully shifted from road to pump position. Two lights shall be located on the cabs instrument panel and the other on the pump panel adjacent to the throttle.

A 3" clapper check valve shall be installed between the suction side of the pump and the tank-to-pump valve. This 3" clapper valve shall remove the possibility of a water surge expanding the booster tank.

Pump system shall have an integral discharge manifold system that allows a direct flow of water to all discharge valves.

PACKING GLANDS

The pump shaft shall have only one packing gland located on the inlet side of the pump. It shall be of split design for ease of repacking. The packing gland must be a full circle threaded design to exert uniform pressure on packing and to prevent "cocking" and uneven packing load when it is tightened. It shall be easily adjusted by hand with rod or screwdriver, with no special tools or wrenches required. The packing rings shall be of a unique, permanently lubricated, long life graphite composition and have sacrificial zinc foil separators to protect the pump shaft from galvanic corrosion.

PUMP SHIFT

An air operated pump shift shall be installed in the chassis cab to engage the fire pump. Provisions shall be made for placing the pump drive system in operation using controls and switches that are clearly identified and within convenient reach of the operator while in the cab.

A green indicator light shall be installed on the cab dash and labeled "Pump Engaged".

Where an automatic chassis transmission is provided, a green indicator light in the driving compartment and a green indicator light located at the pump operator's position shall be provided and shall be energized when both the pump shift has been completed and the chassis transmission is engaged in pump gear.

The light in the driving compartment shall be labeled "OK TO PUMP". The light on the pump operator shall be positioned adjacent to and preferably above the throttle control and shall be labeled "Warning: DO NOT OPEN THROTTLE UNLESS LIGHT IS ON". The green light on the pump operator's panel shall be energized when the pump is engaged, the transmission is in drive, and the parking brake is set.

PRIMING SYSTEM, PUMP

A Trident Model 31.001.2 air operated priming system shall be installed. The unit shall be of all brass and stainless steel construction and designed for fire pumps of 1,250 GPM (4,690 LPM). Due to corrosion exposure no aluminum or vanes shall be used in the primer design. The primer shall be two-barrel design with 3/4" NPT connection to the fire pump.

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The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

Performance, Safety, and NFPA Compliance

The priming system shall be capable to a vertical lift to 22 inches of mercury and shall be fully compliant to applicable NFPA standards for vertical lift. The system shall create vacuum by using air from the chassis air brake system through a two-barrel multi-stage internal "venturi nozzles" within the primer body. The noise level during operation of the primer shall not exceed 75 Db.

Air Flow Requirements

The primer shall require a minimum of 15.6 cubic foot per minute air compressor and shall be capable of meeting drafting requirements at high idle engine speed. The air supply shall be from a chassis supplied 'protected' air storage tank with a pressure protection valve. The air supply line shall have a pressure protection valve set between 70 to 80 PSIG.

Primer Control

The primer control shall have a manually operated, panel mounted "push to prime" air valve; which will direct air pressure from the air brake storage tank to the primer body. To prevent freezing, no water shall flow to and from the panel control.

Power Requirements

To reduce the electrical power requirements on the fire apparatus the priming system shall be air powered. The system shall not require annual tear-down and maintenance, an electric motor, lubrication, belt drive, or clutch assembly.

Warranty

The primer shall be covered by a five-(5) year parts warranty.

VALVE, MASTER DRAIN

There shall be a master drain valve recessed mounted below the pump module under the side running board, connecting all drain lines, with the capacity to discharge water simultaneously from all locations to below the chassis frame rails.

VALVE, INDIVIDUAL DRAIN

All lines shall drain through the master drain valve or shall be equipped with individual drain valves, easily accessible and labeled.

One-(1) individual quarter turn drain valve shall be furnished for each 1-1/2" or larger discharge port and each 2-1/2" gated auxiliary suction.

The drain/bleeder valves shall be located at the bottom of the side pump module panels.

All drains and bleeders shall discharge below the running boards.

PUMP TEST POINTS

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Two-(2) test plugs shall be pump panel mounted for testing of vacuum and pressures.

PUMP CERTIFICATION, 1750 GPM

The pump when dry, will be capable of taking suction and discharging water in accordance with current NFPA 1900. The pump will be tested at the manufacturer's facility by an independent, third party testing service. The conditions of the pump test will be as outlined in current NFPA 1900. The tests will include, at minimum, the pump test, the pumping engine overload test, the pressure control system test, the priming device tests, the vacuum test, and the water tank to pump flow test as outlined in current NFPA 1900.

A Piping hydrostatic test will be performed as outlined in current NFPA 1900.

The pump will meet and perform the following test to receive certification:

100% of rated capacities at 150 PSI net pump pressure

100% of rated capacities at 165 PSI net pump pressure

70% of rated capacities at 200 PSI net pump pressure

50% of rated capacities at 250 PSI net pump pressure

PUMP TEST CERTIFICATION PLATE

A permanently affixed plate shall be installed at the pump operator's panel. It shall provide the rated discharge and pressures together with the speed of the engine as determined by the certification test for each unit. It shall also provide the position of the parallel/series pump used and the no load governed speed of the engine as stated by the engine manufacturer on a certified brake horsepower curve.

A label shall be provided on the pump operator's panel that states the following:

"Warning: Death or serious injury might occur if proper operating procedures are not followed". The pump operator as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with water hydraulics hazards and component limitations.

STEAMER INLETS, 6"

A 6" NST steamer inlet with removable screen and long handle cap shall be provided on the left and right side pump panels.

RELIEF VALVE, INTAKE

There shall be a suction side relief valve provided in the pump system. The relief valve is adjustable from 50-250 psi and set at the factory at 125 psi. The discharge from the valve shall be directed toward the ground and away from the pump operator.

TANK TO PUMP

The booster tank shall be connected to the intake side of the pump with a check valve. The 3" tank to pump line shall run from a bottom sump into the 3" valve. To prevent damage due to chassis flexing or vibration, a short 3" flexible rubber hose coupling shall be used to connect the tank to the intake valve.

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The tank to pump valve shall be a quarter turn fixed pivot design. The valve shall be controlled by a chrome push/pull locking "T" handle installed at the pump operator's panel.

TANK FILL

A 2" tank fill line shall be provided, using a quarter turn full flow ball valve and high-pressure flexible hose. The valve shall be push pull controlled from the pump operator's panel.

ENGINE COOLER

The engine cooler shall be installed in-line from the discharge side of the pump, and installed in the engine cooling system. There shall be a 1/2", quarter turn valve installed thru the pump panel and shall be clearly labeled.

PUMP COOLER

The pump shall have a 3/8" line installed from the pump discharge, to the water tank to cool the pump during long periods of pumping when water is not being discharged. The pump cooler shall be controlled from the pump operators panel by a 1/2" valve consisting of a cast bronze body with 1/4 turn chrome plated bronze ball, reinforced Teflon seals, and blow-out-proof stem rated to 600 PSI.

The valve shall be installed thru the pump panel and clearly labeled.

PLUMBING SYSTEM

All inlet and outlet lines shall be plumbed with either, stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hoses shall be equipped with stainless steel couplings. All stainless steel hard plumbing shall 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 shall be equipped with Victaulic or rubber couplings. Plumbing manifold bodies shall be ductile cast iron or stainless steel. All piping lines are to be drained through a master drain valve or shall be equipped with individual drain valves. All drain lines shall be extended with a hose to drain below the chassis frame. All water carrying gauge lines shall be of flexible polypropylene tubing. All piping, hose and fittings shall have a minimum of a 500 PSI hydrodynamic pressure rating.

STAINLESS STEEL FOAM MANIFOLD

The foam manifold will be constructed of stainless steel.

PLUMBING FINISH

The plumbing shall be natural finish and shall not be painted.

APPARATUS VALVES, AKRON

The apparatus valves (unless otherwise specified) shall be Akron heavy-duty swing out 8000 series brass body with flow optimizing stainless steel ball, and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. The valve shall not require the lubrication of seats or any other internal waterway parts, and be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall a 10- year warranty covered by Akron Brass.

SUCTION(S), 2-1/2" LEFT PANEL

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One (1) 2-1/2" swing operated ball valve(s) shall be installed on the left side pump panel plumbed to the suction side of the pump with 2-1/2" piping. The suction(s) shall be equipped with a 2-1/2" FNST chrome inlet swivel, brass inlet strainer, chrome plug with chain and 3/4" drain valve. The control handle shall be located at the valve.

A warning plate permanently affixed in close proximity of the suction inlet shall be installed stating:

"WARNING - SERIOUS INJURY OR DEATH COULD OCCUR IF INLET IS SUPPLIED BY A PRESSURIZED SOURCE WHEN THE VALVE IS CLOSED".

DISCHARGE ELBOWS

All 2-1/2" side discharge outlets shall terminate with chrome-plated 30-Degree elbows with 2-1/2" MNST threads and chrome vented caps/chains.

The caps shall automatically release pressure in the discharge outlet before the threads are completely disengaged unless the outlet and the cap are equipped with drains or bleeder valves.

DISCHARGE, FRONT BUMPER

There shall be one-(1) front discharge installed thru the gravelshield, driver's side outboard of the frame rail.

The front bumper discharge shall terminate with a 90-degree swivel elbow, 2" FNPT x 1-1/2" MNST. One-(1) 2" brass valve with 3/4" drain shall be installed on the discharge side of the pump plumbed to the front swivel with flexible high-pressure hose and victaulic stainless steel couplings tested to 1200 PSI. The front discharge shall be push/pull controlled at the pump operator's panel.

A tread plate stop shall be provided preventing the front bumper discharge swivel from incidental contact with the cab.

CROSSLAYS, 1-3/4" DOUBLE LAY

Two-(2) pre-connected crosslay compartments shall be provided above the pump module. Each crosslay bed shall accommodate 200' of 1-3/4" double jacket hose. Stainless steel nylon guide rollers shall be installed at each end with stainless steel scuff plates around the perimeter to protect the painted surface.

One-(1) 2" ball valve with 90-degree mechanical swivel shall be installed for each crosslay. The valve shall be plumbed to the crosslay with 2" high-pressure flexible hose and stainless steel couplings. The high pressure hose shall be tested to 1200 PSI. The crosslays shall be push pull controlled at the pump operator's panel.

The crosslays shall be equipped with a 3/4 quarter-turn drain valve.

A safety sign FAMA22, which warns of the need to secure hose, shall be visible to personnel at the hose storage area.

CROSSLAY COVER, HYPALON

There will be a Hypalon crosslay cover provided with the apparatus secured by twist-lock connectors along the top protecting the crosslay hose. The cover prevents hose from inadvertently deploying during normal operations meeting the current NFPA requirements.

A safety sign FAMA22, which warns of the need to secure hose, will be visible to personnel at the hose storage area.

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The Hypalon end flaps will be secured at the bottom using pushpins. The cover prevents hose from inadvertently deploying during normal operations meeting the current NFPA requirements.

The cover and/or end flaps will be red in color.

DISCHARGES, 2-1/2" LEFT SIDE

There shall be two-(2) discharge outlets with a 2-1/2" valve on the left side pump panel. The outlets shall be push pull controlled from the operator's panel and terminate with 2-1/2" MNST threads.

DISCHARGES, 2-1/2" RIGHT SIDE

There will be two-(2) discharge outlets with a 2-1/2" valve on the right side pump panel. The outlets will be push pull controlled from the operator's panel and terminate with 2-1/2" MNST threads.

DISCHARGE, 4" RIGHT SIDE

There will be one-(1) discharge outlet with a 4" valve on the right side pump panel. The outlet will be hand wheel controlled from the operator's panel and terminate with 4" MNST threads.

DECK GUN PLUMBING, 3"

A 3" deck pipe shall be installed above the pump in such a manner that a monitor can be mounted and used effectively. The piping shall be installed securely so no movement develops when the line is charged. The piping shall terminate with 3" NPT threads and a 4-bolt flange for mounting a monitor. The 3" valve shall be push pull controlled from the operator's panel.

DISCHARGE, 2-1/2" LEFT REAR

There will be one-(1) discharge outlet with a 2-1/2" valve plumbed to the left rear of the apparatus. The outlet will be push pull controlled from the operator's panel and terminate with 2-1/2" MNST adapter.

30 DEGREE ELBOW(S) - 2-1/2" FNST X 2-1/2" MNST

There will be one (1) Trident model 01.010.0 2-1/2" FNST x 2-1/2" MNST chrome plated elbow(s) supplied with the apparatus. The elbow(s) will have a 30 degree turn down.

DISCHARGE, 2-1/2" RIGHT REAR

There will be one-(1) discharge outlet with a 2-1/2" valve plumbed to the right rear of the apparatus. The outlet will be push pull controlled from the operator's panel and terminate with 2-1/2" MNST adapter.

30 DEGREE ELBOW(S) - 2-1/2" FNST X 2-1/2" MNST

There will be one (1) Trident model 01.010.0 2-1/2" FNST x 2-1/2" MNST chrome plated elbow(s) supplied with the apparatus. The elbow(s) will have a 30 degree turn down.

FOAM SYSTEM

There will be a Foam Pro 2001 fully automatic electronic direct injection foam proportioning system furnished and installed on the apparatus. The system will be capable of Class A foam concentrates and most Class B foam concentrates. The foam proportioning operation will be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. System must be capable of delivering accuracy to within 5% of calibrated settings over the advertised operation range when installed according to factory standards. The system will be equipped with a digital

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electronic control display suitable for installation on the pump panel. Incorporated within the control display will be a microprocessor that receives input from the system flowmeter(s), while also monitoring foam concentrate pump output. This compares values to ensure that the operator's preset is proportional to the amount of foam concentrate injected into the discharge side of the fire pump.

Paddlewheel-type flowmeter(s) will be installed in the discharges specified to be "foam capable." When the use of more than one flowmeter is required, an interface electronics module will be provided to totalize these flows and send the flow total to the microprocessor in the computer control display.

The digital computer control display will enable the pump operator to perform the following control and operation functions for the foam proportioning system:

- Provide push-button control of foam proportioning rates from 0.1% to 10.0%, in 0.1% increments
- Show current flow-per-minute of water
- Show total volume of water discharged during and after foam operations are completed
- Show total amount of foam concentrate consumed
- Simulate flow rates for manual operation
- Perform setup and diagnostic functions for the computer control microprocessor
- Flash a "low concentrate" warning when the foam concentrate tank(s) runs low
- Flash a "no concentrate" warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) empty

A 12-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 gpm (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR), will be installed in a suitable, accessible location. The system will draw a maximum of 40 amps @ 12 VDC or 21 amps @ 24 VDC. A pump motor electronic driver (mounted to the base of the pump) will receive signals from the computer control display and power the 1/2 hp (0.40 Kw) electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct proportion of concentrate preset by the pump operator is injected into the water stream.

When two types of foam concentrates are to be used, a dual tank switch over system consisting of the following options will be installed to provide rapid changeover of foam concentrate reservoirs. The digital computer control display will interface with the options listed, provide dual foam calibration, and display separate totals for each foam concentrate used.

When two types of foam concentrates are to be used, two foam concentrate tanks will be installed and piped to the foam concentrate pump via the electric dual tank valve or the manual dual tank valve. (The user will determine the tank capacities.)

Full flow check valve will be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank.

Components of the complete proportioning system will include:

- Operator control and display
- Paddlewheel flowmeter(s)
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch

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- Multi-Flo electronic module (if more than one flowmeter is used)
- Foam tank(s)
- Electronic dual tank valve or manual dual tank valve (if more than one tank)
- Foam injection check valve
- Main waterway check valve

System Capacities:

0.2% = 1,300 GPM

0.5% = 520 GPM

1.0% = 260 GPM

3.0% = 85 GPM

An installation and operation manual will be provided for the unit, along with one (1) year limited warranty by the manufacturer. The system will have passed environmental testing which simulates heavy use on off-road mobile apparatus. Testing will have been conducted in accordance to SAE standards.

GAUGE, FOAM LEVEL

A Fire Research TankVision Pro model WLA360-A00 tank indicator kit will be installed on the pump operator's panel. The kit will include an electronic indicator module, a pressure sensor, a 10' sensor cable and a tank vent. The indicator will show the volume of Class A foam concentrate in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs will provide for a viewing angle of 180 degrees. The indicator case will be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive green label.

The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a datalink to connect remote indicators. Low water warnings will include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

LOW TANK LEVEL SWITCH

A low tank level switch will be installed in each foam concentrate tank that supplies the foam proportioning system. The low tank level sensor will be connected to the foam proportioning system to provide protection against dry running of the foam pump. The low tank level sensor can be mounted on the side, bottom, or top of the foam concentrate tank. The low tank level sensor and electrical connections will be sealed to prevent infusion of foam concentrate into the wiring and possible short circuit of the tank level sensor.

FLOWMETER, TEE MOUNT W/COUPLING KIT

There will be a paddle wheel style flowmeter mounted in a NPT pipe tee for mounting in a properly sized discharge line. A groove less Victaulic coupling will be provided for installation of the flowmeter. A water check valve will be installed before the flowmeter and between the water pump and the foam injection point.

OPERATING SYSTEMS INSTRUCTION PLACARD, SINGLE TANK

There will be a placard installed on the pump panel, a schematic of the Foam Pro (single tank) operating system, which has been installed.

FOAM PROPORTIONING SYSTEM TEST

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NFPA 1900 PERFORMANCE REQUIREMENTS

The proportioning system will be capable of proportioning foam concentrate in accordance with the foam concentrate manufacturer's recommendation for the type of foam concentrate used in the system over the system's design range of flow and pressure. The foam proportioning systems water flow characteristics and the range of proportioning ratios will be specified.

The foam system will comply with NFPA 1900 Chapter 17.0 as it relates to the specified system.

FOAM TANK PIPING

The foam supply line will be non-collapsible. There will be a means provided to prevent water backflow in to the foam proportioning system and storage tank(s).

Either a filter or strainer provided on the foam concentrate supply side of the foam proportioning to prevent any debris that may affect the operation of the foam proportioning system from entering the system. The strainer assembly will consist of a removable straining element, housing, and retainer. The strainer assembly will allow full flow capacity of the foam supply line.

FLUSHING

Foam concentrate system flush line(s) will be provided as required by the foam system manufacturer. The design will incorporate a means to prevent water backflow into the concentrate tank or water tank during the flushing operation. Where the foam proportioning system is connected to more than one (1) foam storage tank, provisions will be made to flush all common lines to avoid contamination of dissimilar foam concentrates.

CONTROLS FOR FOAM SYSTEM

The foam proportioning system operation controls will be located at or near the pump operator's position and will be clearly labeled.

All foam-proportioning systems that require flushing will provide controls, which enable the operator to flush the system in accordance with the foam manufacturer's instructions.

Foam proportioning systems that incorporate foam concentrate metering valves will have each metering valve calibrated to indicate the rate(s) of flow of the foam concentrate proportioning available as determined by the design of the system.

Foam proportioning systems that incorporate automatic proportioning features will be equipped with controls, which enable the operator to isolate the automatic feature and operate the system in a manual mode.

NAMEPLATE, LABELS, INSTRUCTION SPECIFICATIONS

There will be a nameplate provided that is clearly marked with the identification and function of each control gauge and indicator related to the foam proportioning system.

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There will be a label provided on the operator's panel that identifies the type(s) of foam concentrate(s) the system is designed to use. This label will state the minimum/maximum foam-proportioning rate at the minimum/maximum foam proportioning rated system flow and pressure.

Foam proportioning system instruction plate will be provided. This includes a minimum piping schematic of the system and basic operating instructions.

Two (2) copies of an operations and maintenance manual will be provided. These manuals will include a complete diagram of the system, along with operating instructions and details outlining all recommended maintenance procedures.

FOAM PROPORTIONING SYSTEM TESTING

The apparatus manufacturer will test the accuracy of the foam proportioning system prior to delivery of the apparatus.

If the manufacturer's rated proportioning ratio is below 3%, the foam system will proportion foam concentrate within 0% /+40% of the manufacturer's rated proportioning ratio across the manufacturer stated range of water flow and pressure.

If the manufacturer's rated proportioning ratio is above 3%, the foam system will proportion foam concentrate within 0% /+40% of the manufacturer's rated proportioning ratio or 1 percentage point, whichever is less across the manufacturer's stated range of water flow and pressure.

FOAM TANK, NUMBER 1

The foam tank will have a capacity of 30 gallons designed as an integral part of the water tank and will have a manual fill tower. The fill tower will be constructed of polypropylene and will be a minimum dimension of 8" x 8" outer perimeter. Each A pressure vacuum vent will be provided in the lid of the fill tower.

FOAM OUTLETS

Foam will be plumbed to the following outlets:

Front Bumper Discharge

No. 1 Crosslay

No. 2 Crosslay

Rear of Body Right Side

== Body - Extruded Pumper (500-1250 Gallons) - 622.001 06/06/22 ==

WATER TANK, 750 GALLONS

The tank will have a capacity of 750 U.S. gallons and will be constructed of polypropylene plastic. This material will be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection.

The tank will be baffled in accordance with NFPA Bulletin 1900 requirements.

The baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.

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A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank. The sump will include a drain plug and the tank outlet.

The tank will have a combination vent and manual fill tower. The fill tower will be constructed of polypropylene and will be a minimum dimension of 8" x 8" outer perimeter. 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.

"L" SHAPED WATER TANK

The tank will be "L" shaped in design to allow for a low hose bed height.

WATER TANK SIZE CERTIFICATION

The manufacturer will certify the capacity of the water tank prior to the delivery of the apparatus. This capacity will be recorded on the manufacturer's record of construction and the certification will be provided when the apparatus is delivered.

GAUGE, WATER LEVEL

A Fire Research TankVision Pro model WLA300-A00 tank indicator kit will be installed on the pump operator's panel. The kit will include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator will show the volume of water in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs will provide for a viewing angle of 180 degrees. The indicator case will be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive blue label.

The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a datalink to connect remote indicators. Low water warnings will include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

APPARATUS BODY, 96" WIDE

The 96" wide apparatus body and sub frame shall be constructed entirely of marine grade aluminum plate and extrusions.

BODY SUBFRAME

The main body support cross member extrusions shall be 3" x 4" 6061T6 aluminum alloy, double "I" beam with a wall thickness of 7/16" (.438"). These cross members shall extend the full width of the body to support the compartment framing. The cross members shall be welded to a 3/4" (.750") x 3" solid aluminum, 6061T6 aluminum (alloy frame rail) extrusion. The frame rail extrusion shall be shaped in contour with the chassis frame rails. The frame rail extrusion shall be mounted over a 1/2" (.5") thickness, reinforced rubber cushion to isolate the aluminum sub frame from the chassis steel frame rails. The apparatus body structure shall be securely fastened to the chassis frame rails with a minimum of six-(6) 5/8" (.625") cross member OD, steel U-bolts. The main body support cross member shall have a gusset above and below each cross member. The gussets shall be constructed of 2.0" x 4.0" 6063T6 aluminum alloy extrusion with a .190" wall thickness. The gussets shall be continuously welded with 5356 aluminum alloy welding wire to add support to the body sidewalls. The main body supports and the longitudinal double "I" beam supports shall have a "C" shaped rubber tank cushion installed on the top of each member. This rubber extrusion shall conform to the shape of the double "I" beam extrusion to keep the tank cushion in place. This method is used to prevent damage to the tank.

H7195 Cinder Pumper Retail

Absolutely no pop-rivets, screws or any other hardware shall be used to hold the rubber tank cushion in place.

BODY CONSTRUCTION

The complete apparatus body structure shall be an all welded construction and be free from nuts, bolts and other fasteners. Upon completion of the weldments, the body shall be completely sanded and deburred for removal of all sharp edges.

The body framework shall be formed from beveled aluminum alloy extrusions and electrically seam welded at each joint using 5356 aluminum alloy welding wire. Body sides shall be formed from 5052 H-32 (marine grade) smooth aluminum plates. The horizontal surfaces above the compartment tops shall be constructed from aluminum tread plate.

The horizontal and vertical frame member extrusions shall be 2.0" x 4.0" with a .190" wall thickness. The extrusion shall be made from 6063T6 aluminum alloy. This extrusion shall have .190" outside radius corners. The longitudinal frame member, below the lower compartments shall be a 2.0" x 4.0" 6063T6 aluminum alloy extrusion with .190" radius corners. Each body corner shall be a 3.5" x 9-3/4" 6063T6 extruded aluminum section with .210" wall thickness, and shall be welded as an integral part of the body. This extrusion shall have a 1" corner radius.

COMPARTMENT CONSTRUCTION

The compartment sidewalls shall be of one-piece construction. The walls shall be formed from 3/16" (.1875") 5052 H-32 (marine grade) smooth aluminum plate. All compartment floors shall be formed from 3/16" (.1875") aluminum tread plate. The floors shall be welded in place with a continuous weld all around the perimeter to insure maximum strength.

The compartment seams shall be sealed with permanent pliable silicone caulking.

Each compartment shall be vented through a 3" wide x 15" high louver that is machined stamped in a panel located in each body corner extrusion. The panel shall be removable to provide access to service wiring and other mounted components.

COMPARTMENT TOPS/CATWALK

The external compartment tops shall be constructed of 1/8" (.125") aluminum tread plate. The tops shall have a formed edge, which serves as a drip rail for the compartments below. The compartment tops shall be secured with stainless steel screws to allow for ease of removal for access to the bodies wiring harnesses.

WHEEL WELL PANELS

The wheel well shall be constructed from 2" x 4" x .190" wall thickness. The extrusion shall be made from 6063T6 aluminum alloy and have .190" outside radius corners. The extrusion shall be slotted the full length to permit an internal fit of 3/16" (.187") painted aluminum panels. The wheel well liners shall be constructed of 3003 H-14 smooth aluminum plates. They shall be bolted in place for ease of maintenance.

A deflection shield shall be mounted to the body sub frame to keep road debris from entering the water tank area.

FENDERETTES, POLISHED STAINLESS STEEL

The body fenderettes will be bright polished stainless steel securely fastened to the body wheel wells on each side.

HOSEBED

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The hose bed sides shall be constructed of 3/16" (.1875") 5052 H-32 (marine grade) smooth aluminum plate welded to the extruded framework. There shall be a 3" x 3.5" 6063T6 aluminum extrusion with .190" wall thickness running the entire length of the hose bed at the top for structural rigidity. The hose bed decking shall be constructed from anodized aluminum extrusions. The extrusions shall be 3/4" (.750") x 8.125" and have 3/4" (.750") x 3.00" hat channel attached to the underside to form a one-piece grid. The entire deck shall be removable, in one piece, to allow ease of serviceability to the tank. The hose bed shall include an extrusion across the front and rear of the compartment for the installation of adjustable hose bed dividers.

The fire apparatus hose body shall be 67-1/2" wide.

A safety sign FAMA22, which warns of the need to secure hose, shall be visible to personnel at the hose storage area.

COMPARTMENTS, LEFT SIDE

L1

There shall be one-(1) left front compartment installed ahead of the rear axle. The interior dimensions will be approximately 36" wide x 73" high x 25" deep.

L2

There shall be one-(1) compartment installed above the wheel well. The interior dimensions will be approximately 58" wide x 41" high x 25" deep.

L3

There shall be one-(1) left rear compartment installed behind the rear axle. The interior dimensions will be approximately 44" wide x 73" high x transverse in the lower section and 25" deep in the upper section.

COMPARTMENTS, RIGHT SIDE

R1

There will be one-(1) right front compartment installed ahead of the rear axle. The interior dimensions will be approximately 36" wide x 64" high x 25" deep in the lower section and 12" deep in the upper section.

R2

There will be one-(1) compartment installed above the wheel well. The interior dimensions will be approximately 58" wide x 32" high x 12" deep.

R3

There will be one-(1) right rear compartment installed behind the rear axle. The interior dimensions will be approximately 44" wide x 64" high x transverse in the lower section and 12" deep in the upper section.

R1

There will be one-(1) right front compartment installed ahead of the rear axle. The interior dimensions will be approximately 36" wide x 73" high x 25" deep in the lower section and 12" deep in the upper section.

H7195 Cinder Pumper Retail

R2

There will be one-(1) compartment installed above the wheel well. The interior dimensions will be approximately 58" wide x 41" high x 12" deep.

R3

There will be one-(1) right rear compartment installed behind the rear axle. The interior dimensions will be approximately 44" wide x 73" high x transverse in the lower section and 12" deep in the upper section.

COMPARTMENT, CENTER REAR

B1

There shall be one-(1) compartment installed at the center rear of the apparatus. The compartment shall have an interior dimension of approximately 46" wide x 28" high x 31" deep.

COMPARTMENT DOOR(S), HINGED

The specified compartments will have doors constructed entirely from 5052-H32 smooth aluminum plate using a box pan configuration. The outer panel shall be constructed from 3/16" (.1875") smooth aluminum plate and the inner pan stitch welded in place from 1/8" (.125") smooth aluminum plate.

There shall be a 1/4" (.250") hole installed in the lower corners of the inside door pans for drainage. The doors shall have a closed cell neoprene rubber gasket installed around the perimeter of the door to remove water.

Exterior door latches shall incorporate a polished D-paddle handle with rotary style latch. For ease of operation, the D-handle opening shall be large enough to accommodate a gloved hand. The D-paddle latching design shall be subjected to corrosion, water infiltration, and cycle testing to 35,000 cycles. Double doors shall utilize concealed rotary latches on the secondary door, actuated by a recessed stainless steel paddle handle. The door design shall not impede into the compartment opening when in the open position. The watertight door seal shall exceed the current KKK-1822 water infiltration standards. The doors shall be securely fastened to the apparatus body with full-length stainless steel piano hinges using 1/4-20 stainless bolts and locking nuts. The hinges shall be slotted to allow for adjustments.

Absolutely no self-tapping screws or pop rivets shall be acceptable to mount the door mechanisms or slam latch assemblies.

The hinged door will be located on compartment B1.

COMPARTMENT DOOR(S)

A satin finish roll-up door will be installed on the specified compartment(s).

There shall be an aluminum drip rail above each compartment door with a built in replaceable wiper seal.

There will be a ROM satin finish roll up door installed on compartment L1, compartment L2, compartment L3, compartment

H7195 Cinder Pumper Retail

R1, compartment R2 and compartment R3.

REAR BODY CONSTRUCTION, FLAT BACK DESIGN

The rear of the apparatus will be flat back design. No beavertails will be installed on the unit.

VERTICAL LOAD TEST, APPARATUS BODY

The fire body shall exceed a vertical load testing. The vertical load test to the fire body shall follow the same strict and detailed requirements of the Economic Commission for Europe Structural Standard, ECE-29R as applied to the cab.

The fire body shall be placed under a vertical load test to show structural integrity. There shall be 65,979 lbs. (29.53 metric tons) applied to the fire body. There shall be no structure failures to the body and body compartments.

A complete photographic, video, data, and dimensional record of these tests shall be available and placed on record for customer evaluations.

FULL DEPTH COMPARTMENT(S)

The specified compartment(s) of the apparatus shall have full-depth configurations that extend the interior depth of the compartment to match to lower compartment depths. The exact dimensions and storage capacity is completely described in the "Compartment" section of the specification.

The left side compartments will be full depth.

COMPARTMENT, LADDER STORAGE

There shall be one-(1) equipment storage compartment installed beside the tank on the right side constructed of 1/8" (.125) smooth aluminum plate for the storing of NFPA required equipment. Individual internal compartments shall house one-(1) 24' extension ladder, one-(1) 14' roof ladder, one-(1) 10' folding ladder, and two-(2) pike poles with silencing pads made from Polypropylene installed on each compartment floor to assist in the loading and unloading of the required equipment.

The compartment shall have vertically hinged door constructed from 1/8" (.125) smooth aluminum plate with stainless steel piano hinge and paddle latch door open mechanism. The door shall be installed utilizing stainless steel nuts and bolts, other fastening device such as self-tapping screws or pop rivets shall not be acceptable.

STORAGE TUBES, PIKE POLE

Two-(2) aluminum tubes shall be installed on the apparatus for pike pole storage. One-(1) end shall be notched to allow the poles to be locked in place.

The tubes will be located in the ladder tunnel.

WHEEL WELL AIR BOTTLE COMPARTMENT, LEFT FRONT

There shall be an air bottle compartment located in the left front body wheel well to house two-(2) spare SCBA cylinders.

H7195 Cinder Pumper Retail

The compartment shall be constructed of high-density polyethylene to provide scuff protection. The compartment shall be vented to facilitate moisture drainage. The compartment door shall be brushed stainless steel with a push button trigger latch.

WHEEL WELL AIR BOTTLE COMPARTMENT, LEFT REAR

There shall be an air bottle compartment located in the left rear body wheel well to house two-(2) spare SCBA cylinders. The compartment shall be constructed of high-density polyethylene to provide scuff protection. The compartment shall be vented to facilitate moisture drainage. The compartment door shall be brushed stainless steel with a push button trigger latch.

WHEEL WELL AIR BOTTLE COMPARTMENT, RIGHT FRONT

There shall be an air bottle compartment located in the right front body wheel well to house two-(2) spare SCBA cylinders. The compartment shall be constructed of high-density polyethylene to provide scuff protection. The compartment shall be vented to facilitate moisture drainage. The compartment door shall be brushed stainless steel with a push button trigger latch.

WHEEL WELL AIR BOTTLE COMPARTMENT, RIGHT REAR

There shall be an air bottle compartment located in the right rear body wheel well to house two-(2) spare SCBA cylinders. The compartment shall be constructed of high-density polyethylene to provide scuff protection. The compartment shall be vented to facilitate moisture drainage. The compartment door shall be brushed stainless steel with a push button trigger latch.

BODY TRIM

The standard body trim shall include the following:

There shall be drip rail installed over the compartment door openings.

A drip rail shall be located over each compartment door. This drip rail shall form a lip over the exterior door pans to prevent water from running into a compartment.

The vertical rear face of the body shall be covered with smooth aluminum plate.

Two-(2) handrails shall be located on the rear of the apparatus, one-(1) handrail per side. Each handrail shall be constructed of 1-1/4" knurled aluminum. The handrails shall be mounted with chrome plated end stanchions. Each handrail shall be sufficient in length to meet all standard requirements.

Two-(2) stanchions shall be mounted at the rear of the apparatus hose bed, one-(1) each side. The stanchions shall be 11" long x 3-3/4" wide. Stainless steel scuff plates shall be installed in the hose bed area to prevent deploying hose from damaged on stanchion supports. The stanchions shall provide mounting positions for the Zone C warning lights and additional hose bed lighting. All wiring for the upper rear lighting shall be concealed inside the stanchions.

The stanchions will be lowered so that the top of the warning beacons are even with the hose bed sides.

FUEL FILL, RECESSED WITH DOOR

H7195 Cinder Pumper Retail

There shall be a recessed fuel fill assembly with a non-locking door mounted on the left side of the apparatus body. The fuel fill assembly shall be equipped with a fuel fill cap, retention ring and hinged door. The assembly shall be properly labeled "DIESEL FUEL ONLY".

MUD FLAPS, REAR

The rear axle mud flaps shall be constructed from hard black rubber and installed at the rear of the body fenders.

RUBRAIL

There shall be an aluminum rub rail installed on both sides of the lower body compartments. The rub rail shall be constructed from "C" channel extrusion. The aluminum rub rail shall be bolted in place with stainless steel bolts, and spaced from the fire body to provide body protection. The solid rub rail shall serve as protection to the side doors when encountering close objects. Tread plate rub rails or welded on shall not be acceptable.

REAR STEP

The 12" rear step will be constructed of 3/16" (.1875") aluminum tread plate. The rear step will be flanged down 2.50" and in 1.00" to maximize strength and rigidity. The rear step will be bolted on for removal or replacement.

All running board and step surfaces will comply with NFPA 1900.

CHROME FOLDING STEP(S), FRONT OF BODY

There shall be two (2) large chrome-folding step(s) with a minimum surface area of thirty-five (35) square inches. The step(s) shall be mounted on the front face of the forward compartment as directed by the customer.

There shall be an LED light installed above and below each step.

There will be one-(1) step located on each side of the apparatus on the front compartment faces.

CHROME FOLDING STEP(S), REAR OF BODY

There shall be three (3) rear chrome folding step(s) installed on the rear of the body. Each step shall have a minimum of thirty-five (35) square inches of surface area.

There shall be an LED light installed above and below each step.

TOW EYES, REAR

Two-(2) 1" thick rear tow eyes constructed of A-36 steel shall be mounted below the frame at the rear of the vehicle. The tow eyes shall be attached to steel weldments that are mounted to the apparatus. The eyes shall have a minimum dimension of three-(3) inches. The tow eyes shall be used for towing, not lifting the vehicle.

HANDRAIL, BELOW HOSE BED

There shall be an intermediate handrail installed on the apparatus below the hose bed. The handrail shall be constructed of 1-1/4" knurled aluminum. The handrail shall be mounted with chrome plated end stanchions.

HANDRAIL(S), FRONT OF BODY

H7195 Cinder Pumper Retail

There shall be two (2) 1-1/4" knurled aluminum handrails installed on the front face of the compartments. They shall be approximately 12" in length. The handrail(s) shall have chrome plated end stanchions.

The steps will be mounted at final inspection.

HOSE BED DIVIDER(S)

Two (2) hose bed divider(s) shall be manufactured from 1/4" (.250") smooth aluminum plate with an extruded aluminum base welded to the bottom. The divider shall have an extruded track to slide in to allow the hose bed to adjust for different hose capacities. One end of the divider shall have a 3" radius corner. The divider shall be sanded to prevent damage to hose.

HOSE BED COVER

The cover and/or end flaps shall be black in color.

HOSE BED CAPACITY

The hose bed shall have the capacity to hold the following (left to right):

600' of 1-3/4" Double Jacket Fire Hose
1500' of 5" Large Diameter Supply Hose
600' of 2-1/2" Double Jacket Fire Hose

A safety sign FAMA22, which warns of the need to secure hose, shall be visible to personnel at the hose storage area.

== Body Components - Pumpers - 622.001 06/06/22 ==

== Elec. Components - Pumper Custom - 622.001 06/06/22 ==

ELECTRICAL SYSTEM, BODY

The body electrical system shall be designed as an integrated electrical package specifically engineered for fire apparatus application. The integrated electrical system shall interface the body and chassis through an engineered system.

All body electrical equipment installed shall conform to current automotive electrical system standard, the latest Federal DOT standards, and the requirements of the applicable NFPA Apparatus Standard. Twisted pair shielded wire shall be provided within the electrical system for noise reduction.

The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in loom with a minimum 289 °F rating. All wiring looms shall be properly supported and attached to body members along the entire run. All wiring shall be mounted as to provide protection from water and heat. All connections shall be crimp type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather resistant connectors shall be provided throughout to ensure the integrity of the electrical system. Gold contacts shall be used where required for superior connectivity and improved performance. All wiring looms shall be properly

H7195 Cinder Pumper Retail

supported and attached along the entire run. At any point where wire or looms must pass through metal, rubber grommets shall be installed to protect the wire from abrasion.

Wiring shall be individually and permanently numbered, function and color-coded using an indexing numbering system in which all circuits are categorized by function and shall be permanently marked every three (3) inches on the insulation to allow for easy identification.

All internal wire end terminals, including locking bulkhead connectors, shall be mechanically affixed to the wire ends by machine terminal crimping presses. No hand-crimped terminals shall be acceptable.

All internal splices shall be ultrasonically welded connections - no butt style connections shall be acceptable. All internal wiring shall be of the high temperature GXL type wire and shall be protected by wiring duct wherever possible.

The body shall have an in-vehicle networking system, to provide real time or current state diagnostic capability and reduce troubleshooting or down time.

An electrical harness quick disconnect shall be provided to facilitate removal of the body in the future. All circuit protection shall be integral of control modules. There shall not be automatic reset circuit breakers located in the body main harnessing and distribution system.

The system shall have the capability of delivering multiple signals via a data bus, utilizing specifications set forth by SAE J1939.

The body includes strategically located solid-state modules within the body. The modules are for the body lighting and controls.

The system shall consist of all solid-state components contained inside sealed aluminum extrusions and/or weatherproof Deutsch enclosures referred to as nodes. The system shall also incorporate, as needed, miniature nodes. The nodes shall not have special mounting requirements.

The system, at a minimum, shall be capable of performing the following functions:

- Load management and sequencing
- Switch loads
- Receive digital and analog signals
- Perform and report diagnostics
- Continuously report vehicle status
- System is expandable
- Power distribution outputs
- Switch input capability
- Solid state circuitry
- Self-contained LED diagnostic indicators
- PWR for input power status (red)
- COM for communication status (green)
- The complete body electrical system shall be 100% documented and contain independent circuit diagrams with point to point wiring information, as shall as a general component diagram be included in the apparatus manua

12-VOLT TESTING

H7195 Cinder Pumper Retail

The apparatus low voltage system shall be tested and certified. A copy of certification shall be provided to the purchaser with the apparatus.

Reserve Capacity Test

The unit shall be run until all engines, engine compartment temperatures are stabilized and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load be activated for ten-(10) minutes. All electrical loads shall be shutoff after ten-(10) minutes and the battery system shall then be capable of restarting the engine.

Alternator Performance Test at Idle

Minimum continuous electrical loads shall be activated while the unit is at idle speed.

Alternator Performance Test at Full Load

The total continuous electrical load shall be activated with the engine running up to the manufacturer's governed speed. The test duration shall be a minimum of two-(2) hours. Activation of the load management system shall be permitted during the test. If however, an alarm is sounded by excessive battery discharge as detected by the system or a system voltage of less than 11.8 volts DC for a 12-volt nominal system for more than 120 seconds, shall be considered a test failure.

Low Voltage Alarm Test

The engine shall be shut off and the total continuous electrical load shall be activated and continue to be applied until the excessive battery discharge alarm activates. The test shall be considered a failure if the alarm has not sounded within 140 seconds after the voltage drops to 11.8 volts.

WIRING PROTECTION

All 12-volt wiring shall be run in high temperature, rated at a minimum of 275° F, split loom for easy access to wires when trouble shooting.

EMI/RFI PROTECTION

The apparatus shall be manufactured to incorporate the latest designs in the electrical system with components that are state of the art to insure electromagnetic interference (EMI) and radio frequency interference (RFI) emissions are suppressed at the source.

The apparatus shall have the ability to operate in typical fire and rescue situations with no adverse effects from EMI and/or RFI.

The apparatus shall utilize components that are fully protected and wiring that utilizes shielding and loop backgrounds where required to control EMI/RFI susceptibility. The apparatus shall be bonded through ground straps. Relays and solenoids that are suspect to generating spurious electromagnetic radiation are diode and/or resistor protected to prevent transient voltage spikes.

In order to prevent the radio frequency interference completely the purchaser shall be requested to provide a listing of the type, power output, and frequencies of all radio and bio medical equipment that is proposed to be used on the apparatus.

LIGHT(S), LED COMPARTMENT

H7195 Cinder Pumper Retail

Fourteen (14) Amdor Luma Bar LED surface mount light(s) shall be installed as specified by the customer.

There will be two-(2) lights installed in each compartment.

LIGHT(S), LED COMPARTMENT

One (1) On Scene Solutions Access Series LED surface mount light(s) shall be installed as specified by the customer. Each light produces 400 lumens if light per 18" length.

The light stick shall be waterproof and rated at 100,000 hours of service. Each light stick shall be provided with a 5 year free replacement warranty.

The light will be located on the front inside wall of the hose bed.

The light will be wired to the WORK LIGHT switch in the dash panel.

GUARD(S), COMPARTMENT LIGHT

There shall be one (1) guards provided to protect the specified compartment light(s). The guards shall be fabricated from stainless steel.

The guard will be installed over the hose bed light.

DOOR AJAR SWITCHES

All apparatus body doors shall be provided with an auto door switch. These switches shall operate the compartment interior lights and activate the door ajar indicator on each side of apparatus body when the door is opened. There shall be a red door ajar light mounted in the cab, in view of the driver to indicate an unsecured door. There shall be a buzzer mounted in the cab that shall alert the driver.

LIGHTBAR, 72" WHELEN FREEDOM IV

A Whelen Edge Ultra Freedom IV Linear Super-LED LC Series 72" Lightbar model F4N7QLED shall be provided. The F4N7QLED Lightbar shall incorporate an anodized extruded heavy duty aluminum base and cover chassis with two front red corner modules with two red end cap modules, two interior white modules and two interior red modules.

The Lightbar shall be controlled in the following manner:

Calling for Right of Way - All Positions

Blocking Right of Way - Clear shall not be Active

The lights shall be activated by a single emergency light switch located on the master light switch panel in the cab.

The Lightbar shall meet NFPA 1901 edition as configured.

LIGHTS, ZONE C UPPER

H7195 Cinder Pumper Retail

Two-(2) Whelen model B6MMRRP LED lights shall be installed, one-(1) each side on the upper rear outer corners of the apparatus. The combination tailboard light shall incorporate a L31 series beacon and a 700 series warning light in a polished aluminum housing. The high profile beacon shall incorporate 32 red Super-LEDs, a red optic hard coated polycarbonate lens, and a metalized reflector with clear optic collimators. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The four conformal coated PC boards shall provide additional protection against environmental elements. The high profile beacon shall include 28 Scan-Lock™ patterns including four simulated rotating patterns and synchronized features.

The lower level warning light shall incorporate eight red Super-LEDs, a red optic hard coated polycarbonate lens, and utilize a metalized reflector with integrated TIR hybrid optics for maximum output. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The conformal coated PC board shall provide additional protection against environmental elements. The self-contained warning light shall have 14 Scan-Lock flash patterns including steady burn and hi/low power.

The L31 dome lens shall be sealed to a die cast aluminum base with an “O” ring gasket assembly. The 700 series warning light lens shall be fitted with foam in place gasket assembly to the die cast aluminum base to provide additional protection against environmental elements. The solid state beacon light shall be vibration resistant. An installation kit including mounting hardware shall be provided for surface mounting. The B6MMRRP will contain a 12” non-terminated pigtail. The tailboard light will meet NFPA zone C upper requirements when used as a pair and is covered by a five year factory warranty.

There will be one-(1) light located on each side of the apparatus on the the upper stanchions.

LIGHTS, ZONE B/D FRONT LOWER

Two-(2) Whelen TIR6 Series Super-LED model 50R03ZRR lights shall be installed, one-(1) each side forward portion of the apparatus. The warning lights shall incorporate red Linear Super-LEDs, a red optic hard coated polycarbonate lens. The surface mount module includes a chrome flange and hardware for horizontal mounting.

There will be one-(1) light located on each side of the apparatus on the front bumper ends.

LIGHTS, ZONE B/D MIDSHIP LOWER

Two-(2) Whelen TIR6 Series Super-LED model 50R03ZRR lights shall be installed, one-(1) each side midship of the apparatus. The warning lights shall incorporate red Linear Super-LEDs, a red optic hard coated polycarbonate lens. The surface mount module includes a chrome flange and hardware for horizontal mounting.

There will be one-(1) light located on each side of the apparatus in the body wheel well area.

LIGHTS, ZONE B/D REAR LOWER

Two-(2) Whelen LINZ6 Series Super-LED model LINZ6R lights shall be installed, one-(1) each side rearward portion of the apparatus. The warning light shall incorporate six red Super-LEDs, a clear non-optic hard coated polycarbonate lens, clear optic collimator and utilize a metalized reflector for maximum output. The hard coated lens shall provide extended

H7195 Cinder Pumper Retail

life/luster protection against UV and chemical stresses. The encapsulated lens/reflector assembly and conformal coated PC board shall provide additional protection against environmental elements. The solid state warning lights shall be vibration resistant. The self-contained flashing light shall have 69 Scan-Lock flash patterns including synchronize feature and steady burn. The warning light is covered by a five year factory warranty. The surface mount module includes a black flange and hardware for horizontal mounting.

There will be one-(1) light located on each side of the apparatus below compartments L3 / R3.

LIGHTS, ZONE C LOWER

Two-(2) Whelen 600 Series Super-LED model 60R02FRR shall be installed, one-(1) each side on the lower rear of the apparatus. The warning light shall incorporate red Linear Super-LEDs, a red optic hard coated polycarbonate lens, and utilize a metalized reflector with integrated TIR hybrid optics for maximum output. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The encapsulated lens/reflector assembly and conformal coated PC board shall provide additional protection against environmental elements. The solid state warning lights shall be vibration resistant. The self-contained flashing light shall have 14 Scan-Lock flash patterns including synchronize feature and steady burn. The warning light is covered by a five year factory warranty.

There will be one-(1) light located on each side of the apparatus in the rear tail light housings.

STOP, TURN AND BACK-UP LIGHTS

The stop, turn and backup lights will be Whelen 600 Series individual LED fixtures.

HOUSING, REAR TAIL LIGHT ASSEMBLY

The fixtures shall be mounted on each rear face of the body in a model CAST4, four-(4) light head cast aluminum housing.

LIGHT, REAR DIRECTIONAL

A Whelen Traffic Advisor model TAL65 will be provided. The traffic advisor will incorporate a rectangular extruded black powder coated aluminum chassis with six amber 5mm series LED lights with waterproof connectors. The 5mm series lights will be installed with an amber non-optic hard coated polycarbonate lens. The 5mm series lights will incorporate 40 amber 5mm LEDs. The hard coated lens will provide extended life/luster protection against UV and chemical stresses. The encapsulated coated PC board and foam in place gasket will provide will provide additional protection against environmental elements. The 5mm lights are installed with waterproof connectors.

The solid state traffic advisor will be vibration resistant. The traffic advisor will include model TACTL5 control head that includes remote flash control. TACTL5 will have four programmable directional sequence flash patterns of left, right, split, The traffic advisor will include model TACTL5 control head that includes remote flash control. The TACTL5 will have four programmable directional sequence flash patterns of left, right, split, and flash. The LED display on the control head will replicate the traffic advisor directional sequence. The traffic advisor control head will have a rear panel dip switch for the ability to set eight additional Scan-Lock™ flash patterns. The TACTL5 will contain a 10 amp external fuse for reverse polarity protection. The TACTL5 will include a bail strap mounting kit. The traffic advisor will contain a 15' 9/C 14/18 AWG interconnecting cable with quick disconnect feature.

H7195 Cinder Pumper Retail

The control head will be located on top of the driver's dash panel per the dash layouts.

The rear directional light will be surface mounted to the body.

CLEARANCE LIGHTS AND REFLECTORS

Clearance lights and reflectors shall be LED lights, which include two-(2) red marker lights, four-(4) red rectangular reflectors, two-(2) amber rectangular reflectors and one-(1) red three light cluster recessed in the rear step.

LIGHT(S), UNDERBODY

Five (5) Luma Bar H20 20" LED underbody "Ground Effect" light(s) shall be installed at a location to be determined by the Fire Department. The underbody light(s) shall illuminate the ground beneath the apparatus.

The lights shall be controlled by a switch in the cab.

There will be one-(1) light located below left pump panel running board, compartment L3, compartment R1, compartment R3 and front bumper.

LIGHT(S), UNDERBODY

One (1) Luma Bar H20 40" LED underbody "Ground Effect" light(s) shall be installed at a location to be determined by the Fire Department. The underbody light(s) shall illuminate the ground beneath the apparatus.

The lights shall be controlled by a switch in the cab.

The light will be centered below the rear step.

LIGHT, LICENSE PLATE

A Whelen OS Series LED model OACOEDCR shall be provided at the rear of the apparatus to illuminate the license plate. The steady burn illumination light shall incorporate three clear LED and a clear non-optic hard coated polycarbonate lens. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The encapsulated assembly shall provide protection against environmental elements. The solid state illumination light shall be vibration resistant. An installation kit including mounting hardware, neoprene gasket and 45 degree angle chrome housing shall be provided for surface mounting. The light will contain a 12" non-terminated pigtail. The illumination light meets SAE J592 requirements and is covered by a five year factory warranty.

12-VOLT FUSE BLOCK(S)

There will be two (2) Blue Sea fuse block(s) 5025 installed in a location determined by the customer. The unit will include a six-(6) 12 volt constant power supply ports and grounding buss with easily changeable fuses. The unit will have a 100 amp total operating range.

There will be a fuse block located on the upper front side wall of compartment L3 and compartment R3.

LIGHTS, 12-VOLT SURFACE MOUNT SCENE

H7195 Cinder Pumper Retail

One (1) pair of Whelen 600 Series Model 6SC0ENZR 12 diode, 8-32 degree scene lights shall be provided and installed on the apparatus. The lights shall have a linear designed Super LED light head with a four screw mounting assembly and chrome plated trim ring flange.

The scene lights shall be controlled by switch located in the cab.

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

The lights will be controlled by a switch in the driver's overhead dash panel per the dash layouts.

LIGHTS, 12-VOLT SURFACE MOUNT SCENE

One (1) pair of Whelen 900 Series Model 9SC0ENZR super LED scene lights will be provided and installed on the apparatus. The steady burn scene light will incorporate Linear Super-LED® and Smart LED® technology. The Whelen 900 Series Super-LED® model # 9SC0ENZR will be provided. The steady burn scene light will incorporate twenty four clear Super-LEDs, a clear gradient optic hard coated polycarbonate lens, and utilize a metal reflector for maximum output. The hard coated lens will provide extended life/luster protection against UV and chemical stresses. The conformal coated PC board and sealed lens/reflector assembly will provide additional protection against environmental elements. The solid state scene light will be vibration resistant. The 9SC0ENZR is certified to meet KKK 1822F requirements and AMD 024 standards.

The scene lights will be controlled by switch located in the cab.

There will be one-(1) light located on each side of the apparatus directly behind the cab front doors in the raised roof section.

The lights will be controlled by a switches in the driver's overhead dash panel per the dash layouts.

ADDITIONAL SWITCH(ES), SCENE LIGHTS

Besides the cab mounted switch(es) for the scene lights there will be six (6) additional switches install on the apparatus to control the scene lights.

The additional switches will be located in the overhead panels per the dash layouts.

The additional switches will control the following:

LEFT FRONT TELE-LIGHT
RIGHT FRONT TELE-LIGHT
FRONT SCENE
LEFT SCENE
RIGHT SCENE
REAR SCENE

ADDITIONAL SCENE LIGHT WIRING, UPPER REAR MOUNTED

H7195 Cinder Pumper Retail

The upper rear body mounted scene lights shall also be wired to come on when the transmission is placed into reverse.

LIGHT(S), 12-VOLT BROW MOUNT

One (1) HiViz LEDs FireTech brow light, Model FT-B-72-ML-W will be provided. The light will be low in profile with a mounting bracket allowing installation to the top edge of the cab.

Length: 75"

LEDS: 59

Lumens: 28,512 (each)

The scene light(s) will be powered by the 12-volt chassis electrical system.

The light(s) will be warranted against defects for the service life of the apparatus.

LIGHTS, TELESCOPING BACK OF CAB

There will be two-(2) telescoping lights will be installed, one-(1) each side, on back of the cab.

Two (2) Whelen Pioneer Plus Model PFH1 light head will be provided. The 80 watt +12v DC Pioneer light head will incorporate Super-LED® floodlight installed in a die-cast white powder coated aluminum housing. The PFH1 configuration will consist of 18 white Super-LEDs. The PFH1 will produce 8,875 useable Lumens. The assembly will use a collimator/metalized redux flood light reflector assembly with Proclera™ silicone optics and a clear non-optic polycarbonate lens. The lens/reflector assembly will utilize a liquid injected molded silicone gasket to be resistant to water, moisture, dust, and other environmental conditions. The hard coated lens will provide extended life/luster protection against UV and chemical stresses. The PFH1 will be vibration resistant. The Pioneer™ PC boards will be conformal coated for additional protection. Two breathable membrane patches will be installed to the housing to maintain a consistent internal pressure. The PFH1 will have extended LED operation with low current consumption and low operating temperature. The PFH1 will be furnished with a 20' 2/C 16GA cable. The PFH1 is covered by a five year factory warranty.

A Whelen 3000 series Pole System will be provided. The telescopic side mount pole assembly will incorporate 57" internal aluminum alloy pole with an outer diameter of 1.125" and an inner diameter of 0.875". The 3000 series pole will also include a 12" bottom mount silver aluminum alloy collar/handle assembly. The outer body will meet NFPA 1900 "15.8" access hand rails and hand held guidelines. The pole will slide on a Teflon "O" ring and collar to reduce friction during movement. The upper body will contain a polycarbonate sleeve to prevent water, moisture, dust, and other environmental conditions from entering the interior of the pole assembly. The aluminum side mount brackets will be powder coated silver. The side mount brackets will contain two types of mounting gaskets; 1/16" for painted surfaces and 1/8" for diamond plated surfaces. Both gaskets will be a 40 durometer neoprene black rubber with PSA on one side. All mounting hardware will be stainless steel. The internal coil cord cable will be UL© listed and have a Heyco® liquid tight strain relief. All aluminum pole components will be clear anodized to eliminate yellowing and corrosion.

The telescoping lights will be controlled by a switch located on the light head.

== Paint - SM Extruded - 622.001 06/06/22 ==

PAINT FINISH, CAB/BODY

The apparatus cab/body shall be painted with AkzoNobel Sikkens brand paint. The paint process shall meet or exceed current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere,

H7195 Cinder Pumper Retail

water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The body exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically or horizontally hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature AkzoNobel Sikkens high solid BTLV products and be performed in the following steps:
Corrosion Protection - all aluminum surfaces shall be treated with the AkzoNobel Sikkens LV 260 Epoxy coating to provide superior corrosion resistance and excellent adhesion of the base coat.

AkzoNobel Sikkens Sealer/Primer BTLV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.

AkzoNobel Sikkens High Solid BTLV650 (Base coat) - a lead-free, chromate-free high solid polyurethane base coat shall be applied, providing excellent coverage and durability. A minimum of two-(2) coats shall be applied.

AkzoNobel Sikkens High Solid BTLV650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two-(2) coats shall be applied.

Any location where aluminum is penetrated after painting, for the purpose of mounting steps, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, hand rails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 60 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

PAINT COLOR/CODE

The paint color/code will be red FBCH 992103.

INTERIOR COMPARTMENT FINISH

The interior of the body compartments shall be a natural finish.

NFPA Striping - Customer / Dealer Supplied

STRIPE, REAR CHEVRON

A minimum of fifty percent of the rear vertical surface of the unit shall be overlaid with a reflective material, installed in an alternating "Chevron" pattern (sloping down and away from the centerline) at a 45-degree angle. Each stripe shall be 6" wide and the colors of striping shall be in compliance, with the current edition of NFPA 1901.

The Chevron striping shall be 3M red and lime green.

REFLECTIVE MATERIAL, DESIGNATED WALKING SURFACES

1" wide yellow perimeter marking consisting of individual Reflexite diamonds shall be applied to indicate the outside edge of designated standing and walking areas above 48" from the ground in compliance with 2016 NFPA 1901. Steps, ladders and areas with a railing or structure at least 12" high are excluded from this requirement.

H7195 Cinder Pumper Retail

== Warranty / Manuals - Pumpers Custom - 622.001 06/06/22 ==

WARRANTY, BODY MATERIAL & WORKMANSHIP

The purchaser shall receive a general two-(2) year or 36,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0002. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, CUSTOM CHASSIS MATERIAL & WORKMANSHIP

The purchaser shall receive a custom chassis two-(2) years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0102. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, CAB STRUCTURAL

The purchaser shall receive a cab structure (Aluminum) ten-(10) years or 100,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0602. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, BODY STRUCTURAL

The purchaser shall receive a body structure (Aluminum) ten-(10) years or 100,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0502. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, CAB PAINT / PERFORATION

The purchaser shall receive a paint and finish (Exterior Clear coated) ten-(10) years limited warranty in accordance with, and subject to, warranty certificate RFW0710. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, BODY PAINT / PERFORATION

The purchaser shall receive a paint and finish (Exterior Clear coated) ten-(10) years limited warranty in accordance with, and subject to, warranty certificate RFW0710. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, FRAME ASSEMBLY STRUCTURE

The purchaser shall receive a frame assembly structural twenty-(20) years or 100,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0304. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, MERITOR AXLE

FRONT AXLE

The front axle shall be warranted by Meritor for two-(2) years with unlimited miles under the general service application.

REAR AXLE

H7195 Cinder Pumper Retail

The rear axle shall be warranted by Meritor for two-(2) years with unlimited miles under the general service application.

WARRANTY, DIESEL ENGINE

The Cummins engine shall be warranted for a period of five-(5) years or 100,000 miles, whichever occurs first.

WARRANTY, REGULATED EMISSIONS SYSTEMS

Non-California Engines-

The purchaser shall receive a Regulated Emissions Systems five-(5) years or 100,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0140. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Cummins L9 California Engines-

The purchaser shall receive a Regulated Emissions Systems five-(5) years or 150,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0141. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Cummins X12 / X15 California Engines-

The purchaser shall receive a Regulated Emissions Systems five-(5) years or 350,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0142. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, TRANSMISSION

The Allison EVS series transmission shall be warranted for a period of five-(5) years with unlimited mileage. Parts and labor shall be included in the warranty.

WARRANTY, ANTI LOCK BRAKE SYSTEM

The ABS brake system shall be warranted for a period of three-(3) years/300,000 miles.

WARRANTY, HALE FIRE PUMP

EXPRESS WARRANTY

Hale Products, Incorporated ("Hale") hereby warrants to the original buyer that products manufactured by Hale are free of defects in material and workmanship for a period of five-(5) years from the date the product is first placed into service or five and one-half (5-1/2) years from date of shipment by Hale, whichever period shall be first to expire. Within this warranty period Hale will cover parts and labor for the first two-(2) years and parts only for years three (3) through five (5).

LIMITATIONS

HALE'S obligation is expressly conditioned on the Product being:

- Subjected to normal use and service
- Properly installed and maintained in accordance with HALE'S Instruction Manual and Industry Standards as to recommended service and procedures
- Not damaged due to abuse, misuse, negligence, or accidental causes

H7195 Cinder Pumper Retail

- Not altered, modified, serviced (non-routine), or repaired other than by an Authorized Service facility
- Manufactured per design and specifications submitted by the original buyer
- Used with an appropriate engine as determined by the engine manufacturers published data
- Excluded are normal wear items identified as but not limited to packing, strainers, anodes, filters, light bulbs, intake screens, wear rings, mechanical seals, etc.

WARRANTY, PLUMBING SYSTEM

The purchaser shall receive a plumbing and piping corrosion-free (Stainless Steel) ten-(10) years or 100,000 miles limited warranty in accordance with, and subject to, warranty certificate RFW0801. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WARRANTY, WATER TANK

The poly tank manufacturer warrants each tank to be free from manufacturing defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in fire suppression). The warrant is transferable, with written approval of the manufacturer. Each tank is inspected and tested for leaks prior to leaving the manufacturing facility. The tank shall be installed in the vehicle in accordance to the manufacture's guidelines.

There are no warranties, expressed or implied, which extend beyond the description of the face hereof. There is no expressed or implied warranty of merchantability or a warranty of fitness for a particular purpose. Additionally, this warranty is in lieu of all other obligations or liabilities on the part of the Manufacturer.

MANUAL, CHASSIS OPERATION

There shall be two-(2) digital copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.

MANUALS, ENGINE AND TRANSMISSION OPERATION

There shall be two-(2) printed hard copy sets of the engine operation manual and two-(2) printed hard copy sets of the transmission operation manual specific to the model ordered included with the chassis.

MANUALS, APPARATUS BODY

The contractor shall supply, at time of delivery, at two-(2) sets of complete operation and service documentation covering the completed apparatus as delivered and accepted.

The documentation shall address at least the inspection, service, and operations of the fire apparatus and all major components thereof.

MANUALS, FIRE PUMP

There will be two-(2) copies of pump manuals provided to the department.

SAFETY GUIDE

One-(1) copy of the latest edition of FAMA's Fire Apparatus Safety Guide shall be provided with the completed apparatus.

WIRING DIAGRAMS, CAB/CHASSIS

There will be a complete digital set of electrical schematics provided at the time of delivery. These schematics will have

H7195 Cinder Pumper Retail

each circuit properly numbered and in color.

The schematic will show each connector in the circuitry and the position in which each circuit enters, exits, or terminates. The schematic will be drawn in such a manner as to allow individual circuitry to be followed throughout the apparatus.

These schematics will not have the circuitry condensed into a single line or sets of lines. Multiple sheets will be acceptable so long as each of the harnesses is properly identified to the connecting sheet and harness. There will be a border around the paper(s), which contain alpha and numeric characters for indexing coordinate reference. There will be an indexing or part reference document for quick location of items shown on the schematics.

WIRING DIAGRAMS, APPARATUS BODY

There will be a complete set of generic electrical schematics provided at the time of delivery. These schematics will have each circuit properly numbered and in color.

The schematic will show each connector in the circuitry and the position in which each circuit enters, exits, or terminates. The schematic will be drawn in such a manner as to allow individual circuitry to be followed throughout the apparatus.

These schematics will not have the circuitry condensed into a single line or sets of lines. Multiple sheets will be acceptable so long as each of the harnesses is properly identified to the connecting sheet and harness. There will be a border around the paper(s), which contain alpha and numeric characters for indexing coordinate reference. There will be an indexing or part reference document for quick location of items shown on the schematics.

This document will refer the user to the appropriate drawing and page number and to sections of the drawing(s) by the means of letter and number coordinates. The schematic will show all harnesses used in the apparatus cab, chassis and body that is supplied by the chassis and body manufacturer.

Modifications to the manufactured standard harnesses are to be documented and properly indexed for quick identification.

A complete wire number, color, and function listing will accompany the schematics.

== Loose Equipment Pkg. - Pumper - 622.001 06/06/22 ==

NFPA REQUIRED EQUIPMENT, FD SUPPLIED

The loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9 thru 5.9.4 shall be provided by the fire department unless it is listed in this proposal. All loose equipment shall be installed on the apparatus before placed in emergency service, unless the Fire Department authorized agent signs the State of Exception as listed in the NFPA 1901 Standard for Automotive Fire Apparatus sections 4.21 thru 4.21.2.

The loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9 thru 5.9.4 shall be provided by the fire department unless it is listed in this proposal. All loose equipment shall be installed on the apparatus before placed in emergency service, unless the Fire Department authorized agent signs the State of Exception as listed in the NFPA 1901 Standard for Automotive Fire Apparatus sections 4.21 thru 4.21.2.

LADDER(S), 10' FOLDING

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There shall be one (1) Alco-Lite Model FL-10, 10' folding ladder(s) provided with the apparatus. The ladder(s) shall be aluminum, single-section with rubber feet. The ladder(s) shall meet or exceed the latest NFPA standards.

LADDER(S), 14' ROOF

There shall be one (1) Alco-Lite model PRL-14, 14' roof ladder(s) supplied with the apparatus. The ladder(s) shall be aluminum, single-section with folding steel roof hooks on one end and steel spikes at the other. The ladder(s) shall meet or exceed the latest NFPA standards.

LADDER(S), 24' 2-SECTION EXTENSION

There shall be one (1) Alco-Lite model PEL-24, 24' two-section ladder(s) supplied with the apparatus. The extension ladder(s) shall be aluminum with steel spurs on one end. The ladder(s) shall meet or exceed the latest NFPA standards.
Elbow - 4" FNST RL x 5" Storz 30 Degree

The elbow will be located on the 4" right side discharge.

CAP(S), 5" STORZ

There shall be one (1) Kochek model CC507, 5" Storz cap(s) with chain provided with the apparatus.

The cap will be located on the 4" right side discharge elbow.

WHEEL CHOCS

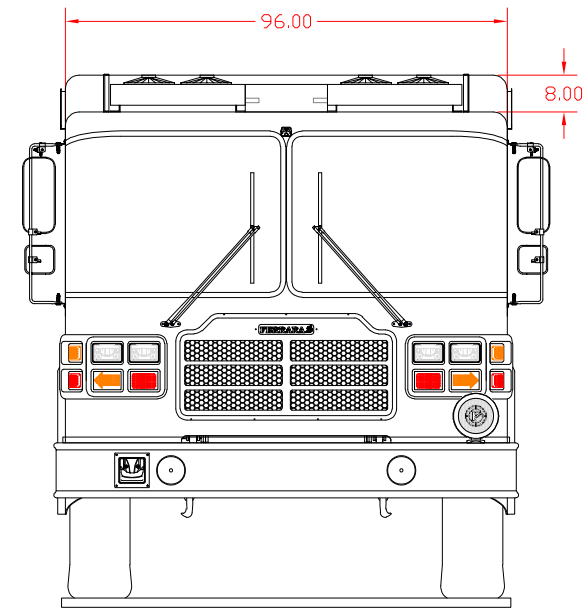
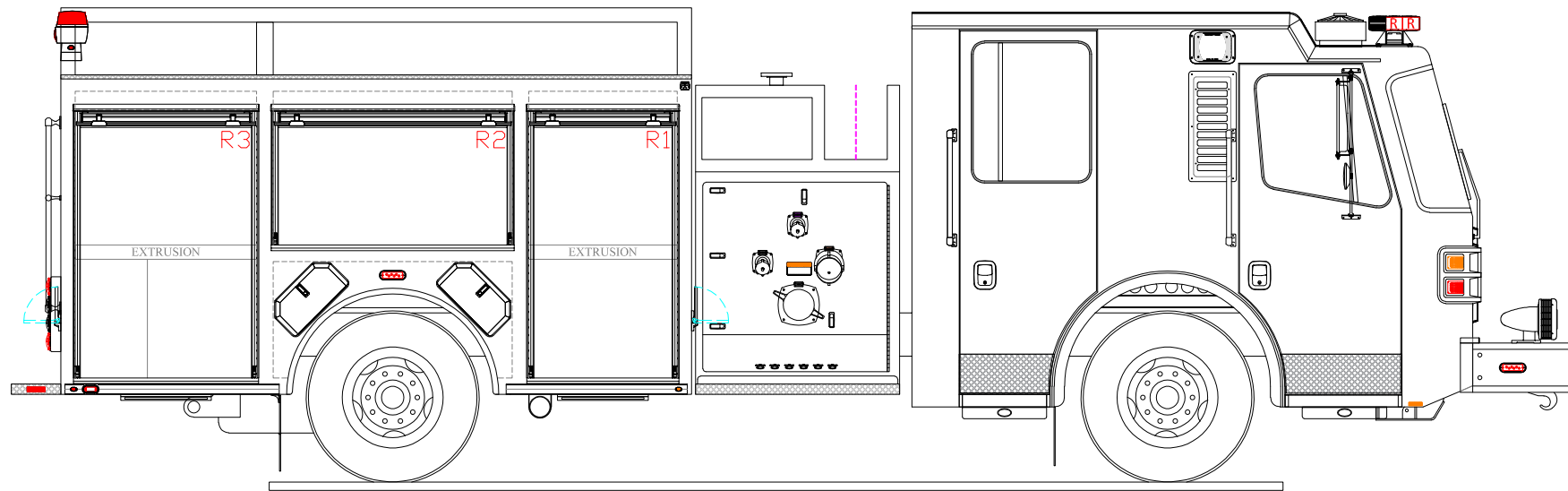
There will be a pair of Ziamatic model SAC-44-E folding wheel chocs supplied with the apparatus.

HOLDER, WHEEL CHOCS

There will be a Ziamatic model SQCH-44-H horizontal wheel choc holder installed on the apparatus as directed.

The holders will be located below compartment L1.

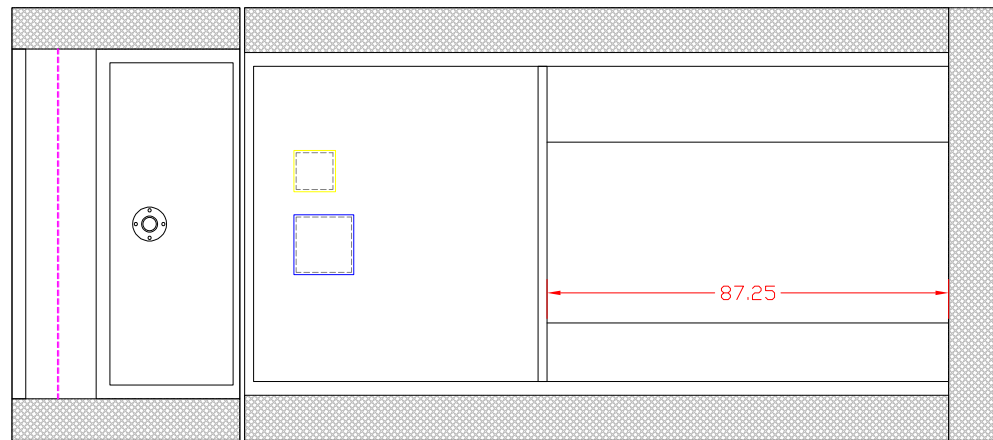
== Administration - 622.001 06/06/22 ==



CINDER PUMPER RETAIL UNIT
411 FIRE EQUIPMENT
JOB NO.: H7194
1,750 GPM HALE QMAX PUMP
750 GALLON WATER TANK
30 GALLON FOAM TANK

COMPARTMENT DIMENSIONS		
COMPT.	OPENING	INTERIOR
L1	33.50W X 60.25H	36W X 73H X 25D
L2	55.50W X 28.25H	58W X 41H X 25D
L3	41.50W X 60.25H	44W X 73H X 12D UPPER TRANS. LOWER
R1	33.50W X 60.25H	36W X 73H X 12D UPPER 25D LOWER
R2	55.50W X 28.25H	58W X 41H X 12D
R3	41.50W X 60.25H	44W X 73H X 12D UPPER TRANS. LOWER
B1	46.00W X 28.00H	46W X 28H X 21D

IT IS UNLAWFUL TO COPY OR REPRODUCE ANY OR ALL OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FERRARA FIRE APPARATUS. ANY UNAUTHORIZED REPRODUCTION WILL RESULT IN PROSECUTION TO THE FULLEST EXTENT OF THE LAW. DIMENSIONS AND ITEM LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO DEVIATIONS THAT MAY OCCUR OR BE NECESSARY DURING CONSTRUCTION. SOME DETAILS MAY NOT BE SHOWN.



CUSTOMER APPROVAL

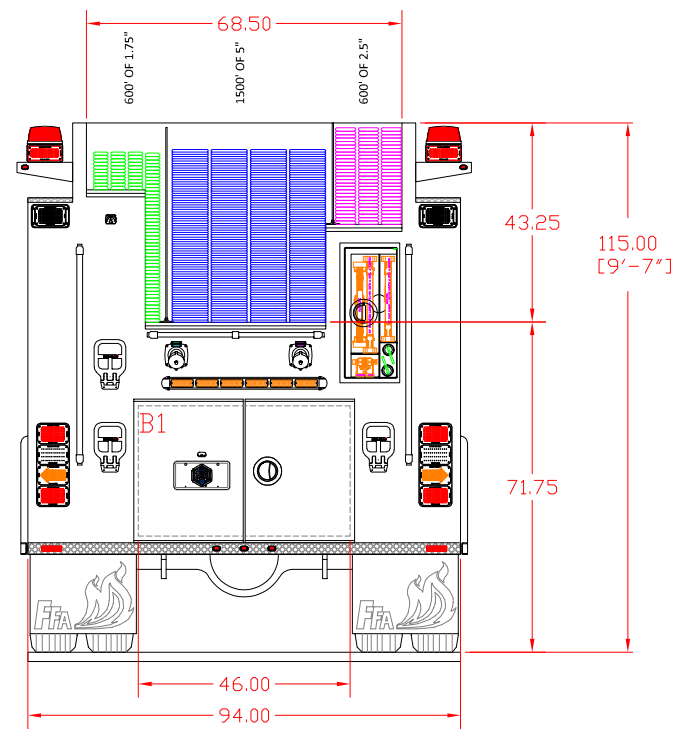
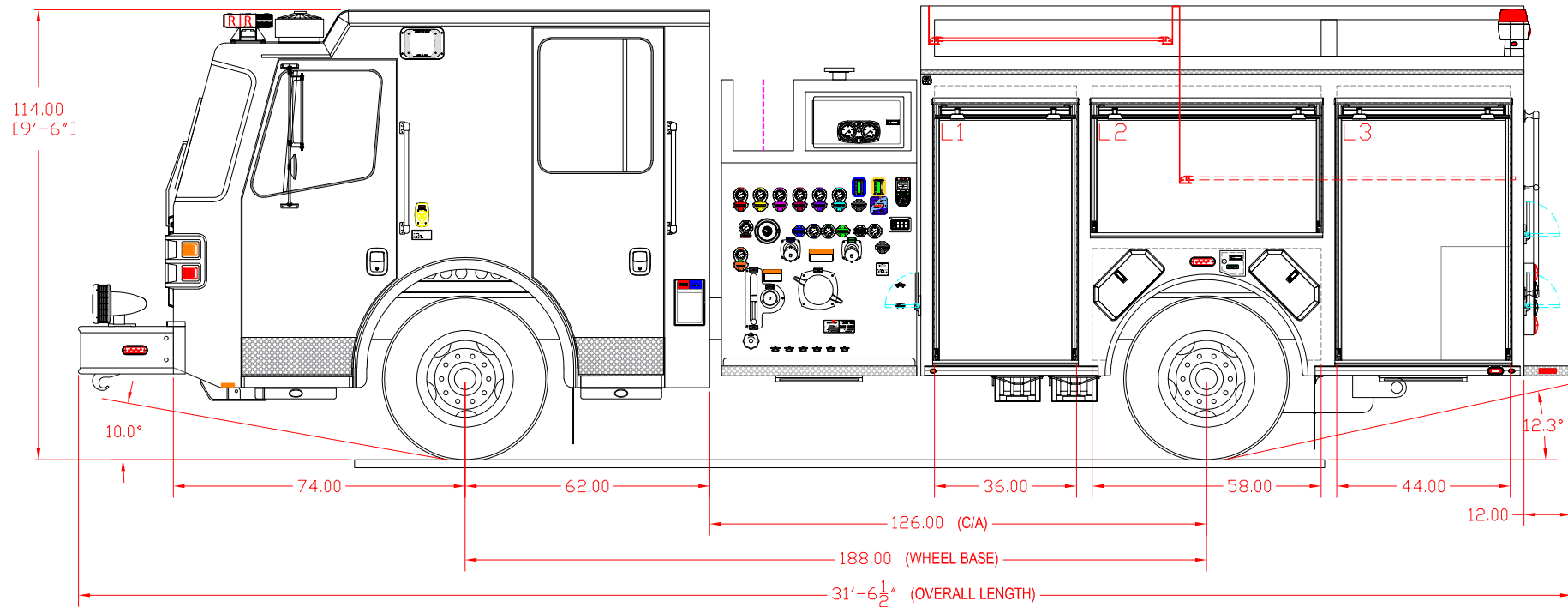
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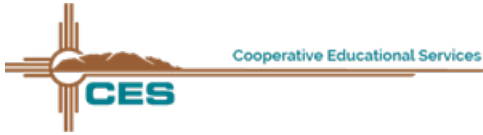
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DATE: _____

THIS DRAWING IS A VISUAL REPRESENTATION OF A SPECIFIED APPARATUS. IN THE EVENT OF DISCREPANCIES BETWEEN SPECIFICATIONS AND DRAWING, THE SPECIFICATIONS SHALL PREVAIL.



VERSION	APPROVAL
DRAWN BY	AS
DATE	5/9/25
DIMENSIONS ARE SUBJECT TO VARIATIONS DUE TO MANUFACTURING PROCESS	



Contract Award Letter

May 22, 2024

411 Equipment LLC
1815 4th Street Northwest
Albuquerque, NM 87102

RFP NUMBER: 2024-25
RFP DESCRIPTION: Truck Bodies
CONTRACT NUMBER: 2024-25-C115-ALL
Category 1 - Lot 1 - Truck Bodies

Dear Procurement Partner

Cooperative Educational Services (CES) thanks you for responding to our 2024-25 solicitation. The responses have been reviewed and it is our pleasure to inform you that your company has been selected to provide the products and services indicated in your response.

The Contract, in conjunction with the Contract and RFP documents, constitute the Agreement between the parties. Please retain all documents for your records. This Indefinite Delivery and Indefinite Quantity contract, as defined in NMSA 13-1-63; beginning May 22, 2024 and expiring May 21, 2028, pursuant to 13-1-150 NMSA.

It is the vendor's responsibility to keep pricing up to date throughout the life of the contract.

Sincerely yours,

Cooperative Educational Services

A handwritten signature in blue ink that reads "David Chavez". The signature is written in a cursive style with a large, looping "C" at the end.

David Chavez
Executive Director, Chief Procurement Officer
Office: 505.344.5470



ACCEPTANCE OF PROPOSAL AND OFFER AND CONTRACT AWARD

RFP NUMBER: 2024-25

RFP DESCRIPTION: Truck Bodies

CONTRACT NUMBER: 2024-25-C115-ALL

Category 1 - Lot 1 - Truck Bodies

CONTRACT

This contract award is being made by Cooperative Educational Services (“CES”), 10601 Research Rd. SE, Albuquerque, New Mexico 87123 effective this 22nd day of May 2024, to 411 Equipment LLC, with its principal office located at 1815 4th Street Northwest, Albuquerque, NM 87102, pursuant to the above referenced CES conducted Request for Proposal (“RFP”) or Request for Bids (“RFB”) procurement, and Contract Holder accepts the award and enters into this contract pursuant to the following terms and conditions.

RECITALS

Cooperative Educational Services (CES) is a cooperative procurement agency created by a Joint Powers Agreement as authorized by Section 11-1-1, et. seq., N.M.S.A., 1978, and Section 13-1-135 and procures tangible personal property, services and construction services (“Products, Services and/or Construction Services”) pursuant to the New Mexico Procurement Code for the benefit of its Members and Participating Entities. The Members consist of public educational institutions in New Mexico that are signators to a Joint Powers Agreement establishing CES as their procurement agency. The Participating Entities are governmental and 501(C) (3) organizations that have entered into Participating Entity Agreements with CES which allow them to take advantage of the procurement efforts of CES.

The undersigned (“Contract Holder”) has successfully responded to a RFP or RFB published by CES in accordance with the Procurement Code, (13-1-103, 111, 112), and Contract Holder is being awarded this RFP or RFB contract by CES which allows Contract Holder to offer Products, Services and Construction Services in accordance with the terms and conditions set forth herein and in the RFP or RFB documents and this contract award.

CONTRACT TERMS

1. The initial contract term shall be from the effective contract award date May 22, 2024 through May 21, 2028. CES reserves the right to renew the Contract through a written amendment signed by all required signatories, but in any case, the Contract shall not exceed the total number of years allowed pursuant to NMSA 1978 13-1-150. CES reserves the right to offer month-to-month extensions if it is determined by CES to be in the best interest of CES Members/Participating Entities

2. Contract Holder agrees and acknowledges that the contract terms and provisions are those contained in the above referenced RFP or RFB and agrees to furnish all Products, Services and/or Construction Services in compliance with all terms, conditions, specifications of and amendments to this RFP or RFB. Contract Holder understands that his obligations under this RFP or RFB contract extend to CES Members and Participating Entities who are third party beneficiaries of

this RFP or RFB procurement process. The Members/Participating Entities may negotiate with Contract Holder certain additional terms and conditions relating to the scope of services and other performance details. However, the terms and conditions of the RFP or RFB may not be altered or amended except with the approval of CES and in accordance with the State Procurement Code.

3. Contract Holder acknowledges and agrees that CES' purpose and function is to act as a cooperative procurement agent on behalf of its Members and Participating Entities so that they may take advantage of these procurement efforts. CES does not have any subsequent responsibility relating to the quality and fitness of any Products, or the performance of any Services and Construction Services by Contract Holder. Any purchase orders placed by a CES Member or Participating Entity with Contract Holder directly or through CES and any resulting contract between the Contract Holder and a CES Member or Participating Entity do not create any additional obligations on the part of CES.

4. For transactions which involve CES transmitting purchase orders from a Member/Participating Entity to Contract Holder, CES volunteers to act as a payment facilitator to make payments to Contract Holder with funds transferred to CES by the Member/Participating Entity in accordance with Member/Participating Entity's written instructions and to provide an accounting of all monies paid or received by CES pursuant to this Agreement. CES also volunteers to provide informal mediation services between Contract Holder and Member/Participating Entity in the event any dispute arises between them.

5. Contract Holder understand and agree that upon CES' receipt of funds from the Member/Participating Entity, CES has no right or authority to thereafter apply those funds to any purpose other than as instructed by Member/Participating Entity. CES shall incur no liability to Contract Holder except for liability arising from CES' own gross negligence or willful misconduct, to the extent allowed by New Mexico law. Through this procurement process, Contract Holder is authorized to provide the described Products, Services or Construction Services. CES has no obligation or right to involve itself with the manner or method by which Contract Holder provides these Products, Services or Construction Services.

6. To the extent allowed by New Mexico law, Contract Holder agrees to hold CES harmless from all costs, expenses, attorney fees and judgments based upon claims between a Member/Participating Entity and Contract Holder in connection with the specified Products, Services or Construction Services provided by Contract Holder

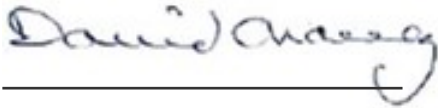
7. Contract Holder agrees that it will not assert any claim against CES in the event that a dispute arises regarding the alleged failure of Contract Holder or a Member/Participating Entity to perform as provided for in the RFP or RFB documents, any purchase order or other contract between Contract Holder and a Member/Participating Entity. This does not include claims against CES based upon the alleged gross negligence or intentional acts of CES.

8. Any liability incurred in connection with this Agreement shall be subject to the immunities and limitations of the New Mexico Tort Claims Act, §§ 41-4-1 et seq, NMSA 1978, as amended.

The Recitals are incorporated herein as contract terms.

Agreed effective the above date.

Cooperative Educational Services



Electronically Signed on 05/22/2024

Executive Director

Date: 05/22/2024

411 Equipment LLC

Pete Marquez

Electronically Signed on 05/22/2024

Owner/GM/Managing Member

GENERAL SCOPE OF WORK AND SPECIFICATIONS

PART I INTRODUCTION

A. GENERAL

The purpose of this Request for Proposal is to solicit sealed proposals to establish, through competitive public solicitation and negotiation, a multi-year cooperative contract, or contracts, between Cooperative Educational Services (CES) and the successful Offeror(s).

In order to assist CES Members or Participating Entities which consist of over 440 educational and governmental entities in New Mexico, CES is seeking proposals from Offeror(s) who have the experience and can provide all types of truck bodies for Class 1 to Class 8 truck chassis and cutaway van; parts and accessories; maintenance and repair services; and warranty service and repairs.

It is the intent of CES to establish a contract with multiple vendors who can supply the desired items and services listed above and throughout this Scope of Work, for direct purchase, and as needed. All vehicles and services are to be supplied according to industry standards, according to the material manufacturers' recommendations and to the satisfaction of CES' Membership. Selected Contractors shall provide the items, and/or services as requested by the Member's Representative or their designee. CES or its Membership offers no guarantee of products or services to be purchased under the Contract.

B. NOTICE

If practicable, CES intends to make multiple awards for sufficient coverage statewide. Price agreements' term, resulting from this RFP, are pursuant to New Mexico Procurement Code, NMSA, 1978, 13-1-150.

This is an open-ended RFP. At the discretion of CES, the RFP may remain open for accepting additional proposals after a source award or multiple source awards are made to allow CES to make additional source awards if CES determines in accordance with ¶13-1-154 NMSA 1978 that such additional awards are necessary to fully meet CES member or participating entity service or economy needs identified by CES prior to a source award(s) or identified after a source award(s) is made. Any new Offeror may not have access to any RFP documents submitted by another Offeror or to documents involved in the rating or ranking process of Offerors, as this would negate the open and fair competition process. Offerors that submitted a proposal for this RFP event and did not receive a recommendation for award may not submit a new proposal for the same RFP event. New proposals will be evaluated as prescribed in the original RFP and evaluated against all other RFP proposals. Any new source awards will be aligned with the contract end date of the original source awards. CES reserves the right to terminate the opportunity for submittal of additional offers at any time prior to the original contract award expiration date.

C. DEFINITIONS

Class: GVWR class ratings. "Light Duty Class" trucks and vans are: Class 1: 0 to 6000#; Class 2: 6001 to 10000#; "Medium Class" trucks are: Class 3: 10001-14000#; Class 4: 14001-16000#; Class 5: 16001-19500#; Class 6: 19501-26000#. "Heavy Class" trucks are: Class 7: 26001-33000#; Class 8: over 33000#.

Dealer Prep: An amount or fee that the dealer charges to receive and prepare the purchase vehicle for delivery to the customer.

EPA: Environmental Protection Agency

Factory Invoice: The actual invoice the manufacturer sends to the dealer for the vehicle.

FMCSR: Federal Motor Carrier Safety Administration

FMVSS: Federal Motor Vehicle Safety Standards

GVWR: Gross Vehicle Weight Rating; the maximum allowable weight of the fully loaded vehicle, per manufacturer, including liquids, passengers, cargo, and the tongue weight of any towed vehicle.

Insurance Institute for Highway Safety (IIHS): Tests new models by crashing them into an energy-absorbing, deformable barrier at 40 mph.

Manufacturer's Suggested Retail Price (MSRP): The retail price of the new motor vehicle suggested by the manufacturer, including the retail delivered price for each accessory or item of optional equipment physically attached to the new motor vehicle at the time of delivery to the new motor vehicle dealer that is not included in the retail price suggested by the manufacturer for the new motor vehicle.

National Highway Traffic Safety Administration (NHTSA): A federal agency that regulates safety features of vehicles and that crash tests new cars for front impact into a flat, rigid barrier at 35 mph, and side impact with the test car traveling 17 mph being hit broadside by another car traveling 34 mph.

NMDOT: New Mexico Department of Transportation

NMMVD: New Mexico Motor Vehicle Department

OEM: The original equipment manufacturer

Wholesale Price: The cost of the vehicle to the dealer minus the holdback, any factory incentives and rebates.

49CFR393: Parts and Accessories Necessary for Safe Operation

49CFR571: Federal Motor Vehicle Safety Standards

PART II SCOPE OF WORK AND SPECIFICATIONS

CES is seeking proposals from Offeror(s) who have the experience and can offer the products and services listed throughout this RFP, which can be configured and equipped to meet individual CES Members or Participating Entities' needs.

The standards and specifications provided below are intended to establish minimum requirements for the Offeror and provide a general overview of the quality and type of products and services being requested. Always use the latest up to date versions of a standard, code, or specification.

A. GENERAL REQUIREMENTS

1. The Contractor is responsible to keep current all required New Mexico Motor Vehicle Division licensing requirements during the term of the contract, and to furnish license copies at any time on request by CES, its Members or Participating Entities. If Contractor does not maintain current any required New Mexico Motor Vehicle Division licensing requirements, CES reserves the right to immediately terminate the contract.

2. All bodies shall be the new.
3. The Offeror will demonstrate that its facility(s) possesses the resources to supply and support the vehicles offered under this solicitation.
4. All billings and invoices must identify the CES purchase order number, complete description of vehicle with all associated options being billed, and include the name of the vehicle, model number and vehicle identification number.
5. The contractor shall include a copy of any manufacturers' order guide with this proposal. Upon request, the dealer will provide a copy of the order guide to any CES Member or Participating Entity wishing to purchase a vehicle.
6. The prices for all bodies shall be F.O.B. the Offeror's dealership, or any location within 100 miles of the dealership.
7. The Offeror will furnish a complete set of specifications for all bodies offered that include all weights, heights, widths, etc. and other information to assist in the evaluation process.
8. It shall be the responsibility of the Offeror to assure that all recall notices and other technical service bulletins or notifications from the factory are sent directly to the CES Member or Participating Entity in a timely manner.
9. All optional equipment and accessories shall be original equipment from the body manufacturer, or third party authorized by the body manufacturer and installed at the factory or by the dealer.
10. Any dealer provided option must be priced separately and may only be included if specifically ordered by the CES Member or Participating Entity. Under no conditions may a CES Member or Participating Entity be charged additional costs for items such as conveyance or document fees, or advertising surcharges.

B. DELIVERY

1. All bodies ordered must be delivered within 5 days of the quotes delivery date that has been accepted by a CES Member or Participating Entity. If a vehicle is delayed beyond the original quoted date, or if the delayed delivery is beyond the fiscal year (ending June 30th), CES with the agency approval, reserves the right to cancel the purchase order and the member agency will be under no obligation to select a different vehicle if the vendor is unable to deliver on time.
2. In the case of a delay, CES Member or Participating Entity needs to be notified within five (5) business days of notice from the manufacturer to Offeror. The CES Member or Participating Entity will notify CES and the Offeror within seven (7) business days whether to proceed or cancel the order. CES, CES Member or Participating Entity will be under no obligation to select a different vehicle if the order is cancelled or to select a different vehicle if the contractor is unable to deliver on time.
3. All deliveries will be made Monday through Friday during normal business hours. Vendor will contact the CES Member or Participating Entity 72 hours prior to delivery to schedule a delivery time, location and date.
4. Offeror will provide owners with two (2) complete sets of operations and parts manuals and one (1) operational and parts manual in electronic format on CD-R, CD-RW, DVD-R or DVD-RW. If safety videos and handbooks are available, two (2) sets will be provided to the member at no cost on CD-R, CD-RW, DVD-R or DVD-RW.
5. If required, Manufacturer's Certificate of Origin (MCO) or Manufacturer's Statement of Origin (MSO) needs to be provided to CES Member or Participating Entity after the Offeror receives payment from CES. All documents must show the legal name of the CES Member or Participating Entity.

C. PRE-DELIVERY SERVICE

Each unit shall be DOT inspected and include the appropriate documentation and decal. In addition, each unit shall be equipped with the required fire extinguisher and reflective triangle kit.

1. Complete lubrication
2. Checking of all fluid levels to ensure that they are filled to manufacturers' specifications.

D. VEHICLE INSPECTION

1. Prior to acceptance by the ordering agency, each vehicle shall be subject to a complete inspection by CES Member or Participating Entity.
2. Inspection shall include, but not necessarily be limited to, conformity to the specifications, mechanical integrity, quality or workmanship and materials, and appearance defects.
3. If a body fails inspection, corrections shall be made within seven (7) calendar days or time as mutually agreed to by the CES Member or Participating Entity and contractor. After corrections are made, the normal inspection time will start fresh. All corrections shall be made without any inconvenience to CES Member or Participating Entity.

E. WARRANTY

1. At the minimum, warranties shall be the manufacturer's standard new vehicle warranty. All warranties shall begin when the vehicle is placed in service. It shall be the responsibility of the ordering CES Member or Participating Entity to notify the contractor when a vehicle is actually put in service.

F. EXTENDED WARRANTY OPTIONS

1. Offeror is encouraged to offer extended warranties for all major mechanical, electrical and electronic components to cover the member after the standard warranty has expired.
2. The terms, conditions, stipulation, exceptions, limitations and warrantee periods will be clearly identified.
3. The Offeror must provide all warrantee work, ongoing maintenance, have an inventory of parts and have access to specialized or custom parts within 72 hours.
4. The term of a warranty is extended by any period of time during which repair services are not available to the CES Member or Participating Entity because of any war, invasion, strike, fire, flood or other natural disaster.

G. SAFETY

1. The Offeror will provide, at no charge to the Member/Participating Entity, MSDS information providing asbestos content of friction materials (brake pads, brake shoes, clutch discs, etc.), upon request.
2. All bodies offered shall comply with most current for FMVSS standards if applicable.

H. EXTENDED WARRANTY OPTIONS

1. Offeror is encouraged to offer extended warranties for all major mechanical, electrical and electronic components to cover the member after the standard warranty has expired.
2. To cover parts, labor, and towing.

3. To include maintenance service plans.
4. The terms, conditions, stipulation, exceptions, limitations and warranty periods will be clearly identified.
5. Warranty and all terms, conditions, stipulation and warranty periods will be clearly identified to the CES Member or Participating Entity.

I. BODIES AND UTILITY BED OPTIONS

1. The Offeror is encouraged to propose a full line of bodies for various members' operations.
2. May include, but not be limited to: Stake beds, flatbed, box bodies, dump beds, lift beds, lift gates, rear and side loader garbage truck bodies, roll-off bodies, miscellaneous trash truck bodies, tankbodies, component body, service bodies, van bodies, haulers, service and utility bodies landscaper, refuse bodies all types, mounted cranes or booms, refrigerated bodies, brush truck, custom designed bodies or bed, etc.
3. Third-party equipment is permitted, and factory or dealer installed is preferred.
4. Bodies or utility beds offered may be hydraulically, mechanically, and/or electrically operated, powered by the vehicle's electrical supply, a power-take-off (PTO), independent or separate power source. PTO's shall be installed in accordance with vehicle manufacturer's recommendations.
5. In the event the factory installed vehicle electrical system requires modifications/upgrades to provide power to the optional utility bed, installing dealer shall ensure modifications/upgrades will be in accordance with the vehicle manufacturer's specifications, and not void the manufacturer's warranty.
6. Must be securely fastened to the basic vehicle structure and bolted securely through chassis rail flange as per chassis manufacturer design specifications.
7. Bodies shall not exceed the manufacturer's vehicle load recommendations or the gross vehicle weight rating (GVWR). The factory-installed vehicle braking system shall meet or exceed the US Department of Transportation (USDOT) and New Mexico Department of Transportation (NMDOT) stopping requirements for the total vehicle GVWR.
8. All options provided shall comply with USDOT and NMDOT requirements for width, height, weight, lighting, safety, and other requirements for operation on city, and county roads, and state and federal highways. Vendor agrees to consult and provide CES Member or Participating Entity requirements and specifications for bed and options to comply with USDOT and NMDOT requirements.
9. Dealer shall supply to the CES Member or Participating Entity any USDOT and/or NMDOT certificates stating compliance for the vehicle, and/or utility bed installed on the vehicle, if applicable and/or required for registration and use on highways.
10. Upon request by the CES Member or Participating Entity prior to vehicle delivery, the dealer will assist in obtaining, or provide service to obtain any required vehicle inspections. Vehicle shall pass all required inspections prior to passing of vehicle title to CES Member or Participating Entity.
11. Optional Equipment can be offered to include but not limited to wet kits, refuse containers, roll-off containers, tarp systems, snowplows, salt spreaders, lift gates, GPS tracking systems, in vehicle monitoring systems, winches, custom fabrication, metal work services, various type containers for trash pickup, etc.
12. Each equipment shall be a new and currently advertised model of the manufacturer's latest design, equipped with all standard component items identified in the manufacturer's description and specification publications, whether or not specifically requested and except where optional components are specified herein.
13. Manufacturer's Standard Equipment: All equipment and components listed as standard by

the manufacturer for models offered shall be furnished.

14. **Manufacturer's Specification:** Complete manufacturer's specification, published literature, and photos or illustrations of units proposed should be furnished with your proposal. Only new models in current production and in service that are catalogued by the manufacturer, and for which printed literature and specifications are available will be accepted.
15. **Hose And Wiring Routing, Hardware Requirements:** All hoses and wiring shall have adequate protective covers wherever there is a possibility of contact with any other components. Separators shall be used where applicable. No tape or adhesive fasteners will be accepted. All hoses, wiring and pipes shall be routed to be clear of all heat sources and shall be protected from any present or potential source of snags, abrasions or sharp edges. If any wiring for any lamps is routed through any tool compartment or canopy, these wires shall be enclosed. All fasteners (nuts, bolts, rivets & etc.) shall be per manufacturer specification with a rust inhibiting coating.

J. WELDING

1. All welding shall be continuous where applicable. All welding shall be performed in accordance with the applicable requirements of the latest codes, rules or specifications of the American Welding Society, (AWS).

K. Furnish two (2) complete sets of Operator, Parts, and Technical manuals including electrical wire diagrams.

L. BACK-UP WARNING DEVICE

1. Shall be waterproof that is readily audible outside each vehicle when the transmission is in reverse.
2. A rear obstacle detection system can be offered.

M. BUMPERS

1. The front bumpers shall be OEM standard design.

N. BODY

1. Corrosion Protection: Per OEM manufacturer's specifications.

O. EXTERIOR LIGHTING

1. All lights for taillights, brake light, turn signal, back-up, collision avoidance lights and clearance marker lights shall be Light Emitting Diode (LED).

P. PAINT AND TRIM

1. Color shall be standard colors offered from the OEM manufacturer. Custom paint colors can be Offeror as an option.
2. All exterior surfaces shall be smooth and free of wrinkles and dents.
3. Exterior surfaces to be painted shall be properly prepared as required by the paint system supplier.

4. Drilled holes and cutouts in exterior surfaces shall be made prior to cleaning, priming and painting to prevent corrosion.
5. To the degree consistent with industry standards for commercial vehicle finishes, painted surfaces shall have gloss and orange peel shall be minimized.
6. All exterior finished surfaces shall be impervious to diesel fuel, gasoline and commercial cleaning agents.
7. Paint shall be applied smoothly and evenly with the finished surface free of dirt and the following other imperfections:
 - a. Blisters or bubbles appearing in the topcoat film
 - b. Chips, scratches, or gouges of the surface finish
 - c. Cracks in the paint film
 - d. Craters where paint failed to cover due to surface contamination
 - e. Over spray
 - f. Peeling
 - g. Runs or sags from excessive flow and failure to adhere uniformly to the surface
 - h. Chemical stains and water spots

Q. SAFETY EQUIPMENT

1. Shall at the minimum comply with FMVSS.

R. LICENSE PLATES

1. Provisions shall be made to mount standard size U.S. license plates per SAE J686 on the rear of the body if applicable.

S. OPTIONAL EQUIPMENT AND FEATURES

1. The Offeror is to provide a list of optional equipment and features that can be offered to customize the body to meet the CES Members or Participating Entities needs, such as hydraulic and electric gate lifts, ramps, tow hooks, generators, lift buckets, power take off unit (PTO), ladder racks, wet unites, fire truck bodies, etc.
2. The Offeror will need to provide details on the process that will be used by CES Members or Participating Entities to identify the optional equipment and features and how they will be implemented in to the design of the vehicle.

T. REPLACEMENT PARTS

1. OEM or aftermarket parts approved by the OEM.
2. If aftermarket parts are provided for warranty repair, they must not void the manufactures warranty.

U. SERVICES

1. Repair, maintenance and warranty repair services may be offered. Body repair services are requested. Specialty repairs may be performed by an authorized sublet repair facility.

V. USED BODIES

1. Used bodies may be offered under solicitation. Pricing shall be based upon Dealer acquisition price + cost to comply to Federal and NMDOT safety standards + body service

+transportation + dealer markup not to exceed a maximum of XX.XX% to arrive at Selling Price

2. According to the requirements for 13-1-155 A NMSA 1978, any used item of "... tangible personal property the estimated cost of which exceeds five thousand dollars (\$5,000), ..." requires at a minimum "... a written warranty for at least ninety days after date of delivery and an independent "certificate of working order" by a qualified mechanic or appraiser."
3. contract shall have only ASE-Certified Master Truck Equipment Technicians, or at a minimum, a technician with prior medium-heavy duty truck/bus experience in air brake systems, steering and suspension, to repair vehicles.
4. Warranty repairs shall only be performed by manufacturer authorized repair facilities for vehicles and/or optional installed equipment.
5. Tire repair and maintenance services may include, but not be limited to: balancing, re-grooving, rotating, patching, tube replacement, wheel stud replacement, etc.

W. TRAINING

1. Training for maintenance staff on the proper service and repair of the vehicle and body.
2. Training for drivers on the proper and safe operation of the vehicle and body with special emphasis on how the emission control's function.

X. PUBLICATIONS AND PRINTED MATERIALS:

1. Each vehicle will have a complete set of operation, and warranty publications. The following shall be provided at time of delivery:
 - a. Operation Manual: A complete operations manual and troubleshooting guide with a detailed manufacturer's parts list that covers the conversion features on the vehicle as listed in this specification. The manual will provide complete, comprehensive instructions to include but not limited to air conditioning systems, tie downs, heater, emissions, engine operations, lights, radio, wiring diagram and body modifications, accessories and related equipment.
 - b. A complete schematic diagram of all hydraulic lines, air lines and electric circuits.
 - c. Warranty Information: Each vehicle will have a published listing of contractor warranty repair locations, including address, telephone number, and contact name.

Y. ADDITIONS TO THE SCOPE OF WORK

Offerors who receive a contract as a result of this solicitation, and through the duration of the contract, may propose vehicles, equipment, products, and related services that were either inadvertently left out of this RFP, or are new technology. Such proposed items shall be submitted to CES for review and must remain consistent with the spirit of the RFP. Items approved shall be added to the contract through an amendment, mutually agreed upon by all parties to the contract.

****Omissions in this proposal of any provision herein described shall not be construed as to relieve the vendor of any responsibility or obligation to the complete and satisfactory delivery, operation, and support of any and all equipment or services.***

ATTACHMENT B
TO
ACCEPTANCE OF PROPOSAL AND OFFER
AND CONTRACT AWARD

PRICING

All pricing including updates/changes must be uploaded through the vendor portal in the eProcurement System for review and approval by CES.

A Price List/Pricing: The Offeror will upload through the vendor portal electronic copies of or provide electronic access to the approved current price list(s) for products and services offered under this solicitation (RFP) upon execution of this contract. The Offeror must keep current all pricing for any contract issued as a result of this solicitation. Should the Offeror fail to update pricing with CES, the Offeror shall honor their pricing on file with CES at the time of their quote submittal to the CES Member/Participating Entity. Discounts off the current price list are permitted and must remain firm throughout the life of the contract. Discount off list price must be clearly noted in the price quote to the member. All pricing must include the CES administration fee.

B New Technology and Products: New products or related services announced by manufacturer and/or Contractor may be added to this existing contract. Pricing shall be equivalent to the percentage discount of other product(s); is substantially superior to the original product(s) offered; is discounted in a similar or to a greater degree; and if the product(s) meet the requirements of the original RFP. No products may be added to avoid competitive procurement procedures. CES is responsible for approving any product, service or technology for this contract. CES can reject any approved additions, any new product, service or technology for this contract, without cause.

C Price Quote/Proposal: When preparing a quote/proposal under a CES awarded contract, the Offeror must clearly identify and break out quantities, descriptions, supplies, materials, equipment and services into individual line items as they appear on the Offeror's awarded price schedule or pricing methodology. At a minimum all quotes or proposals shall include the following: description, "hourly labor rate or the list/catalog unit price", "the per cent discount offered" and the final "CES price". All stated prices must include the CES one point two five percent (1.25%) administrative fee. Shipping/Freight costs and the New Mexico Gross Receipts Tax as applicable must be stated in separate lines.

D Price Reduction, Promotional and Special Pricing: A price reduction can be offered at any time and will become effective upon approval by CES. CES reserves the right to approve or disapprove such requests.

E Price Increases: Anytime during the life of the contract, pricing can be updated (increased/decreased) with proper justification letter from the manufacturer or distributor thereof and will become effective upon approval by CES. CES reserves the right to approve or disapprove

such requests.

F Price Surcharges: Depending on current market conditions, surcharges may apply as approved by CES.

**Ferrara - CES Price Schedule**

CES 2% Discount CES MEMBER PRICE

Ferrara - CES Price Schedule			CES 2% Discount CES MEMBER PRICE	
Aerials				
CES-01	Cinder, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 57' Rear Mounted	Discontinued		
CES-02	Igniter, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 57' Rear Mounted	Discontinued		
CES-03	Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 57' Rear Mounted	Discontinued		
CES-04	Cinder, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 77' Rear Mounted	\$1,763,544	\$ (35,271)	\$ 1,728,273
CES-05	Igniter, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 77' Rear Mounted	\$1,854,154	\$ (37,083)	\$ 1,817,071
CES-06	Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 77' Rear Mounted	\$1,921,839	\$ (38,437)	\$ 1,883,402
CES-07	Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 107' Rear Mounted	\$2,113,616	\$ (42,272)	\$ 2,071,344
CES-08	Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 100' Rear Mounted	\$2,391,266	\$ (47,825)	\$ 2,343,441
CES-09	Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 100' Mid-Mounted	\$2,631,812	\$ (52,636)	\$ 2,579,176
CES-10	Inferno, 4-Door Full-Tilt OEM Cab, Aluminum Body, Tandem Axle, 100' Tractor Drawn	\$2,738,815	\$ (54,776)	\$ 2,684,039
Pumper Fire Apparatus				
CES-11	Freightliner M2, 4-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper	\$588,377	\$ (11,768)	\$ 576,609
CES-12	FC94, 4-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper	\$848,256	\$ (16,965)	\$ 831,291
CES-13	Custom Cinder, 4-Door, Full-Tilt Cab, Extruded Aluminum Body, Single Axle, 1500 GPM Pump,	\$963,298	\$ (19,266)	\$ 944,032
CES-14	Custom Igniter, 4-Door, Full-Tilt Cab, Extruded Aluminum Body, Single Axle, 1500 GPM Pump,	\$1,049,914	\$ (20,998)	\$ 1,028,916
CES-15	Custom Inferno, 4-Door, Full-Tilt Cab, Extruded Aluminum Body, Single Axle, 1500 GPM Pump,	\$1,070,840	\$ (21,417)	\$ 1,049,423
Rescues				
CES-16	Ford 550, 2-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In LIGHT	\$359,819	\$ (7,196)	\$ 352,623
CES-17	Ford 550, 2-door Super Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In LIGHT Rescue	\$331,022	\$ (6,620)	\$ 324,402
CES-18	Ford 550, 4-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In LIGHT	\$340,240	\$ (6,805)	\$ 333,435
CES-19	Freightliner M2, 2-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In MEDIUM	\$718,884	\$ (14,378)	\$ 704,506

CES-20	Freightliner M2, 4-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In MEDIUM	\$744,534	\$	(14,891)	\$	729,643
CES-21	Freightliner M2, 2-door Cab, Single Axle, Extruded Aluminum Body, Walk-In MEDIUM	\$939,360	\$	(18,787)	\$	920,573
CES-22	Freightliner M2, 4-door Cab, Single Axle, Extruded Aluminum Body, Walk-In MEDIUM	\$966,720	\$	(19,334)	\$	947,386
CES-23	Cinder, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, NON Walk-In	\$1,322,400	\$	(26,448)	\$	1,295,952
CES-24	Cinder, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In HEAVY	\$1,479,264	\$	(29,585)	\$	1,449,679
CES-25	Igniter, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, NON Walk-In	\$1,450,080	\$	(29,002)	\$	1,421,078
CES-26	Igniter, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In HEAVY	\$1,586,880	\$	(31,738)	\$	1,555,142
CES-27	Inferno, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, NON Walk-In	\$1,667,136	\$	(33,343)	\$	1,633,793
CES-28	Inferno, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In HEAVY	\$1,809,408	\$	(36,188)	\$	1,773,220
Pumper/Tankers, Tankers and Wildland						
CES-29	M2 Freightliner, 2-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)	\$671,831	\$	(13,437)	\$	658,394
CES-30	M2 Freightliner, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)	\$699,829	\$	(13,997)	\$	685,832
CES-31	Custom Cinder 2, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-	\$1,117,031	\$	(22,341)	\$	1,094,690
CES-32	Custom Igniter, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)	\$920,325	\$	(18,407)	\$	901,919
CES-33	Custom Inferno, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)	\$1,150,405	\$	(23,008)	\$	1,127,397
CES-34	Brush Truck, 2-Door, Aluminum Flat Bed, Single Axle, Ford F-550 4x4	\$344,182	\$	(6,884)	\$	337,298
CES-35	Brush Truck, 2-Door, Aluminum Flat Bed, Single Axle, Dodge 5500 4x4	\$350,177	\$	(7,004)	\$	343,173
CES-36	Brush Truck, 2-Door, Aluminum Flat Bed, Single Axle, Chevy 5500 4x4	\$347,021	\$	(6,940)	\$	340,081

**NEW MEXICO CAPITAL OUTLAY GRANT AGREEMENT
CAPITAL APPROPRIATION PROJECT**

THIS AGREEMENT is made and entered into by and between the State of New Mexico, Department of Finance & Administration, 407 Galisteo Street, Santa Fe, NM 87501, ("**Department**") and the City of Santa Fe, ("**Grantee**") (individually "**Party**" and collectively "**Parties**"). This Agreement shall be effective as of the date the Department executes it ("**Effective Date**").

WITNESSETH

WHEREAS, in the Laws of 2025, Chapter 159, Section 495, Paragraph 33, the Legislature made an appropriation to the Department, funds from which the Department is making available to the Grantee pursuant to this Agreement; and

WHEREAS, the Department is granting to Grantee, and the Grantee is accepting the grant of funds from this appropriation, in accordance with the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and obligations contained herein, the parties hereby mutually agree as follows:

AGREEMENT

I. PROJECT DESCRIPTION, GRANT AMOUNT, AND REVERSION

- A. **25-J3150** ("**Project**") 6/30/2027 ("**Reversion Date**"). Laws of 2025, Chapter 159, Section 49533, Five Hundred Twenty Five Thousand Dollars and No Cents, \$525,000.00, to purchase and equip a fire engine for the fire department in Santa Fe in Santa Fe county;.
- B. Grantee's total reimbursements shall not exceed \$525,000.00 Five Hundred Twenty Five Thousand Dollars and No Cents, ("**Appropriation Amount**") minus the allocation for Art in Public Places ("**AIPP amount**"), if applicable, \$0.00 No Dollars and No Cents, which equals \$525,000.00 Five Hundred Twenty Five Thousand Dollars and No Cents ("**Adjusted Appropriation Amount**").
- C. In the event of a conflict among the Appropriation Amount, the Reversion Date, as defined herein and/or the purpose of the Project, as set forth in this Agreement, and the corresponding appropriation language in the laws cited above in this Article I, the language of the laws cited herein shall control.

The information contained in Article I is referred to collectively as the "**Project Description**."

II. DISBURSEMENT LIMITATION

- A. Upon the Effective Date, the Grantee shall submit to the Department a comprehensive procurement plan and expenditure plan, detailing a Project timeline with milestones, required procurements, and identifying expected expenditures per milestone (collectively, "**Project Budget**"). The Department shall review and approve the Project Budget by approving a Notice of Department's Obligation ("**Notice of Obligation**"), in accordance with the Project Description, a sample of which is attached hereto as **Exhibit B** and incorporated herein by reference. After

receipt of approved Notice of Obligation, the Grantee may be reimbursed for allowable costs up to the Adjusted Appropriation Amount. This Agreement and any reimbursements up to the Adjusted Appropriation Amount are expressly conditioned upon the following:

- a. Irrespective of any Notice of Obligation, Grantee's expenditures shall be made in accordance with the Project Budget, on or before the Reversion Date and/or, if applicable, any Early Termination Date; and
 - b. The total amount received by Grantee shall not exceed the lesser of:
 - i. the Adjusted Appropriation Amount identified in Article I (B) herein; or
 - ii. the total of all amounts stated in the Notice(s) of Obligation evidencing the Department has received and accepted Grantee's Third Party Obligation(s); and
 - c. Grantee's expenditures are made and accounted for pursuant to the State Procurement Code, State's Model Accounting Practices, and execution of binding written obligations or purchase orders with third-party contractors or vendors for the provision of services, including professional services, or the purchase of tangible personal property and real property for the Project ("**Third Party Obligations**"); and
 - d. Grantee's submittal of timely Requests for Payment and supporting documentation in accordance with the procedures set forth in this Agreement; and
 - e. In the event capital assets acquired with Project funds are to be sold, leased, or licensed to or operated by a private entity, the sale, lease, license, or operating agreement:
 - i. must be approved by the applicable oversight entity (if any) in accordance with §§ 13-6-2, 13-6-2.1, and 13-6-3; or
 - ii. If no oversight entity is required to approve the transaction, the Department of Finance and Administration's Infrastructure Planning Development Division (IPDD) must approve it as complying with the law.
- B. Prior to the sale, lease, license, or operating agreement being approved pursuant to Articles II(A) (e) (i) or (ii) herein, the Department may, in its sole and absolute discretion, unless inconsistent with State Board of Finance imposed conditions, reimburse Grantee for necessary expenditures incurred to develop the Project sufficiently to make the sale, lease, license, or operating agreement commercially feasible, limited to planning and design expenditures; and
- C. Grantee's submission of documentation of all Third Party Obligations and amendments thereto (including terminations) to the Department and the Department's issuance of a Notice of Obligation for a particular amount in accordance with the terms of this Agreement shall be governed by the following:
- a. Grantee is authorized to budget the particular amount set forth in the Notice of Obligation, execute the Third Party Obligation, and request the Third Party to begin work after issuance of a Notice of Obligation by the Department.
 - b. Grantee acknowledges and agrees that any Third Party Obligations agreed to prior to receiving a Notice of Obligation are its sole responsibility.
 - c. Grantee shall submit to the Department one copy of all Third Party Obligations and amendments thereto (including terminations) as soon as possible after execution by the Third Party but prior to execution by the Grantee.
 - d. Department may, in its sole and absolute discretion, issue a Notice of Obligation for the particular amount of a Third Party Obligation that only obligates the Department to reimburse Grantee's expenditures made on or before the Reversion Date or an Early

Termination Date. The current Notice of Obligation form is incorporated herein and attached hereto as **Exhibit B**.

- D. Grantee shall provide all necessary qualified personnel, materials, and facilities to implement the Project. The Grantee shall finance its share (if any) of the costs of the Project, including all Project overruns.
- E. Prior to entering into this Agreement, the Department conducted a risk assessment on the Grantee and a project readiness review for the Project. In accordance with State Model Accounting Practices, FIN 9.2, if the Department determines that the expenditure of Project funds by the Grantee requires special conditions, those conditions are identified and listed in **Exhibit C**, which is attached and incorporated by reference. The Parties agree that, to the extent the Department, in its sole and absolute discretion, determines additional special conditions are necessary or that existing special conditions are no longer required, it may update **Exhibit C** from time to time without the need for a formal amendment of this Agreement.
- F. Project funds shall not be used for purposes other than those authorized by the Department in accordance with the Project Description.
- G. Project funds cannot be used to reimburse the Grantee for indirect Project costs unless specifically allowed by law.

III. NOTICES

The following provisions shall apply whenever written notices, including written decisions, are to be given or received related to this Agreement.

- A. The Grantee designates the person(s) listed below, or their successor, as their official representative(s) concerning all matters related to this Agreement:

Grantee: City of Santa Fe
Name: Alan Webber
Title: Mayor
Address: PO Box 909, Santa Fe, NM 87504
Email: mayor@santafenm.gov
Telephone: 505-955-6590

- B. The Grantee designates the person(s) listed below, or their successor, as their Fiscal Officer or Fiscal Agent concerning all matters related to this Agreement:

Grantee: City of Santa Fe
Name: Emily Oster
Title: Finance Director
Address: PO Box 909, Santa Fe, NM 87504
Email: ekoster@santafenm.gov
Telephone: 505-629-3411

- C. The Department designates the persons listed below, or their successors, as the Points of Contact for matters related to this Agreement.

Department: DFA/Local Government Division
Name: Daniel Catanach
Title: Grant Manager
Address: Bataan Memorial Bldg. Rm 202, Santa Fe NM 87501
Email: danieln.catanach@dfa.nm.gov
Telephone: 505-231-6090

The Parties agree that all notices, including written decisions, related to this Agreement shall be sent to the persons named above by email or regular mail. For mailings, notices shall be deemed to have been given and received upon the date of the receiving party's actual receipt or five (5) calendar days after mailing, whichever shall first occur. In the case of email transmissions, the notice shall be deemed to have been given and received on the date reflected on the delivery receipt of the email.

IV. TERM & DEADLINE TO EXPEND FUNDS

- A. The term of this Agreement shall begin on the Effective Date and terminate on the 30th day of June during the calendar year of the Reversion Date unless Terminated Before Reversion Date ("**Early Termination**") pursuant to Article V herein (collectively "**Term**").
- B. The Project's funds must be expended on or before the Reversion Date and, if applicable, the Early Termination Date of this Agreement.
- a. For purposes of this Agreement, it is not sufficient for the Grantee to encumber the Project funds on its books on or before the Reversion Date or Early Termination Date.
 - b. For purposes of this Agreement, an expenditure of funds has occurred on the date the particular quantity of goods is delivered to and received by the Grantee, title to the goods is transferred to the Grantee, and/or as of the date particular services are rendered to and accepted by the Grantee.
 - c. For purposes of this Agreement, an encumbrance of funds pursuant to a contract or purchase order with a third party does not qualify as an expenditure.

V. EARLY TERMINATION

- A. General Provision. The Department may terminate this Agreement before the Reversion Date based on the Completion of the Project, Complete Expenditure of the Adjusted Appropriation, and/or Violation of this Agreement. Early Termination hereunder includes:
- a. Termination due to completion of the Project before the Reversion Date;
 - b. Termination due to complete expenditure of the Adjusted Appropriation Amount before the Reversion Date;
 - c. Termination for violation of the terms of this Agreement; or
 - d. Termination for suspected mishandling of public funds, including but not limited to fraud, waste, abuse, and conflicts of interest.

- B. Non-appropriation. This Agreement is expressly contingent upon the New Mexico State Legislature making sufficient appropriations and authorizations for the Project Description.
 - a. If the Legislature does not appropriate the Appropriation Amount, this Agreement shall terminate upon the Department giving the Grantee written notice of such termination. Such termination shall be effective as of the effective date of the law making the non-appropriation.
 - i. The Department's decision as to whether sufficient appropriations or authorizations are available shall be final. Grantee hereby waives any rights to assert an impairment of contract claim against the State of New Mexico in the event of Early Termination of this Agreement.
 - b. As used herein, "non-appropriate" or "non-appropriation" includes the following actions by the New Mexico Legislature:
 - i. Deauthorization, reauthorization, or revocation of a prior authorization.
- C. Grant Disbursements in the Event of Early Termination. In the event of Early Termination, the Department's sole and absolute obligation to reimburse the Grantee is expressly conditioned upon the limitations set forth in Article II above.
- D. Notice. Either Party may terminate this Agreement prior to the Reversion Date by providing the other Party with a minimum of fifteen (15) days advance written notice of the Early Termination. Grantee hereby waives any rights to assert an impairment of contract claim against the State of New Mexico in the event of Early Termination of this Agreement by the Department.

VI. SUSPENSION OF NEW OR FURTHER OBLIGATIONS

- A. Department, in its sole and absolute discretion, may provide written notice to Grantee to suspend entering into further obligations. Upon the receipt of such written notice by the Grantee:
 - a. Grantee shall immediately suspend entering into new or further written obligations with third parties;
 - b. Department will suspend the issuance of any new or further Notice of Obligation under this Agreement; and
 - c. Department may direct the Grantee to implement a corrective action plan in accordance with Article VI (D) herein.
- B. In the event of Suspension of this Agreement, the Department's sole and absolute obligation to reimburse the Grantee is expressly conditioned upon the limitations set forth in Article II herein.
- C. A suspension of new or further obligations under this Agreement shall remain in effect unless or until the date the Grantee receives written notice given by the Department informing the Grantee that the Suspension has been lifted or that the Agreement has been Early Terminated in accordance with Article V herein. If the Suspension is lifted, the Department will consider further requests for a Notice of Obligation.
- D. Corrective Action Plan in the Event of Suspension. Where the Department, in its sole and absolute discretion, directs Grantee to suspend entering into new or further written obligations

with third parties pursuant to Article VI(A), the Department may, but is not obligated to, require the Grantee to develop and implement a written corrective action plan to remedy the grounds for the Suspension.

- a. Such a corrective action plan must be approved by the Department and be signed by the Grantee.
- b. Failure to sign a corrective action plan or meet the terms and deadlines set forth in the signed corrective action plan is hereby deemed a violation of the terms of this Agreement for purposes of Early Termination, Article V(A)(c).
- c. A corrective action plan shall be in addition to, and not in lieu of, any other equitable or legal remedy authorized hereunder or at law, including but not limited to Early Termination.

VII. AMENDMENTS

Unless expressly stated otherwise herein, this Agreement shall not be altered, changed, or amended except by an instrument in writing duly executed by both parties hereto with the same formalities as this agreement.

VIII. REPORTING

A. Database Reporting

- a. Grantee shall provide the Department with quarterly reports of Project activity, entering the required Project information directly into a database required by the Department.
- b. Additionally, Grantee shall certify on each Request for Payment form, attached hereto as **Exhibit A** and incorporated herein, that all information provided in the database is true and accurate, updates to the database have been maintained, and all Project activity complies with applicable law and the terms of this Agreement.
- c. Grantee hereby acknowledges that failure to perform and/or certify updates to the database will jeopardize the reimbursement of funds. The Department shall give Grantee a minimum of fourteen (14) days' advance written notice of any changes to the information the Grantee is required to report.
- d. At the Department's discretion, all reports required hereunder may be directed to and facilitated through an electronic database.
- e. Quarterly reports shall be due on the last day of the month, that is, 30 days prior to the end of the quarter following the execution of this Agreement by the Department and ending during the quarter of the submission of the final request for reimbursement for the Project, or the following quarter.

B. Requests for Additional Information/Project Inspection

During the term of this Agreement and during the period of time during which the Grantee must maintain records pursuant to Article VIII, the Department may:

- i. request such additional information regarding the Project as it deems necessary; and
- ii. conduct, at reasonable times and upon reasonable notice, onsite inspections of the Project.

Grantee shall respond to such requests for additional information within a reasonable period of time, as established by the Department.

B. Requests for Additional Information/Project Inspection

- a. During the term of this Agreement and the Record Retention Period, the Department may:
 - i. Request additional information regarding the Project as it deems necessary and
 - ii. Conduct on-site inspections of the Project at reasonable times and upon reasonable notice.
- b. Grantee shall respond to such requests for additional information within the time established by the Department.

IX. REQUEST FOR PAYMENT PROCEDURES

A. Grantee shall request payment by submitting the form attached hereto as **Exhibit A**. Payment requests are subject to the following procedures:

- a. Each Request for Payment must be in accordance with the Project Budget and contain proof of payment by the Grantee or liabilities incurred by the Grantee.
 - i. Proof of payment must demonstrate the validity of an expenditure or liabilities incurred by Grantee.
 - ii. However, Grantee may be reimbursed for unpaid liabilities only if the Department, in its sole and absolute discretion, agrees to do so and in accordance with any special conditions imposed by the Department.
 - iii. The Grantee shall make payment to those contractors or vendors within five (5) business days from the date of receiving reimbursement from the Department or in a shorter period than the Department may prescribe in writing.
 - iv. The Department reserves the right to make such payments directly to the contractors or vendors as a special condition under this Agreement.
 - v. The Grantee is required to certify to the Department proof of payment to the third-party contractor or vendor within five (5) business days from the date the Department reimburses the Grantee.

B. Until the Project is fully planned, designed, and all necessary procurements identified in the Project Budget are completed, Grantee's reimbursements will be limited to the planning, design, and procurement costs outlined in the Project Budget. Once the planning, designing, and procuring stages are complete, the Grantee must obligate at least ten percent (10%) of the Adjusted Appropriation Amount within one (1) year and must have utilized at least eighty-five percent (85%) of the Adjusted Appropriation Amount six (6) months before the reversion date.

C. Deadlines. Grantee shall submit requests for Payments to the Department on the earlier of:

- a. Immediately as Grantee receives them, but at a maximum of thirty (30) days from when Grantee incurred the expenditure or liability; or
- b. Twenty (20) days from the date of Early Termination or Reversion Date for expenditures or liabilities incurred before the Early Termination date or Reversion Date.

D. Grantee's failure to abide by the requirements set forth in Article II and Article IX herein may result in the denial of its Request for Payment. Department reserves the right to reject a payment request for the Project unless and until it is satisfied that the expenditures or liabilities are for permissible purposes within the meaning of the Project Description, identified within the Project Budget, and that the Grantee is otherwise in compliance with this Agreement.

- a. Department's authority to reject any Request for Payment is in addition to, and not in lieu of, any other legal or equitable remedy available to the Department under this Agreement, at law, or in equity.

X. PROJECT CONDITIONS AND RESTRICTIONS

A. The following general conditions and restrictions shall apply to the Project:

- a. The Project's funds must be spent in accordance with all applicable state laws, regulations, policies, and guidelines, including, but not limited to, the State Procurement Code.
- b. The Project's expenditures and liabilities must be accounted for in accordance with the State's Model Accounting Practices, as amended from time to time.
- c. The Project must be implemented in accordance with the New Mexico Public Works Minimum Wage Act, Section 13-4-10 through 13-4-17 NMSA 1978, as applicable.
- d. The Project must provide a public benefit above and beyond any incidental benefit to private entities in accordance with applicable law, including, but not limited to, Article IX, Section 14 of the Constitution of the State of New Mexico.
- e. Without prior written approval from the Department and State Board of Finance, for the useful life of any asset purchased under this Agreement, Grantee shall not convert any property acquired, built, renovated, repaired, designed, or developed with Project funds to uses other than those specified in the Project Description.
 - i. In addition to other remedies available at law or in equity, any disposal or conversion of property acquired, built, renovated, repaired, designed, or developed with Project funds without the Department's and the Board of Finance's express written approval will trigger the Department's right to reimbursement from Grantee of the Appropriated Amount, transfer proceeds from any disposition of property to the State, or otherwise provide consideration to the State for the Appropriated Amounts.
- f. Grantee shall comply with all applicable federal and state laws, rules, and regulations pertaining to civil rights and equal employment opportunity.
 - i. In accordance with all such laws, rules, and regulations, the Grantee agrees to assure that no person shall, on the grounds of race, color, national origin, sex, sexual preference, age, or handicap, be excluded from participation in the Project, use of the Project, employment with Grantee, or otherwise be denied benefits/subject to discrimination for any activity performed under this Agreement.
- g. Where the Department, in its sole and absolute discretion, determines Grantee has failed to comply with the above conditions and restriction, Grantee agrees to take appropriate steps to correct any deficiencies immediately. The Grantee's failure to implement such appropriate steps within a reasonable time, but no longer than thirty (30) days after

notice from the Department, constitutes a breach of this Agreement and grounds for Early Termination.

XI. REPRESENTATIONS AND WARRANTIES

A. Reliance by Department.

- a. Grantee expressly acknowledges that the Department relies on the representations and warranties made by Grantee in this Agreement. Grantee acknowledges that such representations and warranties are a material inducement for the Department to enter into this Agreement and provide the Appropriated Amount.
- b. Grantee shall ensure all representations and warranties provided herein are true, accurate, and complete as of the date of the Effective Date and shall remain so throughout the Term of this Agreement. Grantee is responsible for promptly notifying the Department in writing of any changes or inaccuracies in the representations and warranties contained herein.

B. Grantee hereby represents and warrants the following:

- a. Grantee has taken all necessary steps to attain the legal authority to receive and expend the Project's funds.
- b. Grantee has duly authorized this Agreement, and the person executing it has authority to do so. Once executed by Grantee, this Agreement shall constitute a binding obligation of Grantee, enforceable according to its terms.
- c. Grantee's obligations hereunder do not conflict with any law, ordinance, or resolution applicable to Grantee, Grantee's charter (if applicable), or any judgment or decree to which Grantee is subject.
- d. Grantee has independently confirmed that the Project Description, including, but not limited to, the Appropriated Amount and Reversion Date, is consistent with the underlying appropriation in law.
- e. Grantee's governing body has duly adopted or passed as an official act a resolution, motion, or similar action authorizing the person identified as the official representative of the Grantee to sign and submit Requests for Payment on behalf of Grantee.
- f. Grantee will abide by New Mexico laws regarding conflicts of interest, governmental conduct, and whistleblower protection.
 - i. Grantee agrees explicitly none of its officers or employees or its designees or agents, no member of the governing body, and no other public official of Grantee who exercises any function or responsibility with respect to this Agreement, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for the Project.
 - ii. Further, Grantee will require all of its contractors to incorporate the language set forth in this paragraph prohibiting conflicts of interest in all subcontracts.
- g. No funds have been paid or will be paid, by or on behalf of the Grantee, to any person for influencing or attempting to influence an officer or employee of the State, any agency, or body in connection with the awarding of any Third Party Obligation.
 - i. Grantee will require certifying language prohibiting lobbying to be included in the award documents for all subawards, including subcontracts, loans, and cooperative agreements.

- C. Consequences of False or Misleading Representations. If any representation or warranty made by Grantee is found to be false or misleading, the Department shall have the right to exercise any or all of the following remedies:
- a. **Termination of Agreement:** Department may terminate this Agreement immediately upon written notice to the Grantee.
 - b. **Repayment of Grant Funds:** Grantee shall repay all Appropriated Amounts disbursed under this Agreement, upon demand by the Department.
 - c. **Other Remedies:** Department may pursue any other remedies available at law or in equity.
- D. Survival of Representations and Warranties. The representations and warranties made by the Grantee shall survive the Early Termination or expiration of this Agreement.

XII. PROJECT RECORDS

- A. Grantee shall be strictly accountable for receipts and disbursements relating to the Project's funds. The Grantee shall follow generally accepted accounting principles and the State's Model Accounting Practices and, if feasible, maintain a separate bank account or fund with a separate organizational code to ensure separate budgeting and accounting of the funds.
- B. For six (6) years following the Project's completion ("**Record Retention Period**"), Grantee shall maintain all Project-related records, including, but not limited to, all financial records, requests for proposals, invitations to bid, selection and award criteria, contracts and subcontracts, advertisements, minutes of pertinent meetings, as well as records sufficient to fully account for the amount and disposition of the Appropriated Amount from all sources budgeted for the Project, the purpose for which such funds were used, and such other records as the Department may prescribe.
- C. Grantee shall make all Project records available to the Department, the Department's Independent Public Accountant, and the New Mexico State Auditor upon request. With respect to the funds that are the subject of this Agreement, if the State Auditor or the Department finds any funds were improperly expended, Grantee shall be required to reimburse the State all amounts found to be improperly expended.

XIII. IMPROPERLY REIMBURSED FUNDS

If the Department determines part or all of the Appropriation Amount was improperly reimbursed to Grantee, including but not limited to funds reimbursed to Grantee based upon fraud, mismanagement, misrepresentation, misuse, violation of law by the Grantee, after ten (10) days' notice to Grantee and the opportunity to return such funds to the Department, the Department may offset any funds due to Grantee from the State, until the Appropriation Amount is fully repaid.

XIV. LIABILITY

Neither Party shall be responsible for liability incurred as a result of the other Party's acts or omissions in connection with this Agreement. Any liability incurred in connection with this Agreement is subject to

immunities and limitations of the New Mexico Tort Claims Act.

XV. SCOPE OF AGREEMENT

This Agreement constitutes the entire and exclusive agreement between the Parties concerning the subject matter hereof. The Agreement supersedes all prior or contemporaneous agreements, understandings, discussions, communications, and representations, written or verbal.

XVI. REQUIRED NON-APPROPRIATIONS CLAUSE

- A. Grantee acknowledges and agrees to include a “non-appropriations” clause in all contracts between it and other parties that are (i) funded in whole or part by funds made available under this Agreement and (ii) entered into after the effective date of this Agreement that states:
- a. “The terms of this Agreement are contingent upon sufficient appropriations and authorization being made by the Legislature of the State of New Mexico (“**Legislature**”) for the performance of this Agreement.
 - b. If the Legislature does not make sufficient appropriations and authorization, City of Santa Fe may immediately terminate this Agreement by giving Contractor written notice of such termination.
 - c. The City of Santa Fe’s decision as to whether sufficient appropriations are available shall be final and accepted by the Contractor. Contractor hereby waives any rights to assert an impairment of contract claim against the City of Santa Fe or the State of New Mexico in the event of immediate or Early Termination of this Agreement by the City of Santa Fe or the State Department of Finance and Administration.”

XVII. REQUIRED TERMINATION CLAUSE

- A. Grantee acknowledges and agrees to include the following termination clause in all contracts that are (i) funded in whole or part by funds made available under this Agreement and (ii) entered into after the effective date of this Agreement:
- a. “This contract is funded in whole or in part by funds made available by the State of New Mexico (“**State**”). Should the State terminate its Agreement with the City of Santa Fe, the City of Santa Fe may terminate this contract immediately by providing Contractor written notice of such termination.
 - b. In the event of termination pursuant to this paragraph, the City of Santa Fe’s only liability to Contractor shall be for goods and services delivered and accepted prior to the termination date.”

XVIII. COMPLIANCE WITH UNIFORM FUNDING CRITERIA

- A. Throughout the term of this Agreement, Grantee shall:
- a. Submit all reports of annual audits and agreed-upon procedures required by § 12-6-3(A)-(B), NMSA 1978 by the due dates established in § 2.2.2 NMAC, reports of which must be a

- public record pursuant to § 12-6-5(A), NMSA 1978 within forty-five (45) days of delivery to the State Auditor;
- b. Have a duly adopted budget for the current fiscal year approved by its budgetary oversight agency (if any);
 - c. Timely submit all required financial reports to its budgetary oversight agency (if any); and
 - d. Use accounting methods and procedures consistent with Generally Accepted Accounting Principles and the State's Model Accounting Principals to expend the Appropriated Amount in accordance with applicable law and account for and safeguard Project funds and assets acquired with Project funds.
- B. In the event Grantee fails to comply with the requirements of subparagraph A of this Article XVIII, Department may take one or more of the following actions:
- a. Suspend new or further obligations pursuant to Article VI(A) of this Agreement;
 - b. Require the Grantee to develop and implement a written corrective action plan pursuant to Article VI(D) of this Agreement to remedy the non-compliance;
 - c. Impose special conditions to address the non-compliance by giving Grantee notice of such special conditions in accordance with Article III of this Agreement;
 - i. The Parties agree that any special conditions imposed to address non-compliance shall be incorporated into this Agreement, through **Exhibit C**, upon notice to Grantee, without need for formal amendment of this Agreement;
 - ii. Special conditions shall be binding and effective on the date that notice is deemed to have been given pursuant to Article III or
 - d. Terminate this Agreement pursuant to Article V(A) of this Agreement.

XIX. SEVERANCE TAX AND GENERAL OBLIGATION BONDS

- A. Grantee acknowledges and agrees that the underlying appropriation for the Project may originate from the issuance of tax-exempt severance tax bonds or general obligation bonds by the State. Proceeds from such bonds are administered by the New Mexico State Board of Finance ("**SBOF**"), an entity separate and distinct from the Department.
- a. Grantee acknowledges and agrees:
 - i. It is Grantee's responsibility to determine through SBOF what (if any) conditions are currently imposed on the Project;
 - ii. Department's failure to inform Grantee of an SBOF-imposed condition does not affect the validity or enforceability of the condition;
 - iii. The SBOF may in the future impose further or different conditions upon the Project;
 - iv. All SBOF conditions are attached to the Project and Appropriation Amount without the need for formal amendment of this Agreement;
 - v. All applicable SBOF conditions must be satisfied before the SBOF will release to the Department funds subject to the condition(s) and
 - vi. The Department's obligation to reimburse Grantee from the Project is expressly contingent upon the satisfaction of the then-current SBOF conditions.

- B. Grantee acknowledges and agrees SBOF may, at its sole and absolute discretion, require reimbursement or remove eligibility for bond proceeds for the Project if the Project doesn't

proceed sufficiently.

- a. Grantee must comply with the requirement to encumber five percent (5%) of Project funds within six months of bond issuance as certified by Grantee in the Bond Questionnaire and Certification documents submitted to the SBOF.
 - b. Failure to comply may result in the reassignment of the bond proceeds. Upon reassignment of bond proceeds, this Agreement will be suspended until the entity has demonstrated readiness as determined by the SBOF and the Department.
- C. Grantee acknowledges and agrees that this Agreement is subject to the SBOF's Bond Project Disbursements rule, § 2.61.6, NMAC, as may be amended from time to time or re-codified.

XX. GENERAL PROVISIONS

- A. Assignment: Grantee's rights and obligations under this Agreement are personal and may not be transferred or assigned without the prior written consent of the State. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Grantee's rights and obligations approved by the State shall be subject to the provisions of this Agreement.
- B. Subcontractors: Grantee shall not enter any subgrant or subcontract in connection with its obligations under this Agreement without the prior written approval of the State. Upon request, Grantee shall submit to the Department a copy of each such subgrant or subcontract.
- C. Binding Effect: Except as otherwise provided, all provisions of this Agreement, including the benefits and burdens, shall extend to and be binding upon the Parties' respective successors and assigns.
- D. Authority: Each Party represents and warrants to the other that the execution and delivery of this Agreement and the performance of such Party's obligations have been duly authorized.
- E. Captions and References: The captions and headings in this Agreement are for the convenience of reference only and shall not be used to interpret, define, or limit its provisions. All references in this Agreement to sections (whether spelled out or using the § symbol), subsections, exhibits, or other attachments are references to sections, subsections, exhibits, or other attachments contained herein or incorporated as a part hereof, unless otherwise noted.
- F. Counterparts: This Agreement may be executed in multiple, identical, original counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute the same agreement.
- G. Digital Signatures: If any signatory signs this agreement using a digital signature in accordance with the State Policies regarding the use of digital signatures, then any agreement or consent to use digital signatures within the electronic system through which that signatory signed shall be incorporated into this Agreement by reference.
- H. Modification: Except as otherwise provided in this Agreement, any modification to this Agreement shall only be effective if agreed to in a formal amendment, properly executed and approved in accordance with applicable New Mexico law and State fiscal policies and rules.

Modifications permitted under this Agreement, other than Agreement amendments, shall conform to the policies issued by the State.

- I. Statutes, Regulations, Fiscal Rules, and Other Authority: Any reference in this Agreement to a statute, regulation, policy, or other authority shall be interpreted to refer to such authority then current, as may have been changed or amended after the Effective Date of this Agreement.
- J. External Terms and Conditions: Notwithstanding anything to the contrary herein, the State shall not be subject to any provision included in any terms, conditions, or agreements appearing on Grantee's or a subcontractor's website or any provision incorporated into any click-through or online agreements related to the Work unless that provision is specifically referenced in this Agreement.
- K. Severability: The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect, provided that the Parties can continue to perform their obligations under this Agreement in accordance with its intent.
- L. Survival of Certain Agreement Terms: Any provision of this Agreement that imposes an obligation on a Party after the termination or expiration of this Agreement shall survive the termination or expiration of this Agreement and shall be enforceable by the other Party.
- M. Third Party Beneficiaries: Except for the Parties' respective successors and assigns described in this Agreement, it does not and is not intended to confer any rights or remedies upon any person or entity other than the Parties. Enforcement of this Agreement and all rights and obligations hereunder are reserved solely to the Parties. Any services or benefits that third parties receive as a result of this Agreement are incidental to this Agreement and do not create any rights for such third parties.
- N. Waiver: A Party's failure or delay in exercising any right, power, or privilege under this Agreement, whether explicit or by lack of enforcement, shall not operate as a waiver, nor shall any single or partial exercise of any right, power, or privilege preclude any other or further exercise of such right, power, or privilege.
- O. Standard and Manner of Performance: Grantee shall perform its obligations under this Agreement in accordance with the highest standards of care, skill, and diligence in Grantee's industry, trade, or profession.
- P. Licenses, Permits, and Other Authorizations: Grantee shall secure, prior to the Effective Date, and maintain at all times during the term of this Agreement, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under this Agreement and shall ensure that all employees, agents, and subcontractors secure and maintain at all times during the term of their employment, agency or subcontractor, all license, certifications, permits and other authorizations required to perform their obligations in relation to this Agreement.
- Q. Publicity: Any Publicity regarding the subject matter of this Agreement may not be released without prior written approval from the Department. For purposes of this agreement, "**Publicity**"

means notices, informational pamphlets, press releases, email responses, research, reports, signs, and similar public notices prepared by or for the Grantee or jointly with others.

- a. Grantee shall obtain written approval prior to issuing any press release or making any public announcement regarding this agreement. Grantee agrees to obtain approval of the Department in advance with respect to all Public Relations, all communications with media, or all communications with any other member of the public with respect to this agreement, except to acknowledge that an agreement does exist.
 - b. For purposes of this agreement, "Public Relations" includes community relations and means those activities dedicated to maintaining the Department's image or maintaining or promoting understanding and favorable relations with the community or public at large or any segment of the public.
 - c. Violations of either Article XX (Q)(a) or (b) shall constitute a material Breach of Agreement.
- R. Data Sharing: The State intends to secure and collate specific data generated by Grantee under this Agreement to use in support of the State's organizational, policy-making, and management of public resource functions. State, in accordance with **Exhibit E**, attached hereto and incorporated herein by reference, reserves the right to require Grantee and/or its subcontractors to provide specific data relevant to the above-listed functions. Data provided by Grantee may be incorporated into existing or future developed State integrated analysis tools or databases, including but not limited to geographic information system (GIS) networks and databases accessible by the public. Dissemination of data collected may include historical data and projections based on such historical data.
- a. To the extent any data transferred as part of this Agreement is legally determined to be the property of Subrecipient or its subcontractors, Subrecipient and/or its subcontractors grants State a nonexclusive, fully paid-up right and license to reproduce, use, distribute, do derivative works based on, and archive data transferred as part of this Agreement.
- S. Venue and Choice of Law: This Agreement shall be governed by and construed in accordance with the laws of the State of New Mexico, without regard to any conflict of law provisions. Any legal suit, action, or proceeding arising out of or related to this Agreement shall be instituted exclusively in the district courts located in Santa Fe, New Mexico. The Parties hereby irrevocably submit to the exclusive jurisdiction and venue of such courts in any such suit, action, or proceeding. The Parties waive any objection to the laying of the venue of any such suit, action, or proceeding in the district courts of Santa Fe, New Mexico, and irrevocably waive and agree not to plead or claim in any such court that any such suit, action, or proceeding brought in any such court has been brought in an inconvenient forum.

[SIGNATURE PAGE AND EXHIBITS FOLLOW]
[THIS SPACE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF, the parties have duly executed this Agreement as of the Department's date of execution.

APPROVED BY DEPARTMENT:

Cabinet Secretary, Wayne Propst:

Signed by: Wayne Propst _____ 11/21/2025 _____
Signature Date

Chief Financial Officer, Mackie Romero:

DocuSigned by: Mackie Romero _____ 11/21/2025 _____
Signature Date

Local Government Division Director, Cecilia Mavrommatis:

Signed by: Cecilia Mavrommatis _____ 11/21/2025 _____
Signature Date

AS TO LEGAL FORM AND SUFFICIENCY

General Counsel's Office:

Signed by: George Hypolite _____
Signature

George Hypolite _____ General Counsel _____
(Print Name) (Title)

APPROVED BY GRANTEE:

City of Santa Fe

Entity Name

Official with Authority to Bind Grantee:



Alan Webber (Nov 1, 2025 11:26:56 MDT)

Signature

Mayor

Alan Webber

(Title)

(Print Name)

11/01/2025

Date

ATTEST:



ANDREA SALAZAR (Nov 1, 2025 19:25:30 MST)

ANDRÉA SALAZAR, CITY CLERK



11/02/2025

Date GB MTG 10-29-25

Fiscal Officer or Chief Financial Officer:



EMILY OSTER, FINANCE DIRECTOR

10/07/2025

Date

As To Legal Form And Sufficiency



Kevin L. Nault (Aug 19, 2025 16:59:35 MDT)
KEVIN NAULT, ASSISTANT CITY ATTORNEY

Aug 19, 2025

Date

EXHIBIT A

Request for Payment Form and Certification

**STATE OF NEW MEXICO
GRANT APPROPRIATION
Request for Payment Form
Exhibit A**

I. Grantee Information (Must match your DFA Substitute W-9 Form)

A. Grantee: _____

B. Address: _____
(Complete Mailing, including Suite, if applicable)

City, State, Zip

C. Contact Name/Phone #: _____

D. Grant No: _____

E. Project Title: _____

F. Grant Expiration Date: _____

II. Payment Computation

A. Payment Request No. _____

B. Grant Amount: \$ 0.00

C. AIPP Amount (if Applicable): \$ 0.00

D. Funds Requested to Date: \$ 0.00

E. Amount Requested this Payment: _____

F. Reversion Amount (if applicable): \$ 0.00

G. Grant Balance: \$ 0.00

H. Final Request for Payment (if applicable)

III. Fiscal Year : 2026 (July 1, 2025-June 30, 2026)
(The State of NM Fiscal Year is July 1, 20XX through June 30, 20XX of the following year)

IV. Certifications

- I hereby certify that all conditions and requirements for Payments outlined in the Agreement have been met, including but not limited to:
- a. Submission and approval of a Project Budget as per Article IV, Section A of the Agreement.
 - b. Compliance with the Project Budget and expenditure of funds in accordance with the State Procurement Code and the State's Model Accounting Practices.
 - c. Submission of supporting documentation as required by the Agreement.
 - d. Maintenance of all necessary records and documentation as stipulated in the Agreement.
- I attest that the information provided is correct; expenditures are properly documented and valid or actual receipts, and that the activity fully complies with Article IX, Sec. 14 of the New Mexico Constitution, known as the "anti-donation" clause.
- I hereby certify that all representations and warranties made in the Agreement remain true, accurate, and complete as of the date of this request, and will continue to be so throughout the term of the Agreement. I acknowledge that these representations and warranties are a material inducement for the Department to approve this pay request.

Grantee Fiscal Officer or Fiscal Agent (if applicable)

Grantee Representative

Printed Name

Printed Name

Date: _____

Date: _____

(State Agency Use Only)

Vendor Code: _____ Fund No.: _____ PO # _____ Loc No.: _____

I certify that the State Agency financial and vendor file information agree with the above submitted information.

ASD Officer Date

Division Grant Manager Date

Revised 7/2025

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EXHIBIT C

Special Conditions (If Fiscal Agent Required or Anti Donations Issues Exist)

OPTIONAL EXHIBIT C SPECIAL CONDITIONS

The capital outlay oversight requires grantees' accounting methods and procedures, including their internal control framework, to be scrutinized, so as to safeguard State capital outlay appropriations and assets acquired with such appropriations.

This Capital Outlay Special Grant Condition(s) **Exhibit C** is necessary pursuant to § 6-3b-1 et seq., NMSA 1978 (Public Finance Accountability Act) and MAPS Fin 9.2, due to the Grantees' material weaknesses, significant deficiencies, or findings that raised concerns as to the ability to expend grant funds in accordance with applicable law in the organization's FY [20XX] audit. The Special Conditions identified below apply to the authorized agent, [insert the Grantee or Fiscal Agent name].

Procurement - All purchases or contracts the Grantee enters that shall use funding from the Department capital appropriations grant must be approved by the Department prior to the initiation of implementing purchasing documents. The Grantee shall receive such prior approval via official correspondence from the Department, which may be through letter or email. The Grantee shall submit the following to the Department in pursuit of prior approval: purchasing policies and procedures, CFO certification, documentation of management and program approval, policies and procedures governing purchasing and contracting, a copy of the current procurement and contracting policies, and documentation regarding informing staff responsible for purchasing and contracting on such policies and procedures.

Budget - Provide documentation of approval of your current budget from DFA Local Government or other authoritative agency. Provide policies and procedures on who is responsible for and how annual budgets (expenditures and revenue) are established, monitored and adjusted. Provide a corrective action plan on how budget issues identified in your audit will be/have been addressed. Also include documentation on how staff responsible for budgeting is informed on budget policies and procedures.

Capital Assets - Provide a complete list of inventory including inventory control numbers and current location. Provide policies and procedures on capital assets and inventory and specify how the proposed purchased items will be included, tagged, and tracked in capital asset inventory. Also include documentation on how staff responsible for capital assets is informed on capital asset policies and procedures.

Travel and Per Diem - Provide policies and procedures on travel and per diem. Also include how staff who travel and those responsible for travel reimbursement are informed on travel and per diem policies and procedures.

Timely Audits - Provide policies and procedures on annual audits. Provide documentation on how and who is responsible for insuring that annual audits are completed timely. Also include documentation on how staff responsible for the annual audit is informed on audit policies and procedures.

Cash Management - policies and procedures on cash management of federal funds. Provide procedures used to draw and disburse federal funds. Provide procedures to reconcile draw amounts, deposits and disbursements; and to prepare federal cash reporting documents to ensure compliance with federal regulations.

The <Grantee> was required to, and has provided sufficient documentation regarding [insert specific names of the Special Condition(s)], as referenced in the <Grantee>'s [20XX] Audit file. Therefore, the criteria to enter into this agreement have been met.

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EXHIBIT D

Project Budget Worksheet *

*(Provided separately when grant agreement issued to Grantee)



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EXHIBIT E
Data Sharing Provisions

Exhibit E

Data Sharing Provisions for New Mexico Capital Outlay Agreements

I. Introduction:

This Data Sharing Provisions Exhibit ("Exhibit") is incorporated into the New Mexico Capital Outlay Agreements ("Agreements") between the State of New Mexico ("State") and [Insert Partner Name] ("Partner"). This Exhibit outlines the terms and conditions under which data will be shared between the Parties to ensure compliance with New Mexico state laws and regulations, focusing on data privacy, security, and compliance.

II. Definitions:

- a. **Authorized User:** An employee, agent, assign, representative, independent contractor, or other person or entity authorized by Partner or State to access, use, or disclose information through this exhibit.
- b. **Confidential Information:** All data or information shared in confidence, with the expectation that it will not be disclosed in an identifiable form. This includes data that is exempt from public disclosure under the New Mexico Inspection of Public Records Act (§ 14-2-1 et seq. NMSA 1978) or other relevant laws.
- c. **Data Storage:** Electronic media that hold recorded information.
- d. **Data Transmission:** The process of moving information over a network from its source to one or more destinations.
- e. **Direct Identifier:** Records or data containing personal identifiers such as names, addresses, and social security numbers.
- f. **Disclosure:** Permission to access, release, transfer, or otherwise communicate confidential information by any means to any third party, except as authorized by the Party that controls the record.
- g. **Encryption** involves using algorithms to encode data, rendering it unreadable without a specific key. It may be necessary during data transmission and/or storage.
- h. **Information:** Any data, figures, statistics, or other facts provided or learned about someone or something, including Confidential Information, that may be legally transmitted under this Exhibit.
- i. **Limited Dataset:** A data file that omits Direct Identifiers.
- j. **Protected Personally Identifiable Information:** Sensitive personal details such as social security numbers and financial account numbers, with specific exclusions as outlined in the Agreements.

III. Purpose:

The purpose of this exhibit is to promote transparency, facilitate information sharing between the parties, support better policy and decision-making, and enhance public services through collaborative

data analysis from various sources.

IV. Use of Information:

- a. Use of Information obtained or created under this exhibit shall be strictly limited to the purposes stated herein and in the agreements. The parties agree not to sell Information to third parties or use it for commercial, solicitation, or political purposes.
- b. Each Party shall serve as the custodian of the Information and comply with all conditions for its use, including security measures to prevent unauthorized access.
- c. The Parties shall follow all relevant federal and state laws and regulations governing the use of such Information.

V. Safeguarding Information:

- a. Confidentiality: Access to Confidential Information shall be limited to the minimum necessary to accomplish the purposes of this Exhibit. Authorized Users must adhere to the confidentiality requirements.
- b. Security: Security practices shall comply with the requirements of the New Mexico Department of Information Technology Act and related regulations. The Parties agree to notify each other within three business days of any suspected or actual security breach.
- c. Information Storage and Transmission: Data Storage and Transmission shall take place on an encrypted server with appropriate security controls.

VI. Re-Disclosure of Information:

The Parties agree not to disclose Information except as required by law or with prior written approval of the other Party. If there is a public records request, the Party receiving it shall notify the other Party within three business days.

VII. Ownership of Information:

Legal title to Information shall remain with the provider. The Partner grants the State a royalty-free, non-exclusive, non-transferable license to use the Information in furtherance of the purposes outlined in this Exhibit.

Signature: *STEN JOHNSON*

Email: sajohnson@santafenm.gov

Signature: *BRIAN MOYA*

Email: bjmoya@santafenm.gov

Memo_MUNIS_BAR_Form_-_20192_NM DFA Grant \$525K FY26

Interim Agreement Report









2025-10-07

Created:	2025-10-01
By:	TONIETTE CANDELARIA MARTINEZ (tocandelariamartinez@santafenm.gov)
Status:	Out for Signature
Transaction ID:	CBJCHBCAABAA63zpaKpQ1c9y2xgpO_mk9ORHhYE765jN


Agreement History


Agreement history is the list of the events that have impacted the status of the agreement prior to the final signature. A final audit report will be generated when the agreement is complete.


"Memo_MUNIS_BAR_Form_-_20192_NM DFA Grant \$525K FY 26" History


-  Document created by TONIETTE CANDELARIA MARTINEZ (tocandelariamartinez@santafenm.gov)
2025-10-01 - 10:34:03 PM GMT- IP address: 63.232.20.2
-  Document emailed to STEN JOHNSON (sajohnson@santafenm.gov) for signature
2025-10-01 - 10:39:46 PM GMT
-  Email viewed by STEN JOHNSON (sajohnson@santafenm.gov)
2025-10-02 - 2:18:55 PM GMT- IP address: 166.137.163.56
-  Document e-signed by STEN JOHNSON (sajohnson@santafenm.gov)
Signature Date: 2025-10-02 - 2:20:02 PM GMT - Time Source: server- IP address: 166.137.163.56
-  Document emailed to BRIAN MOYA (bjmoya@santafenm.gov) for signature
2025-10-02 - 2:20:04 PM GMT
-  Email viewed by BRIAN MOYA (bjmoya@santafenm.gov)
2025-10-04 - 2:34:16 PM GMT- IP address: 129.222.129.8
-  Document e-signed by BRIAN MOYA (bjmoya@santafenm.gov)
Signature Date: 2025-10-04 - 2:34:41 PM GMT - Time Source: server- IP address: 129.222.129.8
-  Document emailed to ajhopkins@santafenm.gov ajhopkins@santafenm.gov (ajhopkins@santafenm.gov) for signature
2025-10-04 - 2:34:43 PM GMT




 Email viewed by ajhopkins@santafenm.gov ajhopkins@santafenm.gov (ajhopkins@santafenm.gov)
2025-10-06 - 6:45:05 PM GMT- IP address: 104.47.65.254

 Document e-signed by ajhopkins@santafenm.gov ajhopkins@santafenm.gov (ajhopkins@santafenm.gov)
Signature Date: 2025-10-06 - 6:45:50 PM GMT - Time Source: server- IP address: 63.232.20.2

 Document emailed to EMILY OSTER (ekoster@santafenm.gov) for signature
2025-10-06 - 6:45:52 PM GMT

 Document e-signed by EMILY OSTER (ekoster@santafenm.gov)
Signature Date: 2025-10-07 - 7:00:57 PM GMT - Time Source: server- IP address: 63.232.20.2

 Document emailed to Mark Scott (mscott@santafenm.gov) for signature
2025-10-07 - 7:00:59 PM GMT

Signature: 

Email: xivigil@santafenm.gov











25-0500 New Mexico Department of Finance and Administration

Final Audit Report

2025-11-03

Created:	2025-10-31
By:	XAVIER VIGIL (xivigil@santafenm.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAR_4NWE2dGwho_Vc29f18Zf4NGVE77DM9

"25-0500 New Mexico Department of Finance and Administration" History

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2025-10-31 - 9:54:41 PM GMT- IP address: 63.232.20.2
-  Document emailed to XAVIER VIGIL (xivigil@santafenm.gov) for signature
2025-10-31 - 9:57:27 PM GMT
-  Document e-signed by XAVIER VIGIL (xivigil@santafenm.gov)
Signature Date: 2025-10-31 - 9:57:41 PM GMT - Time Source: server- IP address: 63.232.20.2
-  Document emailed to Alan Webber (amwebber@santafenm.gov) for signature
2025-10-31 - 9:57:43 PM GMT
-  Email viewed by Alan Webber (amwebber@santafenm.gov)
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-  Document e-signed by Alan Webber (amwebber@santafenm.gov)
Signature Date: 2025-11-01 - 5:26:56 PM GMT - Time Source: server- IP address: 73.242.252.236
-  Document emailed to ANDREA SALAZAR (asalazar@santafenm.gov) for signature
2025-11-01 - 5:26:58 PM GMT
-  Email viewed by ANDREA SALAZAR (asalazar@santafenm.gov)
2025-11-03 - 2:25:17 AM GMT- IP address: 76.26.101.206
-  Document e-signed by ANDREA SALAZAR (asalazar@santafenm.gov)
Signature Date: 2025-11-03 - 2:25:30 AM GMT - Time Source: server- IP address: 76.26.101.206
-  Agreement completed.
2025-11-03 - 2:25:30 AM GMT



BUSINESS REGISTRATION

VILLAGE OF LOS RANCHOS DE ALBUQUERQUE

6718 Rio Grande Blvd. NW • Los Ranchos, NM 87107 • (505) 344-6582



411 EQUIPMENT, LLC
7324 4th Street NW
Los Ranchos, NM 87107

PERMIT NO: 1843

BUSINESS TYPE: Commercial

EXPIRES: December 31, 2024

The issuance of this business license has been done so in accordance with Village Code §3.1.1-7 and approved by the planning and zoning department. Issuance of this license shall in no way relieve the Licensee of compliance with any and/or all applicable Village Codified Ordinances. This license is valid for the 2024 calendar year.

Danielle Sedillo-Molina

Village Clerk

06/06/2024

Date

-DISPLAY IN A CONSPICUOUS PLACE-
NOT TRANSFERABLE

losranchosnm.gov

VLR.BL.2024

Request for Taxpayer Identification Number and Certification

Go to www.irs.gov/FormW9 for instructions and the latest information.

**Give form to the
requester. Do not
send to the IRS.**

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. <i>See Specific Instructions on page 3.</i>	<p>1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)</p> <p>411 Equipment LLC</p> <p>2 Business name/disregarded entity name, if different from above.</p>	
	<p>3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only one of the following seven boxes.</p> <p> <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C corporation <input type="checkbox"/> S corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input checked="" type="checkbox"/> LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) S <i>Note:</i> Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) _____ </p>	<p>4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):</p> <p>Exempt payee code (if any) _____</p> <p>Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any) _____</p> <p style="text-align: right;"><i>(Applies to accounts maintained outside the United States.)</i></p>
	<p>3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions <input type="checkbox"/></p>	
	<p>5 Address (number, street, and apt. or suite no.). See instructions.</p> <p>7324 4th St NW</p> <p>6 City, state, and ZIP code</p> <p>Los Ranchos, NM 87107-6626</p> <p>7 List account number(s) here (optional)</p>	<p>Requester's name and address (optional)</p>

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; height: 20px;"></td> <td style="width: 5%; text-align: center;">-</td> <td style="width: 25%; height: 20px;"></td> <td style="width: 5%; text-align: center;">-</td> <td style="width: 40%; height: 20px;"></td> </tr> </table>		-		-							
	-		-								
or											
Employer identification number											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; height: 20px; text-align: center;">8</td> <td style="width: 5%; text-align: center;">4</td> <td style="width: 5%; text-align: center;">-</td> <td style="width: 25%; height: 20px; text-align: center;">2</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">7</td> <td style="width: 5%; text-align: center;">8</td> <td style="width: 5%; text-align: center;">0</td> <td style="width: 5%; text-align: center;">9</td> <td style="width: 5%; text-align: center;">8</td> </tr> </table>	8	4	-	2	0	7	8	0	9	8	
8	4	-	2	0	7	8	0	9	8		

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person <i>ShamDemera</i>	Date 10-02-25
------------------	--	----------------------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.


What's New


Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

Signature: 
Daniel Garcia (Dec 23, 2025 18:14:39 MST)
Email: dagarcia@santafenm.gov

Signature: 
SCOTT OUDERKIRK (Dec 23, 2025 18:55:52 MST)
Email: slouderkirk@santafenm.gov