DO NOT INVOICE THIS ADDRESS

City and County of Denver
Purchasing Division
201 W. Colfax Ave Dept. 304
Denver, CO 80202
United States of America
Ph: 720-913-8100 Fax: 720-913-8101

Purchase Order Number	PO-00165256
Purchase Order Date	Apr 2, 2025
Contract ID	
Payment Terms	Net 30
Payment Type	ACH
Buyer	Leann Rush

Supplier

FRONT RANGE FIRE APPARATUS
7600 MILLER CT
FREDERICK, CO 80504
United States of America
Ph: (303) 4499911

Ship-To: Please note: review the additional notes section below for some more specific agency contact information.

DEN Maint Center
27500 E 80th Ave Unit A
Denver, CO 80249
United States of America
Matthew McKibbin

Bill To

Denver International Airport 8500 Pena Boulevard
Room 8870
Denver, CO 80249-6340
United States of America
Matthew McKibbin

Currency	Total Lines Amount	Tax Exempt	Total PO Amount
USD	$9,615,640.00	98-02890-0000	$9,615,640.00

Shipping Terms	Shipping Method	Shipping Instructions
FOB Destination	Common Carrier	

Goods Lines

Line Number	Item Name	Supplier Item Identifier	Description	Due Date	Unit of Measure	Quantity	Unit Price	Line Amount
1			Exhibit D F550 Patrol Unit, (includes equipment) Includes delivery to customer location Per attached component list Delivery is approximately 22.0 to 24.0 Months	12/01/2026	Each	1	$589,469.50	$589,469.50
2024 Capital replacement for Z-F-042								
2			Exhibit A Oshkosh Striker 8x8 RT Includes delivery to customer location Per attached specification Delivery is approximately 17.0 to 21.0 Months	12/01/2026	Each	1	$2,812,233.66	$2,812,233.6
2024 Capital replacement for Z-F-32								

Goods Lines

Line Number	Item Name	Supplier Item Identifier	Description	Due Date	Unit of Measure	Quantity	Unit Price	Line Amount
3			Exhibit B Oshkosh Striker 8x8 RT Includes delivery to customer location Per attached specification Delivery is approximately 17.0 to 21.0 Months	12/01/2026	Each	2	$2,812,233.67	$5,624,467.3
2025 capital replacement for Z-F-033, Z-F-034								
4			Exhibit C F550 Patrol Unit, (includes equipment) Includes delivery to customer location Per attached component list Delivery is approximately 22.0 to 24.0 Months	12/01/2026	Each	1	$589,469.50	$589,469.50
2025 Capital replacement for Z-F-043								

3.26(e)-This Purchase Order is contingent on Council approval and is void without such action. Resolution No. _____

Sales Quotes attached Exhibits A,B,C & D

Shipping: Purchase Order price listed herein includes all shipping and handling. F.O.B. DENVER INTERNATIONAL AIRPORT FLEET, 27500 E 80th Ave, Unit A, Denver, CO. 80249

Payment: Term: Net 30 Upon inspection and acceptance.

Purchase Order has been issued in accordance with DRMC 20-64.5 of the Revised Municipal Code: Cooperative Purchasing and is supported by HGAC CONTRACT AWARDED, CONTRACT NUMBER FS12-23

The terms and conditions of this purchase order shall supersede and replace the HGAC CONTRACT AWARDED, CONTRACT NUMBER FS12-23

All Titles to Read:

City and County of Denver
201 West Colfax Avenue Dept. 304
Denver, CO 80202

Contact person for delivery and other questions is Matthew McKibbin at 303-342-2891 or matthew.mckibbin@flydenver.com

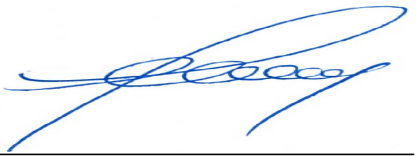
Vendor to fill in and submit Vehicle Check-In Sheet. See Exhibit E
Delivery will NOT be considered complete without it.

Delivery: Monday through Friday between 8:00am and 4:00pm. Location:
DENVER INTERNATIONAL AIRPORT FLEET
27500 E 80th Ave, Unit A
Denver, CO 80249

Upon service completion and/or delivery of goods, please reference Purchase Order (PO) number. Please send/copy invoices to accounts.payable@flydenver.com. All billing inquiries are to be directed to the billing agency contact listed above.

CHANGES TO THIS PURCHASE ARE NOT VALID WITHOUT PRIOR APPROVAL FROM PURCHASING.

* Supplier Contact Name, Phone, Email:
Duane Doucette, 303-449-9911, DuaneD@frontrangefire.com



Authorized By

By accepting this Purchase Order you agree to the Terms and Conditions of the General Services Purchasing Division. Follow the URL provided to the Purchase Order Terms and Conditions – https://denvergov.org/files/assets/public/v/1/purchasing/documents/generalservicespurchasing_general_conditions_of_purchase_11242021.pdf

EXHIBIT A

FRONT RANGE FIRE APPARATUS

7600 Miller Court
Frederick, CO 80504
303-449-9911
1-800-334-9911
www.FrontRangeFire.com

DUANE DOUCETTE
303-304-6118
DuaneD@frontrangefire.com

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YOU CHOOSE
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Go with longevity. Go with the #1 industry authority that protects the legacies great community leaders leave behind. When you invest in Pierce® fire apparatus, you're making the right call for the long haul.

No other manufacturer has a stronger foundation of expertise, stability and support.

Unmatched Support

- Over 35 years in business
- Staffed by 7 sales professionals with 150 years of combined experience
- State-of-the-art service center employs a team of highly trained and certified technicians
- Mobile services and a full line of parts and equipment

Untouchable Fire Apparatus Expertise

- Over 30,000 custom chassis built
- More than 30 patents attributed to our continued investment in research, development and safety
- Thousands of years of cumulative experience
- First single-source manufacturer of custom fire apparatus in North America to achieve ISO 9001 certification
- Only manufacturer to have third party, Underwriters Laboratories certification on the entire apparatus

Unshakable Stability

- Rock-solid financials as an Oshkosh Corporation Company
- Oshkosh named a World's Most Ethical Company by Ethisphere Institute
- Recognized as a 2016 Best Governance, Risk, and Compliance Program by NYSE Governance Services
- Complete transparency of a public traded company
- Greater strength from shared engineering and technology across all of Oshkosh Corporation
- With over 100 years of history and numerous industry-first contributions, we're not going anywhere
- America's Best Large Employers list by Forbes

200+
FULL-TIME ENGINEERS

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3RD PARTY CERTIFIED
NFPA
1901-2009

PIERCE

OVER 13,000 EMPLOYEES WORLDWIDE

OSHKOSH

ISO 9001
CERTIFICATION

PIERCE & OSHKOSH

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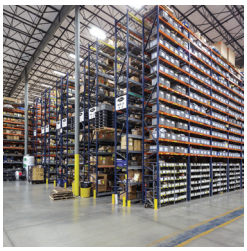

UL/ULC CERTIFIED

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SINGLE SOURCE

PIERCE

$9M
PARTS INVENTORY

PIERCE

METROPOLITAN FIRE CHIEFS

24/7
RESPONSE

FRONT RANGE FIRE APPARATUS

INTERNATIONAL FIRE CHIEFS ASSOCIATION
VOLUNTEER & COMBINATION OFFICERS SECTION

Pierce leads the industry in sponsorships that support families of fallen firefighters, recognize outstanding achievement and further the education and safety of the fire service.

www.piercemfg.com

FRONT RANGE FIRE APPARATUS

Pierce

Pierce Manufacturing Inc., An Oshkosh Corporation Company
P.O. Box 2017, Appleton WI 54912-2017 USA

P-0108-SLLSTBLTYSS-FRNTRNG 1/17

FOR FURNISHING FIRE APPARATUS

April 08, 2025

City and County of Denver

The undersigned is prepared to manufacture for you, upon an order being placed by you, for final acceptance by Front Range Fire Apparatus., at its home office in Frederick, Colorado, the apparatus and equipment herein named and for the following prices:

One (1) Oshkosh Striker 8x8 RT **$2,830,567.00**
Per HGAC FS12-23
Includes delivery to customer location
Per attached specification

Multiple Vehicle Discount **Deduct ($18,333.34)**

Full payment due at factory before shipping if not prepaying

Total **$ 2,812,233.66**

Said apparatus and equipment are to be built and shipped in accordance with the specifications hereto attached, delays due to strikes, war, or intentional conflict, failures to obtain chassis, materials, or other causes beyond our control not preventing, within about 15 to 18 months after receipt of this order and the acceptance thereof at our office at Frederick, Colorado, and to be delivered to you Denver, CO

The specifications herein contained shall form a part of the final contract, and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The specification for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid, and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above. Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.

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

FRONT RANGE FIRE APPRATUS.

By: _____
Duane Doucette
SALES REPRESENTATIVE

Pierce

OSHKOSH AIRPORT PRODUCTS

FRONT RANGE FIRE APPARATUS

Proposal for **Denver International Airport (DEN)**

Prepared by **Front Range Fire Appratus**

01/08/2025

OSHKOSH AIRPORT PRODUCTS

STRIKER®

FRONT RANGE FIRE APPARATUS

DRIVEN TO RESPOND.

CONTENTS

VEHICLE PERFORMANCE FIGURES/MEASUREMENTS

Balances and Clearances

The vehicle weight will be distributed as equally as practical over the axles and tires. The difference in tire load between tires on any axle will not exceed 5 percent of the average tire load for that axle. The difference in load between axles will not exceed 10 percent of the load on the heaviest axle meeting NFPA 414 requirements using the 24R21 tire size.

Approach & Departure Angles	30 degrees
Inter Axle Clearance Angle	12 degrees
Underbody Clearance	22.26 inches (565 millimeters)
Under Axle Clearance at Differential Housing Bowl	16.5 inches (419 millimeters)
Wall-to-Wall Turning Circle Diameter	99.4 feet (30.3 meters)

Exterior Dimensions

The overall vehicle height, length, and width of the vehicle will be consistent with the rated payload and operational performance.

Overall Length	551 inches (14,000 millimeters)
Overall Width (Excluding Mirrors)	120 inches (3,048 millimeters)
Overall Height (Top of Handrails Fully Laden)	150 inches (3,800 millimeters)

Acceleration Performance

The fully laden vehicle acceleration will be from 0-50 mph (0-80 km/h) in 20 - 25 seconds depending on vehicle configuration as well as road and wind conditions. The fully laden vehicle acceleration time will not exceed 35 seconds per NFPA 414 requirements.

Top Speed Performance

The fully laden vehicle will have a minimum top speed of 71 mph (115 km/h) on a flat, level, improved (paved) surface.

Braking Performance

The brake system will meet the following performance requirements at gross vehicle weight (fully laden):

Service Brake:

Stopping Distance From	20 mph (32 km/h)	40 feet (12 meters) Maximum
Stopping Distance From	40 mph (64 km/h)	160 feet (49 meters) Maximum
Hold Fully Laden Vehicle On Grade	50% Minimum Descending	50% Minimum Ascending

Emergency Brake: (Depending on vehicle configuration)

Stopping Distance From	40 mph (64 km/h)	288 feet (88 meters) Maximum

Parking Brake:

Hold Fully Laden Vehicle on Grade	20% Minimum Descending	20% Minimum Ascending

Suspension Performance

An off-road, high mobility Oshkosh® TAK-4®, all-wheel independent suspension system will be provided resulting in no more than 0.5 g rms acceleration at the seat of the vehicle when traversing an 8 inch (24 centimeter) half round at 35 mph (56 km/h) without causing injury to the operating personnel, loss of vehicle control, or damage to the vehicle. The design will allow the vehicle to travel safely at minimum off-road speeds of 35 mph (56 km/h). The Oshkosh® TAK-4®, Independent suspension system design will allow for a minimum of 16 inches (406 millimeters) of total wheel travel and is NFPA414 and 150/522-10E certified.

Gradeability

The vehicle will be able to:

- Ascend a smooth, dry, paved road having a 20 percent grade and maintain a speed of at least 8 mph (13 km/h).
- Ascend and descend a dry, hard surface incline having a 50 percent grade at not less than 1 mph (1.6 km/h).
- Climb a vertical wall at least 18 inches (450 millimeters) high and negotiate terrain that will deflect the opposite wheels of the truck in alternately contrary directions at least 14 inches (360 millimeters).

Dynamic and Static Stability

The vehicle will meet the following stability requirements:

Side slope stability (Tilt Table Meeting SAE J2180)	30 degrees (58 percent grade)
Dynamic balance (Min. Speed on 100 foot (30 meter) Radius Circle)	22 mph (35 km/h)
Capable of performing NATO double lane change at speed up to	50 mph (80 km/h)

Environmental Conditions

The vehicle will be capable of withstanding the following conditions without detrimental effect to the operation:

- Dust particles, as encountered in desert areas
- The corrosive effects of salt fog
- Material decay from fungus and mildew
- Relative humidity up to 100 percent
- Ambient temperature ranging from 17.6 to 122 degrees Fahrenheit (-8 to 50 degrees Celsius)
- Altitude ranging from 0 to 1,968 feet (0 to 600 meters)

PAINT PROCESS

The vehicle shall be painted per Oshkosh Airport Products procedures and standards per PQCP-0309. All aluminum components shall be pre-treated prior to paint using an aluminum conversion coating process. All parts of the vehicle shall be cleaned, treated and primed prior to assembly and final painting. The paint applied to the vehicle shall be a durable, single color acrylic urethane.

CAB PAINT

The cab will be painted #35 Safety Lime (FLNA 10322), the fenders will be painted #35 Safety Lime (FLNA 10322), and the skidplate inserts will be painted #99 Semi-Gloss Black (FLNA 41735). Final colors and layout will be confirmed prior to vehicle construction.

BODY PAINT

The body will be painted #35 Safety Lime (FLNA 10322) , the chassis will be #35 Safety Lime (FLNA 10322) and the hubs will be painted #35 Safety Lime (FLNA 10322). Final paint colors and layout will be confirmed prior to vehicle construction.

REFLECTIVE STRIPING / GRAPHICS

Striping and lettering will be provided and installed to meet customer requirements. The graphics package will be presented to and confirmed by the end user prior to approval packet submission.

REAR CHEVRON STRIPING

There will be alternating color chevron striping located on the rear facing vertical surface of the vehicle installed on the rear fiberglass panels. The stripes will be in a "V" pattern pointing upwards with the stripes meeting at the vehicle centerline. The chevron colors will be red and yellow diamond grade retroreflective material and each stripe will be 6 inches (152 millimeters) in width.

LABELS

The vehicle will be furnished with all informational, functional and safety related labels necessary for operating the vehicle and systems as required by local requirements. The labels will be in the English language.

ENGINE COVER NO STEP LABEL

A label will be provided on the left side of the engine cover on the roof of the vehicle. The label will be rectangular with a white background, red lettering stating NO STEP and a no step pictogram adjacent to the lettering. The label will be installed near the raceway cover and be easily read from the walkway over the engine enclosure.

SWITCH LABELS

Labels will be installed above or below rocker switch banks and electronic controls to indicate the function of the switches. The labels will have a black background with white lettering in the English language. Labels will be installed on the following controls (if applicable):

Cab Interior Rocker Switch Labels

- Agent activation
- Firefighting system discharges
- AC powered lighting

- DC powered lighting
- Upper discharge functions
- Lower discharge functions
- Emergency lighting
- Cab interior lighting
- Chassis controls
- Defroster fans / heated mirror / winterization controls
- Power window controls
- Bus style door controls (if equipped)

Cab Interior Rotary Switch Labels

- Ignition / engine start
- Headlight / marker lights
- Driveline lock
- Electric mirror adjustment

Body Rocker Switch Labels

- Left structural panel function controls

REMOVEABLE NUMBER PLATES

Three (3) number plates will be provided on the exterior of the vehicle painted to match the exterior vehicle paint. The number plates will have low-output LED lights to illuminate the number plates but not create too much glare. The number plates will be removeable and replaceable with another plate for the same location should the number need to be changed. The number plates will be provided in the following locations:

- The left side of the vehicle mounted to the water tank sidesheet
- The right side of the vehicle mounted to the water tank sidesheet
- The right side of the vehicle roof mounted to the cab

The number panels will have quick release pins to secure them to the mounting brackets. The quick release pins will be mechanically connected to the vehicle via coated steel cables to prevent potential FOD.

There will be a total of six (6) sets of three (3) number panels (left side, right side, roof) included with the vehicle.

FUEL CAPACITY LABEL

A label stating DIESEL FUEL ONLY and a label with the fuel capacity will be installed on the inside of the fuel door on the right side of the vehicle. The DIESEL FUEL ONLY tag will be rectangular with a white background and green lettering installed above the fuel door latch. The FUEL CAPACITY label will be installed below the fuel door latch, be rectangular with a white background, have black lettering and state the capacity is 165 GALLONS.

DO NOT DRILL COMPARTMENT WARNING LABELS

A label will be provided on the rear wall of the body compartments that are adjacent to the water and foam reservoirs. The label will read "Do Not Drill" to prevent the water/foam tank from being damaged inadvertently.

UNDERCOAT RUSTPROOFING

The vehicle will have a rust proofing product applied to the interior of the chassis frame rails and square tubing of the superstructures of the vehicle made of ferrous metals where the material may be subject to corrosion from salt spray, salt fog and other external factors.

ENVIRONMENTAL CONDITIONS

The vehicle will be capable of operation in temperatures ranging from -40 C (-40 F) to 43 C (110 F).

WINTERIZATION SYSTEM

The vehicle will have an Espar compartment interior winterization system consisting of a diesel fueled heater, liquid to air heat exchangers and liquid circulating lines which will distribute heat to the lower body storage compartments. The winterization system will provide cold weather protection down to -40 C (-40 F). The heat output for the system will be minimum of 50,000 BTU/hr. The burner head will have an electronic control and diagnostic module. The burner head will feature a 24-volt DC electric ignition spark generator with electrodes, an integrated optical flame monitor and an overheat sensor. The burner will have a 24-volt DC electric combustion air blower. The diesel fuel pump will have an integrated solenoid actuated supply valve and will draw fuel from the main vehicle fuel tank. The burner exhaust will be routed to a safe location outside the vehicle.

CAB ERGONOMICS AND ACCESSORIES

Cab Features

The cab will be 3-point mounted on rubber bushings and constructed of welded aluminum extrusions, aluminum plates and bonded fiberglass panels. The design and construction of the cab will provide the best strength to weight ratio to prevent cab collapse in the event of a vehicle rollover. The cab will comply with ECE R29-3 standards/directive for occupant protection of a commercial vehicle. The cab will include gutters of sufficient size to prevent foam and water from dripping onto the windshield and side windows during turret discharge operations. The cab will have a minimum internal volume of 275 cubic feet (7.79 cubic meters) with a lateral field of vision of 254 degrees (127 degrees left and right of center), with 90 degrees upward and 25 degrees downward visibility when measured from the center of the cab. The cab ground visibility for the driver will be a minimum nearest point of 8.8 feet (2.7 meters) in front of the vehicle.

The cab will have the following features:

- Control console provided between driver and officer positions
- Dashboard console and gauges in front of driver position
- Integrated electronic control and diagnostic systems
- Interior surface coating will be a painted durable grey spatter type finish

CAB DOORS

Access to the cab will be gained with a single hinged door located on each side of the vehicle that opens at least to a 90-degree angle. Woven nylon door check straps will be installed on each door to limit opening travel. The bottom of the cab door openings will include scuff plates for surface protection.

CAB DELUGE SYSTEM

The cab windshield will be equipped with a windshield deluge system. Four (4) brass nozzles will be spaced across the face of the cab above the windshield to distribute clear water from the vehicle water tank. The deluge system will have a 24-volt DC pump motor with an in-line strainer and will automatically drain the deluge system piping outside the compartments automatically when deactivated. The deluge system will be activated by a switch in the cab and when switched on, the windshield wipers will also be activated automatically while the system is in operation.

CAB DOOR INTERIOR GRAB HANDLES

The cab doors will have angled tubular grab handles with an integrated door opening mechanism. The door opening mechanism will be operable with a gloved hand and release the door latch when the interior button/lever is depressed. The door grab handles will have a durable single stage semi-gloss black paint applied to the surface.

CAB CENTER CONSOLE

The cab will have a flat top center console located in between the driver and turret operator seating positions. The upper surface of the center console will be parallel with the cab floor.

CAB GRAB HANDLES

There will be grab handles covered with cushioned and slip resistant material located inside the driver's and passenger door openings to facilitate safe entry and exit from the cab. The grab handles will be placed to ensure three-point contact can be maintained.

CAB STEPS

There will be a heavy duty step provided below the left side and right side cab doors. The steps will include an aggressive pattern on the stepping surface to provide high traction when entering or exiting the cab. The step design will be self-cleaning so that a maximum amount of water, snow, mud or other debris can fall off or through the step. The step will be collapsible and spring loaded to allow the step to contact obstacles and ensure that the required 30 degree angle of approach at the front of the of the vehicle and return to the default shape.

CAB VISIBILITY

There will be a total of 7.8 m² (84 ft².) area for superior visibility of shatterproof automotive tinted safety glass installed in the cab for all windows certified to DOT and ECE 43.
The window measurements will be as follows:

1. A tinted single-piece laminated windshield 3.99 m² (42.9 ft².).
2. Tinted tempered glass upper door window with surface area of 0.66 m² (7.15 ft².).
3. Tinted tempered glass upper rear cab window with surface area of 0.41 m² (4.44 ft².).
4. Tinted tempered glass front angled lower corner window with surface area of 0.34 m² (3.7 ft².).
5. Tinted tempered glass lower door window with surface area of 0.5 m² (4.9 ft².).

CAB DOOR WINDOWS

The cab doors will be equipped with electric controlled slide type windows. There will be a control switch provided for each cab door sliding window that are accessible by the seated driver and turret operator. located on the center console.

CAB MIRRORS

The vehicle cab will be equipped with two (2) Rosco 8 inch x 17 inch (203 millimeters x 432 millimeters) door mounted combination flat and convex mirrors, one (1) located on each side of the cab. The mirrors will be heated and electrically adjustable. The horizontal rotational viewing range will be no less than 60 degrees. Electrical switches for the mirror adjustment and heating feature will be provided within easy reach of the driver.

Two (2) rectangular convex lens spotter mirrors will be provided on the A pillars of the cab structure to eliminate blind spots in front of the vehicle. One (1) mirror will be mounted on the left side of the vehicle and one (1) mirror will be mounted on the right side of the vehicle.

CAB INTERIOR

The cab will be weather-tight, acoustically and thermally insulated to provide noise level not to exceed 85 dB (A) at the driver's ear position. Foam-backed black textured rubber material will cover the interior floor of the cab. The rear wall of the cab will have vinyl covered foam material to dampen noise. The cab will have five (5) vinyl covered, manually adjustable sun visors.

ROOF HATCH

The roof hatch will be constructed from acrylic and will be located on the left side of the cab roof above the outermost seat. The roof hatch will have two (2) manual latches to secure the hatch closed and two (2) gas shocks to hold the hatch lid in the open position.

FOAM SWITCH GUARD

There will be a mechanical guard provided in front of the foam activation switch in the cab.

CONSOLE MOUNTED MAP STORAGE

A storage receptacle will be installed at the rear of the center console to provide storage for maps, binders and clipboards.

SUN SHADES

Two (2) sun shades will be provided in the cab.

CREW SPACE

DRIVER POSITION (CENTER)

The driver's seat will be Seats, Inc., 911 Series non-SCBA type with an integral 3-point seat belt. The seat will be air-ride adjustable, include a manual tilt seatback adjustment and a manual forward/backward slide adjustment feature. The seat cover material will be grey cloth resistant to wear and staining.

RIGHT TURRET OPERATOR SEAT POSITION

The right side turret operator/officer seat will be a Seats, Inc., 911 Series SCBA compatible with an integral red 3-point seat belt. The seatback will have a non-adjustable design and will be a slide adjustable, air-ride suspension type. The seating material will be cloth, grey in color and resistant to wear and staining. The SCBA storage device will be an IMMI SmartDock. The SCBA holder will provide single motion insertion and hands free release of the SCBA, will use no straps and have an inertia locking feature to prevent the SCBA bottle from becoming a projectile.

LEFT OUTSIDE SEAT POSITION

There shall be a step assembly located to the left rear of the driver seating position. The step assembly shall be constructed of formed and welded aluminum with three (3) aggressive non-slip stepping surfaces. The step assembly shall be painted to match the spatter finish interior color.

LEFT INSIDE SEAT POSITION

The left inside seat will be a Seats Inc., 911 Series SCBA compatible with an integral red 3-point seat belt. The seat will have a non-adjustable design and will be fixed mounted. The seating material will be cloth, grey in color and will be resistant to wear and staining. The SCBA storage device will be an IMMI SmartDock. The SCBA holder will provide single motion insertion and hands free release of the SCBA, will use no straps and have an inertia locking feature to prevent the SCBA bottle from becoming a projectile.

RIGHT INSIDE SEAT POSITION

There will be a storage cabinet located to the right rear of the driver seating position. The cabinet will be constructed of formed and welded aluminum and will be painted with a grey spatter type finish. The cabinet will have three (3) height adjustable shelves, four (4) 12-volt DC outlets, a clear anodized Gortite roller shutter door and white LED lighting inside the cabinet actuated by a door switch.

AIR CONDITIONING AND HEATING

A 41,300 BTU Bergstrom, air conditioning (HFC 134A refrigerant) system, integral with the vehicle 60,000 BTU Bergstrom, heater defroster unit will be provided with a 313cc AC compressor driven from the vehicle engine.

MAP LIGHTS

There will be two (2) 24-volt DC auxiliary map lights provided in the cab on or near the center console. One (1) light will be installed near the driver's seat and one (1) light will be installed near the officer's seat. Both map lights will each be attached to 24 inch (60.7 centimeter) long flexible mounts and will have the on/off switch located on the light head.

SIREN / PA SYSTEM

Siren Head

The vehicle will be equipped with a full function siren with public address capability. The siren will be a Whelen, Model 295SL series. The siren head will be backlit for visibility in dark or low light conditions. The siren system will include a hard wired microphone.

Siren Speaker
There will be one (1) Whelen, Model SA315 Series 100-watt speaker mounted at the lower portion of the front skidplate assembly.

CAB DEFROSTER FANS
Two (2) compact, rotary blade fans will be provided in the cab to provide additional air circulation when necessary. The fans will be located on the left and right side of the cab dashboard and will be adjustable for direction. The fans will have two (2) speeds, controlled by a toggle switch on the body of the fan. The fans will both be activated by an ON/OFF switch on the dashboard.

CAB MOUNTED FLASHLIGHTS / LANTERNS
There will be three (3) High Visibility Yellow Pelican 9415 LED lanterns with charging bases provided in the cab. Each light will have an output of 588 lumens. Two (2) will be mounted on the left side of the cab and one (1) will be mounted on the right side of the cab.

ELECTRIC/AIR HORNS
There will be dual Hadley stutter-tone air horns and a pair of high/low tone electric horns mounted underneath the cab, forward of the driver. The air horns will be activated by a switch located in the center of the steering wheel and the electric air horns will be activated by a switch at the end of the turn signal stalk.

FOOT SWITCHES

DRIVER POSITION
There will be two (2) foot switches provided in the cab at the driver seating position. One (1) foot switch will activate the vehicle air horns and one (1) foot switch will activate the siren or public address system.

TURRET OPERATOR POSITION
There will be two (2) foot switches provided in the cab at the turret operator seating position. One (1) foot switch will activate the vehicle air horns and one (1) foot switch will activate the siren or public address system.

LEFT CAB ELECTRONIC EQUIPMENT MOUNTING ARM
A Ram Mounts Severe Duty adjustable pedestal and double swing arm mount will be provided on the left side of the cab, mounted to the floor. The equipment arm will have a Ram Mounts Universal X-Grip Cradle, part number RAM-HOL-UN11U, for a 12 inch (304.8 millimeter) tablet.

A separate flush mount Kussmaul dual port USB-A and USB-C power outlet will be provided near the swing arm on the dash structure.

RIGHT CAB ELECTRONIC EQUIPMENT MOUNTING ARM
A Ram Mounts Severe Duty adjustable pedestal and double swing arm mount will be provided on the right side of the cab, mounted to the dash structure adjacent to the main display monitor. The equipment arm will have a Ram Mounts Universal X-Grip Cradle, part number RAM-HOL-UN11U, for a 12 inch (304.8 millimeter) tablet.

A separate flush mount Kussmaul dual port USB-A and USB-C power outlet will be provided near the swing arm on the dash structure.

VIDEO SYSTEMS

THERMAL IMAGING CAMERA

There will be an NFPA-414 2020 compliant Teledyne FLIR, Model M364C-LR dual payload pan/tilt remote controlled thermal imaging camera provided on center of the vehicle roof below the roof line not to intrude with turret. The thermal imaging camera will aid the driver and crew during complete darkness, severe weather, smoky, foggy or other low visibility conditions. The camera will have pan or azimuth movement of plus/minus 180 degrees from center and elevation movement of plus/minus 45 degrees from horizontal. The camera will have a user selectable and adjustable auto park feature and will be sealed for use in extreme outdoor environments. A mini joystick controller will be integrated into a control pad with switches for all functions.

360 DEGREE NAVIGATION CAMERA

A bird's eye 360 degree camera system will be provided on the vehicle. The bird's eye view will allow the driver to see objects around the perimeter of the vehicle. The camera system will use an electronic control module (ECM) to receive picture data from four (4) wide angle color cameras place at the front, sides and rear of the vehicle. The control module will stitch the video feed into one (1) continuous top-down image of the area immediately surrounding the vehicle for improved scene awareness. The video from the 360 degree camera system will be displayed on the main the in-cab 12 inch (304.8 mm) color display.

The 360 degree camera system will default to display the bird's eye view. The image will automatically switch from the default view:

- When the turn signal switch is activated, the electronic control unit (ECM) will display the image of the camera on the respective side of which turn signal direction is activated.
- When the vehicle is shifted into reverse, the electronic control (ECM) will display the image from the rear camera to act as a back up camera during reversing operations.

FORWARD VIDEO CAMERA

A full color, compact, high resolution, shock resistant, digital camera will be installed in the cab near the windshield facing forward to capture the view in front of the vehicle. The camera will be mounted on the right side of the dashoard in front of the officer seating position.

DIGITAL VIDEO RECORDER (DVR)

A Digital Video Recorder (DVR) unit utilizing hard drive type storage with replay capability and day/date/time encoding will be provided and integrated to the camera and audio inputs as determined by the end user for simultaneous recording. The recorder will have twelve (12) inputs and will be secured and only accessible by keyed lock.

CONTROLS

All instruments, warning lights and controls relative to truck operation will be displayed to the left of the driver so that they will be useful, convenient, and visible to the driver. All instruments, warning lights and controls relative to the firefighting system will be displayed to the right of the driver for center steer

so that they will be ergonomic, convenient, and visible to both the driver and the officer (turret operator). Agent activation to be clearly identified with color coded switches providing the operator immediate identification of the agents. Blue will identify water, Yellow will identify water/foam, and Purple will identify dry chemical powder.

There will be a 12 inch (304.8 mm) display provided in the center of the cab control panel to aid the driver and turret operator. The display will show pump pressure, water levels, foam levels, roof turret position as well as diagnostics with fault codes. The display utilizes the Oshkosh designed control electronics which is CAN based and uses D-Series modules. The display can be user customizable and be programmed for any language.

The following cab mounted controls will be provided as a minimum:

- Accelerator Pedal
- Air Conditioner Controls
- Brake Pedal
- Color Coded Complementary Agent / System Activation
- Rotary Differential Lock Control
- Dome Light Switch Manual / Door Activated
- Foam Concentrate Reservoir Control Valve
- Headlight Switch w/ Dimmer Control
- Heater / Defroster Controls
- Horn Control
- Master Electrical Disconnect Switch (located in engine compartment)
- Panel Lights Switch with Dimmer
- Parking Brake Control
- Power Adjustable Mirror Control
- Rotary Ignition Start/Stop Switch
- Siren Switch with Microphone
- Switches for Emergency Beacon(s) / Strobe(s)
- Switches for Exterior Lights
- Switches for Non-Emergency Amber Beacon(s) / Strobe(s)
- Tilt / Telescoping Steering Wheel Column
- Transmission Range Selector
- Turret Control
- Windshield deluge
- Windshield Wiper and Washer, column mounted
- Cup Holders
- Hand throttle

INSTRUMENTS AND WARNING LIGHTS

The following instruments and warning lights will be provided in the cab:

- Air Pressure (brake and other air-driven accessories)

- Complementary Agent Tank-Charged Indication
- Beacon / Strobe Indicator (s)
- Foam Agent Tank Level Indicator
- Water Tank Level Indicator
- Water Pump Pressure
- Low Air Pressure Warning
- Compartment Door Open Indicator
- Differential Lock Indicator
- Engine Coolant Temperature
- Engine Tachometer
- Fuel Level
- Headlight Beam Indicator
- Speedometer / Odometer
- Voltmeter
- Low Engine Coolant Audible / Visual Alarm
- Digital clock
- Low Oil Pressure / High Water Temperature Audible / Visual Alarm
- Complementary Agent System Pressure Indicator
- Two (2) 12-volt DC accessory power outlets, one (1) each side
- Two (2) 5-volt DC USB A ports, one (1) each side

TELEMATICS

An Oshkosh telematics system specifically designed to interface with the vehicle control system and is a hardware and software solution will be provided. While the main cab display provides in depth diagnostic and fault history functionality for the entire vehicle including its subsystems without the need for other software or hardware tools, the telematics system provides the ability to access some of this information remotely through the internet.

The hardware solution will interface with two (2) vehicle J1939 networks for maximum diagnostic capability while remote connectivity is accomplished using GSM (Cellular) connection.

Remote access will provide agent and fuel levels, vehicle usage, recent faults, vehicle location and maintenance status.

LATERAL ACCELEROMETER

There will be an electronic rollover warning system provided. The system will detect "g" forces exerted on the vehicle. A display will be integrated into the vehicle dash in view of the driver and include an audible alarm. The sensor base unit will be installed in an easily accessible location within the cab.

ELECTRICAL SYSTEM

LIGHTING AND MARKING SYSTEM

The vehicle will be equipped with lighting designed and installed to be compliant with requirements of Federal Motor Vehicle Safety Standard - FMVSS 108.

CLEARANCE / MARKER LIGHTING

All clearance and marker lights will be LED type, 24-volt DC. The lights will be placed in the required locations at the front, sides and rear of the vehicle.

A minimum of four (4) amber LED side marker lights will be located on each side of the vehicle.

One (1) red LED marker light will be located on each side of the vehicle nearest to the rear.

Five (5) amber LED clearance lights will be mounted at the front of the vehicle.

A centered high mount red LED brake light will be installed at the rear of the vehicle and a series of five (5) red LED clearance lights will be mounted at the rear across the top of the bodywork.

TURN SIGNAL INDICATORS

Amber LED lights will be integrated into the headlight placed at the front bumper to function as front marker and turn signal indicator lights.

Two (2) LED light assemblies will be installed at the rear of the vehicle with integrated reverse, stop, tail and turn light functions. The amber turn signal indicators will be located at the outside edge of each assembly, the clear backup lights will be located in the middle and red tail/brake lights will be located to the inside of the housing. The turn signals will be self-cancelling by the cancel cam in the steering column.

HEADLIGHTS

There will be two (2) FMVSS/ECE compliant LED headlights installed, one (1) on each side at the front of the vehicle. The headlights will be certified for local requirements for right-hand traffic (RHT/left-hand steering). A rotary headlight activation switch will be provided on the dashboard and a high/low beam headlight dimmer switch will be provided on the steering column. The headlights will include a daytime running light (DRL) feature.

When the transmission is shifted into neutral and the parking brake is set the daytime running lights (DRL)will be deactivated automatically.

HEADLIGHT ALTERNATING FLASH

The high beam headlights will have an alternating flash emergency lighting function. An activation switch will be provided in the cab emergency lighting switch panel to control the high beam flash. The headlight flash switch will be enabled only when the ignition and master warning light switches are both in the on position. The alternating flash functions will automatically be deactivated when the headlight switch is active and the high beam headlights are activated or the parking brake is set and the vehicle is shifted into neutral.

GROUND LIGHTING

There will be ground lighting installed under the vehicle to illuminate the adjacent ground/work area. The ground lights will be IP 68 rated Luma Bar white LED strip lights encased in aluminum housings. There will be an ON/OFF ground lighting activation switch located in the cab and in addition, the ground lighting will only operate with the parking brake applied and transmission in neutral. The eight (8) lights will be distributed as follows:

- Two (2) under the cab doors, one (1) on each side
- Four (4) under the body compartments, two (2) on each side
- Two (2) under the rear of the vehicle, one (1) on each side aimed rearward

FOG / DRIVING LIGHTS

There will be two (2) LED driving lights and two (2) LED fog lights. The lights will be mounted one (1) of each on the left side and one (1) of each on the right side in a common recessed bezel. The fog lights will be located at the front of the vehicle directly below the headlight assemblies. The fog and drive lights will be activated by switched located on the cab dashboard to the left side of the driver.

SECONDARY DAYTIME RUNNING LIGHTS

Two (2) 24-volt DC strip lights will be installed on the front skidplates, one (1) on the left side and one (1) on the right side. The lights will operate as additional DRL (daytime running lights) and will be activated when the parking brake is released.

LICENSE PLATE ILLUMINATION

There will be one (1) license plate bracket with LED light provided on the vehicle to install a standard U.S. sized license plate. The license plate bracket with LED illumination will be installed at the left rear of the vehicle. The license plate light will be activated with the marker lights.

CAB SCENE / WORKLIGHTS

There will be two (2) 24-volt DC Rigid Industries E Series 10 in. (254 mm) LED cab worklights mounted above the windshield. The cab worklights will each have a glare shield to prevent light from entering the cab interior and will be activated from within the cab by a switch on the center console.

SCENE / WORKLIGHTS - SIDE

There will be eight (8) 24-volt DC, 30 inch (762 millimeter) LED Rigid E-Series side worklights provided on the vehicle. Four (4) lights will be installed on the left side of the vehicle and four (4) lights will be installed on the right side of the vehicle. The lights will be controlled by an on/off switch in the cab and one (1) switch, operational from ground level mounted on the side of the vehicle to control the operation of the respective lights on that side.

SCENE / WORKLIGHTS - REAR

There will be two (2) Rigid Industries 10 inch (254 mm) 24-volt DC LED worklights at the rear of the vehicle with black housings. The rear worklights will be switched from within the cab and from an external switch at the rear of the vehicle accessible from ground level. The lights will automatically illuminate when the vehicle is shifted into the reverse gear.

WARNING LIGHTS

PERIMETER WARNING LIGHTS

There will be ten (10) Whelen, 700 Series, 3 inch (76.2 millimeter) x 7 inch (178 millimeter) red LED warning lights installed around the lower perimeter of the vehicle at or near bumper height. Three (3) lights will be installed on the left side, three (3) lights will be installed on the right side, two (2) lights will be installed at the front and two (2) lights will be installed at the rear of the vehicle. The perimeter warning lights will be switched independently from upper warning lights.

STANDBY LIGHTING

There will be two (2) Whelen, Model L31HAF4, amber strobe standby beacon lights located on the roof of the vehicle. The lights will be located close to the mid-point of the water tank, one (1) on the left side and one (1) on the right side for 360-degree visibility and switched from within the cab.

FRONT UPPER WARNING LIGHTS

There will be two (2) Whelen, Mini Freedom IV, red LED warning lightbars with clear lenses installed on the roof of the vehicle near the front of the body. One (1) light will be installed on the left side and one (1) light will be installed on the right side. The lights will be activated with the upper warning light switch in the cab. The lightbars will be mounted at a 45 degree angle pointing inward toward the front of the vehicle.

UPPER REAR WARNING LIGHTS

There will be two (2) Whelen, Freedom IV, red LED clear lens warning lightbars installed on the roof of the engine cowling at the rear of the vehicle. One (1) lightbar will be installed on the left side and one (1) lightbar will be installed on the right side. The upper rear warning lights will be activated by a switch in the cab on the left side of the dash panel.

STANDBY LIGHTING ACTIVATION

The standby lighting shall have a special activation than standard. The standby lights shall operate per the following conditions:

- Activate when the ignition switch is in the "ON" position
- Deactivate when the emergency lighting is activated
- Reactivate when the emergency lighting is deactivated

LIGHT TOWER

A Will-Burt Night Scan Powerlite Series NS 4.5-900-6 Whelen Spot/Flood 120-volt AC folding light tower will be provided on the roof of the vehicle. The horizontal surface mounted tower will be raised electrically and pneumatically.

Mounting provisions will be provided with the assembly. The installation of unit will be as follows:

- Light tower installation location: Transversely at the front of the body on the roof of the vehicle

- Floodlight and tower control location: Installed on the side of the EMS cabinet at the top, behind the driver seating position.

Design and Construction

The tower will be a series of graduated extruded aluminum tubes that nest one (1) inside another. The tower will have an extended height of approximately 15 feet (4.5 meters) above the mounting location and a stowed height of approximately 11.44 inches (29.1 centimeters) above the mounting surface. The tower will be approximately 44.56 inches (113.2 centimeters) wide by 74.44 inches (189.1 centimeters) in length. The tower will be designed to sustain the intended top load with a 125 percent safety factor and will exceed NFPA requirements of a minimum 50 mph (80 km/h) wind when in a fully raised and

unguyed position. The tower will be of a compact design with a total weight of approximately 176 pounds (79.8 kilograms). The light tower will not exceed 180 pounds (82 kilograms).

The tower tubular sections will be constructed of high strength, heat-treated 6061-T6 aluminum tubes and collars. Each tube will be protected by low friction synthetic collars for smooth operation and long life. Bumpers will be designed to reduce shock on extension and retraction. All exterior surfaces will be anodized for long life and fasteners will be stainless steel for corrosion resistance.

Nesting System

The tower will have an "auto-stow" function. A double click of the mast down button will stow, retract, and shut power off to the unit. An integrated saddle assembly with synthetic, non-marring rests will be provided for the tower and flood light assembly in the nested position.

Floodlight Rotation and Tilt Operation

The tower will be equipped with a Will Burt Model RCP (remote control positioner) to control the rotation and direction of the lights in a manner that provides 360 of light coverage. The remote control positioner unit will be equipped with three (3) gear motors; one (1) for rotation and two for individual positioning of each floodlight bank (one (1) motor for left side tilting and one (1) motor for right side tilting). This feature will be designed so that the lighting may be directed in two separate locations equally and simultaneously for enhanced safety and functionality. The positioner will also rotate the floodlight assembly from zero to 350 degrees and tilt the floodlight assembly from 0 to 346 degrees.

Hand-held Remote Control

A safety yellow in color for high visibility, hand held remote control pendant, connected to a quick-disconnect, 25 foot (7.62 meter) coiled cord will be provided to control the tower. All functions of the tower will be accessible through this remote control including raising with "auto-up" ability, lowering with "auto-stow" ability, rotation and separate buttons for tilting of each floodlight bank and floodlight switching. An auxiliary power button will also be included to control optional equipment such as strobe lights or a camera that is mounted to the mast. Each button of the controller will have a corresponding LED light that provides operational feedback. An LED display that includes alphanumeric feedback will be located in the center of the controller. This display will provide operational feedback and error codes if they occur.

Pneumatic Controls

The pneumatic controls to raise and lower the tower will include an air regulator and solenoid valves. The tower will be able to be fully elevated in approximately 60 seconds. In the event of malfunction of the elevating system while the tower is in operation or being deployed, a method of limiting the rate of descent will be provided to prevent injury to personnel or damage to the equipment. The air supply for pneumatic operation of the tower will be from an external source. The installer will provide piping, shut-off valve, pressure protection valve, air compressor, auxiliary air tank(s) and additional required equipment. The complete air system will be installed in conformance to applicable NFPA and FVMSS brake standards.

Electrical Installation

The wiring harness for the floodlights, accessories, and remote control positioner will be internally routed through telescoping aluminum tubing with a highly flexible cable assembly.

24-volt DC and 120-volt AC electrical wiring will be provided with electrical connections at the tower assembly. Appropriate wiring from the circuit breaker panel for connection to the tower will be provided. The electric power to the tower and light units will automatically disconnect whenever the tower is in the nested position.

The tower operation area will be illuminated automatically by a look-up light whenever the tower is in operation. Any upward movement of the tower from the nested position will energize a red warning light in the cab and a secondary light located at the tower control area. In addition, parking brake interlocks and other equipment as required by applicable NFPA standards will be provided on the light tower installation.

Floodlight System

Six (6) Whelen Pioneer Plus™ Model # PFP2AC will be provided. The 150 watt 120-volt AC Pioneer lighthead will incorporate Super-LED® dual flood light installed in a die-cast white powder coated aluminum housing. The PFP2AC configuration will consist of 72 white Super-LEDs with a clear optic collimator/reflector assembly and a clear non-optic polycarbonate lens. The Pioneer flood light will have 15,000 usable lumens for a total of 90,000 lumens. 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 PFP2AC will be will be vibration resistant. The Pioneer™ PC boards will be conformal coated for additional protection. Two breathable membrane patches will be installed to the bottom of the housing to maintain a consistent internal pressure. The PFP2AC will have extended LED operation with low current consumption and low operating temperature. The fixture will measure 4.125 inches (105 millimeters) high, 14 inches (355.6 millimeters) wide and 2.5 inches (63.5 millimeters) deep.

Warranty

The tower assembly will carry a two (2) year manufacturer parts and labor warranty.

Manuals

Detailed service, parts, operating, and installation manuals will be provided by the tower manufacturer. Samples of such manuals will be provided on request. Two (2) copies of such manuals will be provided in both printed and CD ROM formats.

COMPARTMENT LIGHTING

There will be 24-volt DC Amdor white LED strip lighting provided to illuminate the interior of the compartments. The compartment lighting will be as close to the full height of the compartment opening as practical and will be switched with the opening or closing of the roller shutter door with the ignition in the "ON" position. The two (2) upper body compartments will each have one (1) 20 inch (508 millimeter) compartment light each and the four (4) lower body compartments will have two (2) 40 inch (1,016 millimeter) compartment lights each. Each compartment will have a magnetic switch to activate and deactivate the compartment lights when the doors are opened or closed.

An indicator light in the cab will illuminate when a compartment door is not in the closed position to alert the driver. If the parking brake is released, or the vehicle shifted out of neutral an audible alarm will sound and the compartment door indicator light will flash.

POWER GENERATION

There will be a Harrison 10kW, 120/240-volt AC, 60Hz power generator on the vehicle placed in the right rear lower body compartment with full and easy access for maintenance and inspection. The generator will be hydraulic type powered from an on-board PTO and hydraulic power source and be switched from within the cab. An output display and circuit breaker panel will be located adjacent to the generator. The generator will be equipped with an automatic shut-down based on the following conditions:

- Frequency Too High
- Frequency Too Low
- Invalid speed signal from integral hydraulic motor

OUTLETS

There will be two (2) 120-volt AC, 20 amp NEMA 5-20R straight blade duplex receptacles provided, one (1) on each side of the vehicle mounted to the rear wall of the front lower body compartments. The outlets will have hinged weatherproof covers and be GFI protected. The receptacles will receive power from the on-board generator.

CAB POWER STRIP

There will be one (1) outlet strip installed in the lower portion of the EMS compartment in the cab. The outlet strip will be powered by a dedicated 120-volt AC, 20 amp Kussmaul Auto Eject shoreline connection with yellow weatherproof cover at the right rear of the vehicle. The shoreline connection will be labeled "CAB POWER STRIP".

POWER SUPPLIES

A 24-volt DC vehicle electrical system will be provided. The vehicle DC power will be supplied by a two (2) alternator charging system with a minimum output of 100 amps each. A warning system will be provided in the cab to indicate an alternator failure.

The electrical system will include the following:

- Four (4) group 31, 12-volt DC maintenance free, top post, flooded lead-acid batteries with a minimum of 950 CCA @ 0 degree F (each) and 190 minutes of reserve capacity @ 25 amps.
- A warning label will state that connecting incorrectly to a 12-volt DC system will cause electrical system damage.
- Color coded, heavy duty, insulated battery and ground cables with wire code numbers.
- A backlit remote voltmeter will be installed adjacent to the batteries to read the battery state of charge.
- An engine start disable switch will be provided in the left side engine compartment that will prevent the vehicle from being started from the cab during routine maintenance.
- A lockable total vehicle master electrical disconnect switch rated for full vehicle current to completely de-energize the DC electrical system after the switch.
- Unused electrical distribution connectors or components located on the walls of the upper and lower compartments will have sturdy protective coverings installed to prevent unwanted contact with stored gear.

BATTERY CHARGER

There will be a Delta Q, 120/220-volt AC, 60/50 Hz waterproof battery charger installed in the right rear engine compartment to maintain the chassis batteries. The charger will incorporate a microprocessor controller and will charge and maintain the batteries automatically.

AUXILIARY AIR COMPRESSOR

There will be an on board auxiliary air compressor provided to maintain the vehicle's air system pressure powered by the AC inlet connection. The auxiliary air compressor will be mounted on the interior of a compartment. The compressor will be the rocking piston type and will have two (2) aluminum cylinders with an inlet air filter. The air compressor drive will be a totally enclosed, 1/2 horsepower, 120-volt AC motor with capacitor start and thermal protection. The design of the air compressor will allow for minimum vibration to be transferred to the mounting surface.

ENGINE COOLANT PREHEATER

There will be two (2) 110/120-volt AC, 1500-watt engine (each) coolant preheaters with thermostats provided to heat and maintain engine temperatures of approximately 100-120 degrees Fahrenheit (38-49 degrees Celsius). There will be one (1) engine preheater installed in the cooling system of each engine. The preheaters will be connected to and powered by the shoreline inlet on the vehicle.

RECEPTACLE INLETS

There will be two (2) Kussmaul™, 20-amp, 120-volt AC shoreline inlets provided to operate the dedicated 120-volt AC circuits at right rear of the vehicle. One (1) shoreline will be connected to the battery charger and auxiliary air compressor and one (1) shoreline will be connected to the engine pre-heater. The shoreline inlets will include yellow weatherproof flip up covers.

There will be a release solenoid wired to the vehicle's starter to eject the AC connectors when the engine is starting.

There will be two (2) mating connector bodies supplied with the loose equipment.

There will be a label installed near the inlets stating the following:

- Line Voltage
- Frequency
- Load(s) connected to the circuit

AUXILIARY START FEATURE

There will be 24-volt DC positive and negative posts for jump starting the vehicle provided in the right engine access compartment. The jumper studs will be located adjacent to the battery box and will have removeable color coded protective plastic covers; a red cover for the positive stud and a black cover for the negative stud.

ENGINE FAST START

Two (2) engine fast start buttons will be provided on the exterior of the vehicle. One (1) button will be installed on the left side of the cab adjacent to the cab door and one (1) will be installed at the left rear of the vehicle on the rear access panel. The buttons will be green in color, have aluminum guards to prevent inadvertent activation, and will be labeled "ENGINE FAST START".

AIR INLET RECEPTACLE

There will be a pneumatic inlet with yellow weatherproof cover located at rear of the vehicle provided to maintain vehicle air pressure when connected to an external pressurized air source. The air inlet connection will be a quick disconnect type with a check valve installed to prevent air from bleeding out the connector when disconnected.

There will be a release solenoid wired to the vehicle's starter to automatically eject the air inlet connection when the engine is cranked. A quick release air inlet connection will be provided and shipped with the loose equipment to install on the compressed air line and the end user's facility.

AIR OUTLET RECEPTACLE

A compressed air outlet will be provided in the left upper body compartment to supply compressed air from the vehicle air reservoirs. The air outlet connector will be 0.375 inch (9.53 millimeter), size "A" female quick disconnect coupling. A 50 foot (15.24 meter) length, 0.25 inch (6.35 millimeter) inner diameter air hose will be provided with one (1) 0.375 inch (9.53 millimeter), male size "A" quick disconnect coupling and (1) ball foot air chuck. One (1) 0-150 psi dual angled foot chuck mechanical tire pressure gauge will be provided and shipped with the loose equipment.

PUMP AND ROLL

The vehicle shall be capable of pump and roll operations up to 25 mph (40 km/h).

ENGINE AND ACCESSORIES

Engine

The vehicle will be equipped with two engines. The engines will be Scania DC16, 16.4-liter displacement, turbo charged, 4-stroke diesel type with 90-degree V8 cylinder configuration. The engines will be US EPA Tier 4 final emissions compliant and rated at 770 BHP (574 kW) with a peak torque of 1,950 ft-lb (2644 N-m). The engines will be equipped with electronic fuel management systems. The US EPA Tier 4 final engines will be equipped with selective catalyst reduction and exhaust gas recirculation but will not have diesel particulate filtration to meet emission standards.

An engine high idle control will be provided to maintain the engine idle at approximately 1,450 rpm when activated. The control for this system will be safety interlocked to activate only after the transmission has been placed in the neutral position and the parking brake has been set.

To supplement the conventional vehicle braking system, both engines will be equipped with an engine braking system with one ON/OFF switch located in the cab dash.

Transmission

There will be two (2) Allison, EVS-4850 Series, planetary type, fully automatic, electronic controlled seven-speed transmissions provided. The shift pad for the transmissions will be located in the cab to the left of the driver seating position with backlit switched and a gear indicator display. The transmissions will be separate from the transfer case and located at the rear for easier maintenance. The seven-speed transmissions create better gear ratios, smoother shifting, and less wear and tear on drive components. The transmission level dipstick for the left transmission will be located in the left rear engine cover compartment and the transmission level dipstick for the right transmission will be located in the right rear engine cover compartment.

A single speed transfer case with lockable differential will be provided to supply power to both the front and rear axles. The driveline will be composed of heavy duty metal driveshafts with universal joints at each connection yoke.

Power Uniter

The vehicle driveline will include a synchronized drive component ("Power Uniter") which unites the power of the two diesel engines and two transmissions in the vehicle driveline system. During normal driving conditions, the Power Uniter will transfer and distribute power from both engines to the tandem front and rear axle sets equally. During pump and roll operation the Power Uniter will provide power from the left side, multipurpose engine and transmission to the pump. The right-side drive engine and transmission will remain connected to the vehicle driveline for motive power. A single speed transfer case will distribute motive power to the front and rear tandem axle sets. The Power Uniter will have a torque transmission capacity exceeding the maximum torque developed by the engines and transmissions and will be approved for the application and be manufactured by the chassis builder. The Digital control of the engines, transmissions and Power Uniter system will be managed through the Oshkosh Command Zone® proprietary vehicle software and distributed over the J-1939 data bus. The Power Uniter will have a temperature sensor with a high temperature warning icon in a dash monitor. There will be a power divider to allow the pump to be engaged at any speed or engine RPM and in any gear which is automatically activated for pump operation when the pump switch is engaged from the cab. When in pump mode, the pumping RPM will increase automatically only after a discharge orifice is opened, to minimize heat build-up during standby operation.

ENGINE AIR CLEANER

Each engine will be equipped with an easily replaceable canister type single stage air filter with a pleated paper element. The engine fresh air inlets will each have a bonnet installed on the intake piping to shed water and will be located on the roof of the vehicle.

EXHAUST SYSTEM

The vehicle will have a vertical stainless steel exhaust stack with a rain cap for each engine. The exhaust outlets will be located on the roof of the vehicle. Each exhaust outlet will be equipped with a Ward No Smoke 2 diesel filtration system.

FUEL PRIMING PUMP

The vehicle fuel system will be equipped with a 24-volt DC electric fuel priming pump. The activation switch will be located on the interior of the left engine compartment near the fuel filters.

MUDFLAPS

There will be a rubber mud flap provided behind each wheel well to minimize the amount of road debris cast behind the vehicle by the tires.

CHASSIS AIR

The vehicle will be equipped with a Bendix, Model AD-IS, air dryer. The air dryer module will include an integrated air dryer, a reservoir, a governor, a heater and four (4) pressure protection valves. The air dryer will incorporate a spin-off replaceable desiccant cartridge.

The chassis air system will be supplied by color coded nylon tubing and will have circuit numbers printed on each section of line for easy identification. The color coding on the air lines will be as follows:

- Red will represent the primary air circuit (rear brakes)
- Green will represent the secondary air circuit (front brakes)
- Orange will represent the parking brake and cab air inlet circuit
- Yellow will represent the parking brake air delivery circuit
- Blue will designate auxiliary air circuits (air-ride seats, firefighting system air supply, chassis accessories, etc.)
- Black will represent the rear air inlet and air system drains

FUEL TANK

The fuel tanks will be constructed from formed and welded aluminum with a combined fluid capacity of 150 gallons (586 liters). The fuel tanks will have a bottom drain plug and the filler pipe will be located no higher than 60 inches (152 centimeters) from ground level. The fuel fill will be located on the right side of the vehicle behind a hinged access door with a push to open latch. The fuel tank cap will have provisions to install a lock to prevent the cap from being removed. An anti-drain vent valve will be installed on the fuel tanks to prevent fuel spillage in the event of a rollover. A fuel water separator with drain valve will be provided for the main engine.

A label will be provided near the fuel fill indicating that diesel fuel is required.

FMVSS STEERING & SUSPENSION SYSTEM

The front and rear axles will have adequate capacity to carry the fully loaded vehicle under all intended operating conditions. For vehicle handling, stability and off-runway performance, the axles will have an identical track width of 96 inches (244 cm).

The axles will consist of the following:

1. Front Axle - 62,000 pounds (28,123 kg) rating, double reduction (axle housing and wheel end), enclosed steering drive ends, bevel gear differential with driver operated differential lock.
2. Rear Axle - 62,000 pounds (28,123 kg) rating, double reduction (axle housing and wheel end), bevel gear differential with driver operated differential lock.

The suspension will incorporate the following design elements:

1. Upper and lower control arms will be used on each side of the axle.
2. Each axle will be equipped with an anti-roll bar for increased cornering stability.
3. Steering and non-steering axles will have an adjustable tie rod for alignment of the wheel to the center of the chassis.
4. Each wheel position will have at least one (1) coil spring and one (1) heavy-duty dual acting shock absorber.
5. All pivot and joints will be designed to meet the 20-year service life of ARFF vehicles and include only two (2) grease points per wheel and with proper Oshkosh factory alignment does not require special maintenance.

An off-road, high mobility Oshkosh TAK-4, all-wheel Independent suspension system will be provided resulting in no more than 0.5 g rms acceleration at the seat of the vehicle when traversing an 8 inch (24 cm) half round at 35 mph (56 km/h) without causing injury to the operating personnel, loss of vehicle control, or damage to the vehicle. The design will allow the vehicle to travel safely at minimum off-road speeds of 35 mph (56 km/h). The Oshkosh TAK-4, Independent suspension system design will allow for a minimum of 16 inches (406 mm) of total wheel travel.

The chassis will be equipped with power assisted FMVSS compliant steering that will permit manual steering to bring the fully loaded vehicle to a safe stop in the event of power assist failure. A tilt / telescoping steering wheel will be provided.

To facilitate a tight cornering radius, to reduce tire scrubbing on the rear tandem, and to provide maximum tire life, the rear most axle in a tandem axle configuration will be steerable and interfaced with the front axle steering by mechanical linkage. The rear steering will be active at all times regardless of vehicle speed.

CENTRAL LUBRICATION SYSTEM

An automatic lubrication system will be installed on the vehicle for the chassis. The system will include a reservoir, an electric pump, electronic control and distribution components. Lines and fittings will be routed to distribute lubrication to the appropriate bearings and wear points on the vehicle. The system will be an SKF, "KFU" compact series or approved equal and will be located in the engine compartment to be near the central maintenance area. The reservoir will have total capacity of .79 gallons (3 liters) of lubricating fluid. The pump motor will be 24-volt DC brush type with a rated speed of 1,940 RPM and will have a 3,000 hour service life minimum.

A pressure relief valve will be installed in the system to protect the pump in the event of an obstructed line. There will be an indicator light in the vehicle dash panel to illuminate in the event of a central lubrication system fault. The system electronic control will be located adjacent to the compact reservoir and pump assembly. The control will have a switch panel for operator's input and a three digit LCD display. Outputs to this display will include system preset values, functions and error codes.

REMOTE TRANSMISSION DRAINS

Each transmission will have a remote fluid drain with a manually operated drain valve. The remote drains will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valves will be positioned to allow for the technician to operate the valves while laying on a creeper underneath the vehicle. The end of the drain lines will have a threaded connection with a plug installed to prevent accidental draining should the valve be inadvertently activated. The drains will have labels installed nearby clarifying which transmission the drain is for and that the drain is for transmission fluid.

REMOTE POWER STEERING DRAIN

The power steering oil reservoir will have a remote fluid drain with a manually operated drain valve. The remote drain will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valve will be positioned to allow for the technician to operate the valve while laying on a creeper underneath the vehicle. The end of the drain line will have a threaded connection

with a plug installed to prevent accidental draining should the valve be inadvertently activated. The drain will have a label installed nearby clarifying the drain is for the power steering oil.

REMOTE POWER STEERING DRAIN

The power uniter will have a remote fluid drain with a manually operated drain valve. The remote drain will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valve will be positioned to allow for the technician to operate the valve while laying on a creeper underneath the vehicle. The end of the drain line will have a threaded connection with a plug installed to prevent accidental draining should the valve be inadvertently activated. The drain will have a label installed nearby clarifying the drain is for the power uniter oil.

REMOTE COOLING SYSTEM DRAINS

Each engine cooling system will have a remote fluid drain with a manually operated drain valve. The remote drains will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valves will be positioned to allow for the technician to operate the valves while laying on a creeper underneath the vehicle. The end of the drain lines will have a threaded connection with a plug installed to prevent accidental draining should the valve be inadvertently activated.The drains will have labels installed nearby clarifying which engine the drain is for and that the drain is for coolant.

BRAKE SYSTEM

The vehicle will be equipped with a dual air braking system including front and rear brakes with an overall vehicle tread width of 3,048 mm (120 in.) in accordance with FMVSS 121 Legislation and UNECE R13 Directive. The brakes will be disc type and equipped with automatic brake adjusters, to be clutch and worm drive type. The system will feature a dual type brake treadle valve with separate supply and delivery circuits. The system to include an all-wheel, split-circuit, powered-assisted service brake, a modulated emergency brake, and a parking brake.

There will be a 6S-6M electronic antilock brake system with a sensor and modulator at each wheel controlled by an electronic control unit (ECU). The ECU will monitor wheel speed during braking and modulate the brakes when excessive wheel slip or lockup is detected. The ECU will blend the feedback from steering wheel ends to reduce steering wheel pull during an ABS event. There will a be provision for ABS diagnostics provided.

The brake system will have the following features:

1. A Bendix AD-IS, automatic air-drying system downstream of the compressor.
2. Air brake chamber for each brake with self-adjusting mechanisms.
3. Drain on all reservoirs controlled from one (1) common location on the exterior of the vehicle.
4. Three (3) quarter-turn air drain valves will be located on the side of the vehicle below the left rear lower body compartment.
5. Visual and audible low air pressure warning device.
6. A manual parking brake valve will be installed in the cab within easy reach of the driver.

The brake system will meet the following design requirements:

1. Capacity to increase air pressure in the supply and service reservoirs from 85 to 100 psi (552 to 690 kPa) when the engine is operating at the vehicle manufacturer's RPM in less than 25 seconds.
2. Capacity for buildup of tank pressure from 0 psi (0 kPa) to the pressure required to release the spring brakes within 15 seconds relying solely on vehicle air compressor.
3. Have a volume 12 times the total combined brake chamber volume at full stroke.

The brake system will meet the following performance requirements at gross vehicle weight (fully laden):

1. Service Brake: (Depending on truck configuration)
    A. Stopping Distance from 20 mph (32 km/h) : Maximum 33 feet (10 meters)
    B. Stopping Distance from 40 mph (64 km/h) : Maximum 121 feet (37 meters)
    C. Hold Fully Loaded Vehicle: Minimum 50% Grade Ascending & Descending
2. Emergency Brake: (Depending on truck configuration)
    A. Stopping Distance from: 64 km/h (40 mph): Maximum 288 feet (86 meters)
3. Parking Brake:
    A. Hold Fully Loaded Vehicle: Minimum 20% Grade Ascending & Descending

WHEEL AND TIRE ASSEMBLY

The vehicle will be equipped with Michelin, Model XZL, size 24R21 all-terrain radial tires. The tires will be tubeless type with full width steel belting and will be non-directional mounted on steel wheels.

SPARE TIRE

The quantity of spare tire and wheel assemblies included with the vehicle and shipped loose will be one (1) Each spare tire and wheel assembly will be composed of one (1) new and unused Michelin, Model XZL 24R21 tire and one (1) new wheel assembly. Each spare tire and wheel assembly will be interchangeable with any wheel position on the vehicle.

WHEEL PAINT COLOR

The wheels will be painted #35 Safety Lime (FLNA 10322)

UPPER MOUNTED EQUIPMENT

TOP MOUNTED LADDER

No ladder or vehicle mounted ladder storage brackets willll be provided.

WATER TANK TREADPLATE WALKWAY

Diamond patterned aluminum panels will be fastened to top of the vehicle water tank in place of the standard adhesive backed grip tape. The panels will provide a durable, high grip walking surface and will be mechanically connected to the water tank structure with screws.

FIREFIGHTING SYSTEM

COMPLEMENTARY AGENT SYSTEMS

DRY CHEMICAL SYSTEM

Agent Container and Components

There will be a 550 pound (250 kilogram) capacity dry chemical extinguishing system provided. The powder vessel will be capable of holding potassium based, sodium bicarbonate or other commercially available dry chemical fire extinguishing agents. The weight held in the powder vessel will be dependent on the density of the powder chosen by the end user. The system will include piping, valves, fittings, components necessary for the storage and discharge of dry chemical complementary agent. The container will be constructed and stamped in accordance with ASME Code for Unfired Pressure Vessels. An over pressure safety valve will be integrated into the system.

The system will include the following:

- Quick acting agent system activation controls will be easily accessed by the seated driver and at least one (1) other crew position. Similar controls will be located near the agent handline (if equipped).
- Cab mounted pressure indicators will be installed that, when the system is activated, will allow the vehicle operator to determine the propellant reservoir pressure as well as the system operating pressure.
- There will be system clean out / blowdown provisions utilizing the propellant for purging dry chemical agent from all discharge piping and hose after use, saving the remaining dry chemical powder in the vessel.
- There will be a feature to "fluff" the dry chemical powder within the storage vessel to prevent caking. The procedure will not require the system to be opened or discharge any powder.
- A 24-volt DC electric winch will be provided to lift and lower the nitrogen cylinder from the ground level to the stored position. The design will be such that it will allow the operator to perform the nitrogen cylinder servicing without the need for any heavy lifting.
- Remote LED bar graph type pressure gauges will be provided in the cab on the firefighting display to indicate system operating pressure and the propellant cylinder pressure.

Propellant, Propellant Containers and Components

The propellant gas will be dry nitrogen. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements (if provided with the vehicle from the manufacturer). The propellant gas cylinder(s) will be stored vertically and will be easily loaded and removed with the assistance of the integrated lifting device and cylinder guide. One (1) propellant cylinder cradle will be supplied with the system for vehicle storage of one (1) cylinder.

A lifting cradle constructed from formed and welded aluminum will be provided. The lifting cradle will be utilized as part of the propellant cylinder storage within the compartment. After the lifting cradle is moved into the storage position there will be a bracket installed to retain the cradle. The cradle will remain installed in the vehicle until the propellant cylinder requires service or replacement.

CLEAN AGENT SYSTEM

Agent Container and Components

There will be a clean agent extinguishing system provided. The clean agent system vessel will have a 460 pound (208 kilogram) storage capacity for Halotron fire fighting agent. The system will include all piping, valves, fittings, other components necessary for the storage and discharge of clean agent. The design of the clean agent vessel and the piping and valving will be done according to all applicable ASME code for Unfired Pressure Vessels. An over pressure safety valve will be integrated into the system.

The system will include:

Quick acting agent system activation controls will be easily accessed by the seated driver and at least one (1) other crew position. Similar controls will be located near the agent handline (if equipped).

- Cab mounted pressure indicators will be installed that, when the system is activated, will allow the vehicle operator to determine the propellant reservoir pressure as well as the system operating pressure.
- There will be system clean out / blowdown provisions utilizing the propellant for purging dry clean agent from all discharge piping and hose after use, saving the remaining clean agent in the vessel.
- A 24-volt DC electric winch will be provided to lift and lower the argon cylinder from the ground level to the stored position. The design will be such that it will allow the operator to perform the argon cylinder servicing without the need for any heavy lifting.
- Remote LED bar graph type pressure gauges will be provided in the cab on the firefighting display to indicate system operating pressure and the propellant cylinder pressure.

Propellant, Propellant Containers and Components

The propellant gas will be dry argon. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements (if provided with the vehicle from the manufacturer). The propellant gas cylinder(s) will be stored vertically and will be easily loaded and removed with the assistance of the integrated lifting device and cylinder guide. One (1) propellant cylinder lifting cradle will be supplied with the system for vehicle storage of one (1) cylinder.

A lifting cradle constructed from formed and welded aluminum will be provided. The lifting cradle will be utilized as part of the propellant cylinder storage within the compartment. After the lifting cradle is moved into the storage position there will be a bracket installed to retain the cradle. The cradle will remain installed in the vehicle until the propellant cylinder requires service or replacement.

DRY CHEMICAL FILL FUNNEL

There will be one (1) dry chemical fill funnel provided and shipped loose with the vehicle. The funnel will measure approximately 18 in. (457 mm) high, 17 in. (432 mm) in diameter at the top opening and 3.75 in. (953 mm) at the bottom opening.

NITROGEN PROPELLANT CYLINDER

There will be one (1) full 400 ft³. (11,327 liter) when pressurized to 2,640 psi (182 bar) Nitrogen cylinder(s) provided and mounted in the truck with a pressure gauge and removable carrier. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements. Propellant gas cylinder(s) will be stored vertically and must be easily loaded and removed with the assistance of an integrated lifting device and cylinder guide.

SPARE NITROGEN CYLINDER

There will be two (2) full 400 ft³. (11,327 liter) when pressurized to 2,640 psi (182 bar) dry nitrogen propellant gas cylinder(s) with pressure gauge provided and shipped loose with the vehicle.

SPARE NITROGEN CYLINDER CARRIER

There will be one (1) spare nitrogen cylinder carrier(s) shipped loose with all parts necessary to make ready and secure a filled nitrogen cylinder for use in the vehicle.

ARGON PROPELLANT CYLINDER

There will be one (1) full 11,327 liter (400 ft³.) when pressurized to 182 bar (2,640 psi) Argon cylinder(s) provided and mounted in the truck with a pressure gauge and removable carrier. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements. Propellant gas cylinder(s) will be stored vertically and must be easily loaded and removed with the assistance of an integrated lifting device and cylinder guide.

SPARE ARGON PROPELLANT CYLINDER

There will be two (2) full 400 ft³. (11,327 liter) when pressurized to 2,640 psi (182 bar) Argon cylinder(s) with pressure gauge provided and shipped loose with the truck.

SPARE ARGON CYLINDER CARRIER

There will be one (1) spare argon cylinder carrier(s) shipped loose with all parts necessary to make ready and secure a filled argon cylinder for use in the vehicle.

HALOTRON RESERVICING KIT

A Halotron reservicing kit will be provided which will include one (1) 1,000 lb. (453 kg) capacity vessel filled with Halotron agent. The valving, hoses and necessary components required to transfer the Halotron agent from the reservicing vessel to the vehicle Halotron agent vessel shal be provided.

CLEAN AGENT REMOTE FILL

A remote fill connection will be provided for the clean agent system in the right front lower body compartment. The fill connection will be a quick connect type with a quarter-turn valve with "T" handle and a remote mechanical clean agent gauge adjacent to the connection. The connection, gauge and valve handle will have written text labels.

Extended length hoses will be supplied for the argon and nitrogen propellant cylinders to enable easier cylinder changes. Hoses will be approximately 83" in length.

PROPELLANT LIFTING CRADLE CHAINS

The auxiliary agent propellant cradles will have the standard nylon webbing replaced with hardened steel 2-link chain sling assemblies. Each assembly will have one (1) center master link for lifting with the winch hook and two (2) link chains bolted to each side of the cradle assembly.

REMOTE NITROGEN AND ARGON PROPELLANT PRESSURE GAUGES

Two (2) remote gauges shall be provided to display the Nitrogen and Argon cylinder pressures. The pressure gauges shall allow crew members to easily determine the state of charge while the cylinders are in the stored positions on the vehicle.

HALOTRON TANK DRAIN VALVE

A remote quarter turn drain valve and quick disconnect connection will be provided on the Halotron tank in the left front lower body compartment. The valve will have a "T" handle and will be in the horizontal position when closed and will be in the vertical position when open. The handle will be clearly labeled as the the Halotron reservoir drain.

WATER AND FOAM SYSTEMS

ELECTRONIC FOAM PROPORTIONER (EFP) SYSTEM

The vehicle will be equipped with an electronic foam proportioning (EFP) system capable of metering firefighting foam at a 3% ratio within +/- 0.1% in accordance with NFPA. The system will also have provisions to easily select and change the foam proportioning rate to operate with 1%, 3%, 6%, or 8% foam concentrates. The foam proportioning rates will be selectable by the operator using the center console mounted 12 in. (304.8 mm) color display in the cab.

OSHKOSH ECO-EFP™ FOAM MEASUREMENT SYSTEM

A secondary surrogate foam testing system will be provided to measure the foam proportioning system performance from every discharge on the vehicle without necessitating the actual discharge of foam into the environment. The system will measure discharge flow rates for each discharge on the vehicle. The system will be fully on-board, integrated into the vehicle plumbing and the electronic foam proportioning system. It will measure both the solution and foam fluid flow rates using only water. The system will have ability to archive foam test data for all individual discharges and provide a time and date stamp for up to (3) three years of data. An electronic display will be placed near the water pump the left rear lower body compartment. The display will provide access to view or control system settings, diagnostics functions, current and historical data and system test function. A USB port will provided to download digital data.

FOAM FILL AND DRAIN LOCKOUT

There will be a mechanical lockout provided on the foam tank fill valve and foam tank drain valve. The valves will be locked in the closed position by removeable pins with steel cable lanyards.

FOAM SYSTEM OVERRIDE LOCKOUT

There will be a mechanical lockout provided on the foam proportioning override valve handle. The lockout will have a removeable quick release pin with a coated steel cable lanyard to hold the override valve handle in the closed position.

FOAM TRANSFER PUMP

There will be a Yamada, Model NDP-20, pneumatic diaphragm foam transfer pump permanently mounted in the left rear lower body compartment. The foam transfer pump will have the capability to fill or drain the vehicle foam concentrate tank. The foam transfer pump will share the primary inlet/drain connection on the left side of the vehicle and will have a selectable valve to bypass the foam transfer pump in the compartment.

FOAM SYSTEM PIPING

There will be one (1) 1.5 inch (38 millimeter) NSFHT threaded combination foam reservoir fill/drain connection provided on the left side of the vehicle. The connection will be located on the interior of the left rear lower body compartment adjacent to the foam transfer pump.

FOAM FILL/DRAIN CONNECTION

The foam fill/drain connection(s) will include one (1) 1.5 in. (38 mm) NSFHT to 1.5 in. (38 mm) Camlock male type "C" adapter(s) and mating 1.5 in. (38 mm) Camlock type "C" blind cap(s) with link chain to retain the cap(s) when removed.

FOAM TANK LEVEL LIGHTS

There will be four (4) LED foam tank level indicator lights provided on the upper exterior of the left side and right side of the vehicle. The level lights will be vertically stacked and will include the following colors top to bottom:

amber, amber, amber, red

STRUCTURAL FIRE FIGHTING SYSTEM AND CONTROL PANEL

There will be a Class "A" structural firefighting system capable of 1,000 gpm (3,785 lpm) discharge with fill from draft feature and priming pump provided. All primary pump suctions, controls and operator panel will be located in the left rear lower body compartment with a roll-up door for easy access. One (1) 6 inch (152 millimeter) NPT male pump suction inlet connection equipped with a .25 inch (6.35 millimeter) strainer will be installed in the left rear lower body compartment. A mating cap will be provided that will be capable of withstanding pressures of 500 psi (34.5 bar). A manually operated 2.5 inch (64 millimeter) pump suction inlet connection will be installed in the left rear lower body compartment. The pump suction inlet connection types will be described later in this specification.

STRUCTURAL PANEL DISPLAY

A pump operator's station with LCD display and switch panel will be provided in the left rear lower body compartment. The panel will include at a minimum the following gauges:

- Engine tachometer gauge
- Pump discharge pressure gauge
- Pump suction pressure gauge
- Engine oil pressure gauge
- Engine coolant temperature gauge
- Water tank level gauge
- Foam tank level gauge

The following functions and devices will be provided as part of the structural panel:

- Manually adjustable pilot relief valve with strainer
- A mechanical switch to control the operation of the priming pump (if equipped)
- Structural panel activation switch
- Water tank valve open / closed switch
- A means of selecting water or foam induction for discharge
- Pressure governor / Engine RPM control
- Increase / Decrease hand throttle or system pressure switch
- Preset / Idle switch
- Panel illumination
- Flush mode activation switch

STRUCTURAL PUMP SUCTION INLETS

LARGE DIAMETER INLET
The left large diameter pump suction inlet will have a 5 inch (127 millimeter) NSFHT male connection with female blind cap. The blind cap will have a link chain tether.

SMALL DIAMETER INLET
The small diameter pump suction inlet will have a 2.5 inch (64 millimeter) NSFHT female swivel coupling with a male blind cap. The blind cap will have a link chain tether.

DISCHARGE PIPING
There will be four (4) unregulated, manually operated, 2.5 inch (64 millimeter) structural discharges provided. Two (2) will located in the left front lower body compartment and two (2) will be located in the right front lower body compartment. The discharges will have NSFHT threads and will each be equipped with pressure gauges and bleeder valves. Storage for one (1) SCBA cylinder will be provided on both left and right side front lower body compartments in the discharge panel adjacent to the discharges.

DISCHARGE CAPS
The four (4) 2.5 inch (64 millimeter) discharges will have NSFHT blind caps and link chain lanyards.

WATER TANK
There will be a water and foam tank constructed of UV resistant Polypropylene material provided. The minimum tank capacity will be 4,500 gallons (17,034 liters) of water and 630 gallons (2,384 liters) of foam concentrate with a top-fill opening of at least 27 inches (689 millimeters) for water and 23 inches (584 millimeters) for foam. Both reservoirs will be vented with overflow directed to the ground. The tank will be fitted with longitudinal and transverse baffles, anti-swirl baffles, a sump and isolation valve.

WATER TANK LEVEL LIGHTS
There will be four (4) LED water tank level indicator lights provided on the upper exterior of the left side and right side of the vehicle. The level lights will be vertically stacked and will include the following colors from top to bottom:

blue, blue, blue, red

WATER PUMP AND PUMP DRIVE

The water pump will be a Waterous, model CRQB (also commonly referred to as Model CR), single stage centrifugal design that meets all requirements of ICAO, NFPA 414 as well as FAA Advisory Circular 150/5220/10E. The pump will have a rated capacity of at least 2,000 gpm (7,511 lpm) at an operating pressure of 250 psi (17 bar) with suction vacuum at the manifold inlet of 9 IN-Hg. The pump gearbox will be driven by a driveline from the truck power divider. The pump and pump transmission will have the ability to run continuously without overheat issues in ambient temperatures up 122 degrees Fahrenheit (50 degrees Celsius). The pump body will be vertically split on a single plane for easy removal of the entire impeller assembly including the bronze wear rings.

The pump will be constructed of the following materials:

- Pump Body: Leaded Red Brass, UNS C83600, 30,000 psi tensile strength.
- Impeller: Silicon brass, UNS C87500, 60,000 psi tensile strength.
- Impeller Shaft: 17-4 stainless steel, 135,000 psi tensile strength.
- Wear Ring: High leaded tin bronze, UNS C93200, 35,000 psi tensile strength.

The water pump will be gravity primed from the vehicle water reservoir. The vehicle will have a water piping system allowing the pump to remain primed while the water pump is not engaged. This reduces the time to discharge water when a discharge is opened providing immediate operations and a quicker response to a user input.

The pump drive will be through a power divider to allow the pump to be engaged at any speed and in any gear, which is automatically activated for pump operation when the water pump switch is engaged from the cab.

When in pump mode, the pumping RPM will increase automatically only after a discharge orifice is opened, to minimize heat build-up during standby operation.

A pressure relief protection system will be provided to prevent over pressurization of the water piping system.

An automatic pump overheat protection system will be provided that will discharge to the ground.
The pump body and gearbox will be painted in a durable red primer. The entire pump will be bench tested at the original manufacturer to include 400 psi pressure test and capacity test. A test certificate will be provided with the vehicle.

PIPING, COUPLING, CONNECTIONS AND VALVES

WATER FILL PIPING

There will be one (1) 2.5 inch (64 millimeter) NPT male and one (1) 4 inch (101.6 millimeter) NPT male water fill inlet provided on the left side of the vehicle and one (1) 2.5 inch (64 millimeter) NPT male and one (1) 4 inch (101.6 millimeter) NPT male water fill inlet provided on the right side of the vehicle. The water fill piping will be sized to permit filling in no more than 2 minutes from an 80 psi (5.5 bar) supply source. The water fill connection types for each will be defined later in this document.

The water fill piping will be constructed of welded passivated stainless steel with victaulic and threaded connections where necessary. All components in the water fill piping will be manufactured from stainless steel, brass or other corrosion resistant materials. There will be a pneumatically operated brass butterfly valve with a remotely operated pneumatic switch near the water fill valve to control the supply of water to the tank. Each inlet will have a .75 inch (19 mm) drain port with a quarter-turn valve. The drains will each extend through the compartment floor and drain onto the ground below the body.

The left and right side water fill connections will each have one (1) glycerin filled 3.5 inch (89 millimeter) diameter round mechanical gauge reading from 0 to 200 psi (0 to 1,400 kPa) to monitor pressures within the piping during filling operations.

WATER FILL CAPS

The water fill will be provided with two (2) 2.5 inch (64 millimeter) NSFHT swivel and a 2.5 inch (64 millimeter) NSFHT blind male plug with link chain lanyard.

WATER FILL CAPS

The water fill will be provided with two (2) 4.5 inch (114.3 millimeter) NSFHT male adapter and a 4.5 inch (114.3 millimeter) NSFHT blind cap with link chain lanyard.

WATER/FOAM PIPING MATERIAL

The water and foam system piping material will be 304 stainless steel.

WATER PUMP DRIVE OIL DRAIN/FILL

A remote oil drain and oil fill port will be provided on the water pump drive case. The drain will allow for the used drive case oil to be drained under the vehicle through a bulkhead in the compartment floor. The drain connection will incorporate a removeable threaded oil drain plug. A fill port with removable cap will be provided on the water pump drive case. The fill port will allow for the new oil to be poured into the case vertically through a funnel for ease of maintenance.

PRECONNECTED HANDLINES

PRIMARY PRECONNECT HANDLINE

There will be a regulated primary preconnected handline for the discharge of water/foam provided in the left front lower body compartment. The discharge will be calibrated for a minimum discharge flow rate of 125 gpm (473 lpm) at 100 psi (6.9 bar) through 250 feet (76.2 meters) of 1.75 inch (44.5 millimeter) soft jacketed hose.

The preconnected handline will have the following:

- A formed aluminum housing toward the back of the compartment adjacent to the side discharge panel to house the valve, connection and controls, spatter painted to match the compartment interior
- A 1.5 inch (38 millimeter) pneumatically operated ball valve with manual override handle
- A 1.5 inch (38 millimeter) NPSH threaded connection
- A metal tag with the handline specifications
- An Akron Assault pistol grip nozzle with NPSH female swivel connection, green metal bail and green pistol grip will be included and shipped with the loose equipment

- No hose will be included with the handline

PRIMARY PRECONNECT ACTIVATION

The primary preconnected handline will have automatic activation with a control switch located in the cab and in the left front lower body compartment near the handline outlet. An electro-mechanical safety interlock switch with a tether will be provided that will only allow charging of the handline after all the hose has been deployed from the hose tray. An indicator light will be provided in the cab to alert operators when the crosslay hose is fully deployed from the primary preconnected hose tray. Throttle ramp up for the pumping RPM will be accomplished automatically when the handline discharge nozzle is opened. An override throttle control will be provided for the initial charging of the primary preconnected hose should the throttle not ramp up automatically due to a kink in the soft jacketed hose or flow through the handline being too low.

SECONDARY PRECONNECT HANDLINE

No secondary preconnect handline will be provided.

CROSSLAY COMPARTMENT

The crosslay compartment will be configured as an open area for transverse storage of equipment and tools.

LOWER DISCHARGE

LOW ATTACK BUMPER TURRET

There will be a front bumper mounted Elkhart Brass Scorpion turret installed on a low attack boom. The lower discharge will have water/foam discharge rates of 625/1,250 gpm (2,365/4,731 lpm) 792/1,585 gpm with a minimum straight stream cast distance of 230 feet (70 meters).

The bumper turret will have the following design and performance features:

TURRET SWEEP ASSEMBLY

The turret sweep assembly will consist of two (2) swivel joints allowing the turret to sweep in both horizontal and vertical planes. The horizontal axis rotation will allow the turret discharge to be directed at least 90 degrees to either side of center for a minimum of 180 degree horizontal sweep. The elevation axis will allow the nozzle to be elevated at least 45 degrees above the horizontal and be depressed to discharge agent within 30 feet (9 meters) of the front of the vehicle with the boom in the fully raised position.

The turret assembly will be equipped with an auto leveling feature to maintain a consistent turret discharge angle regardless of the position of the boom mechanism during raising or lowering operations. Both the horizontal and vertical drive motors will be permanent magnet type, 24-volt DC electric gear motors and will have a clutch mechanism and/or limit switches to prevent damage to the motors at rotation limits. The motors will be sealed to NEMA 4 requirements.

CONTROLS

An electronic joystick control will be provided in the cab located within easy reach of the driver and turret operator/officer seating positions with integrated switches for the following:

- Water/Foam discharge activation with LED indicator light (momentary or maintained)
- Water/Foam discharge rate with LED indicator light, if applicable
- Auxiliary agent activation with LED indicator light, if applicable
- Nozzle pattern from straight stream to fully dispersed (fog pattern)

The joystick fore/aft and left/right inputs will be used to control the movement of the turret position on the X and Y axes. The turret movement speed in the horizontal and vertical planes will be proportional to the amount of input angle applied to the joystick.

A switch panel will be installed directly behind the joystick with rocker switches for the following functions:

- Turret deploy/stow
- Turret oscillate activation
- Turret mounted floodlight activation, if applicable
- Low attack boom up/down movement activation

The rocker switches will be backlit and will be dimmable in tandem with all other cab control switch backlighting. The normal backlighting color will be white and should a malfunction occur, the switch backlighting color will change to red to indicate there is a fault with the control or turret for the lower discharge.

LOW ATTACK BOOM DESIGN

The low attack assembly will be capable of being lowered from the stored position near bumper height to the fully lowered position with the centerline of the turret discharge approximately 24 inches (610 millimeters) above the ground. The low attack boom will utilize a 24-volt DC motor to drive a hydraulic pump when actuated. The hydraulic pump will power two (2) hydraulic cylinders to lower and raise the boom assembly. A linear potentiometer and a proximity switch will be used to determine and communicate the position of the low attack boom during operation with the vehicle firefighting system.

The turret assembly will be attached to the front bumper of the vehicle and will be mounted onto the low attack boom. The turret mounting and boom will be adequately reinforced to sustain all anticipated loads and reaction forces when the bumper discharge is activated. The design will allow the turret and nozzle to be stored in a position providing minimum protrusion from the front of the vehicle to maintain a 30 degree angle of approach.

LOWER DISCHARGE NOZZLE

NASP NOZZLE

An Elkhart Brass nozzle will be provided on the lower discharge with variable pattern control and an automatic flow mechanism. The automatic flow mechanism will maintain consistent discharge pressure and flow whether in the straight stream or fully dispersed (fog) pattern. The nozzle will be a non-air

aspirating (NASP) type with 24-volt DC powered electric infinitely variable pattern actuation for straight stream or fog pattern selection.

The nozzle patterns will meet or exceed all performance requirements defined in the latest edition of NFPA-414.

BUMPER TURRET LIGHTING

There will be one (1) J.W. Speaker, model 735 24-volt DC light emitting diode (LED) spot light provided on the bumper turret. The spot light will follow the bumper turret movements on the vertical and horizontal axes and will be controlled by a switch bank located near the bumper turret joystick.

UPPER MOUNTED DISCHARGE

ROOF TURRET

There will be a high volume Elkhart Brass Scorpion turret installed on the roof of the vehicle. The upper discharge will have a water/foam flow discharge rate of 625/1,250 gpm (2,366/4,732 lpm) with a minimum straight stream cast distance of 230 feet (70 meters).

The turret will include the following design and performance features:

TURRET SWEEP ASSEMBLY

The nozzle sweep assembly will consist of two (2) separate swivel joints allowing the nozzle to sweep in both the horizontal and vertical planes. The horizontal rotation axis will allow the nozzle to be directed at least 135 degrees to either side of center for a minimum of 270 degrees of horizontal sweep. The vertical elevation axis will allow the nozzle to be elevated at least 45 degrees above horizontal and be depressed 15 degrees below horizontal.

Both horizontal and vertical drive motors will be permanent magnet type, 24-volt DC electric gear motors and will be with a clutch mechanism and/or limit switches to prevent damage to the motors at rotation limits. The motors will be sealed to NEMA 4 requirements.

CONTROLS

An electronic joystick control will be provided in the cab located within easy reach of the driver and turret operator/officer seating positions with integrated switches for the following:

- Water/Foam discharge activation with LED indicator light (momentary or maintained)
- Water/Foam discharge rate with LED indicator light, if applicable
- Auxiliary agent activation with LED indicator light, if applicable
- Nozzle pattern from straight stream to fully dispersed (fog pattern)

The joystick fore/aft and left/right inputs will be used to control the movement of the turret position on the X and Y axes. The turret movement speed in the horizontal and vertical planes will be proportional to the amount of input angle applied to the joystick.

A switch panel will be installed directly behind the joystick with rocker switches for the following functions:

- Turret deploy/stow

- Turret oscillate activation
- Turret mounted floodlight activation, if applicable

The rocker switches will be backlit and will be dimmable in tandem with all other cab control switch backlighting. The normal backlighting color will be white and should a malfunction occur, the switch backlighting color will change to red to indicate there is a fault with the control or turret for the upper discharge.

TURRET BODY DESIGN

The turret body assembly will be made from hard anodized Elk-O-Lite aluminum alloy for long life and corrosion resistance. The turret assembly and mounting will be adequately reinforced to sustain all anticipated loads and reaction forces when discharging. The design will allow the turret to be stowed in compact a position.

JOYSTICK LOCATION

The turret control joysticks will be located on top of the center console between the driver and turret operator seating positions. The lower discharge joystick and switch panel will be mounted on the left side of the center console, nearest the driver and the upper discharge joystick and switch panel will be mounted on the right side of the center console, nearest the turret operator.

UPPER DISCHARGE NOZZLE

NASP NOZZLE

An Elkhart Brass nozzle will be provided on the upper discharge with variable pattern control and an automatic flow mechanism. The automatic flow mechanism will maintain consistent discharge pressure and flow whether in the straight stream or fully dispersed (fog) pattern. The nozzle will be a non-air aspirating (NASP) type with 24-volt DC powered electric infinitely variable pattern actuation for straight stream or fog pattern selection.

The nozzle patterns will meet or exceed all performance requirements defined in the latest edition of NFPA-414.

ROOF TURRET LIGHTING

There will be one (1) 24-volt DC J.W. Speaker light emitting diode (LED) spotlight provided on the roof turret. The spotlight will have an output of 3,680 effective lumens. The spotlight will be controlled by an activation switch adjacent to the roof turret joystick.

UNDERTRUCK NOZZLES

There will be four (4) undertruck nozzles provided to discharge water/foam beneath the vehicle as well as the inner sides of the wheels and tires spaced in a pattern from the front axle to the rear axle of the chassis. The nozzles will be brass construction and will be capable of flowing 19 gpm (72 lpm) each with a total flow of 76 gpm (288 lpm). The undertruck nozzles will be activated by a switch in the cab.

BODY COMPONENTS

COMPARTMENTS

The body compartments will be weather-tight, vented and drained to allow collected water to run out under the vehicle. Each compartment will be equipped with Gortite brand roller shutter type doors. The doors will have replaceable aluminum slats with an anodized finish. The door lift bar will be constructed from round stainless steel and will have adequate room to be operated with a gloved hand. The spring loaded compartment door roller mechanism will be 3 inches (7.62 mm) in diameter to provide maximum interior space.

The vehicle will have adequate compartment space to enclose the firefighting systems and storage of rescue equipment. The body construction will include one (1) upper body compartment and two (2) lower body compartments per side for a total of three (3) on the left and three (3) on the right. The lower compartments will have minimum door opening sizes of 50 inches (127 cm) in height and 62 inches (157.4 cm) in width.

The total compartment space will be = 303.33 ft³. (8.59 m³)

The left side compartment interior dimensions will be the following:

1. Left side upper: 27 inches (685.8 mm) high x 30 inches (762 mm) wide x 28 inches (711.2 mm) deep = 13.125 ft³. (.37 m³)
2. Left side front lower: 50inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)
3. Left side rear lower: 50 inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)

The right side compartment interior dimensions will be the following:

1. Right side upper: 27 inches (685.8 mm) high x 30 inches (762 mm) wide x 28 inches (711.2 mm) deep = 13.125 ft³. (.37 m³)
2. Right side front lower: 50 inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)
3. Right side rear lower: 50 inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)

The compartments will be fabricated from formed, welded and riveted aluminum sheet material. The interior of the compartments will be chemically pre-treated and painted with a durable grey spatter type textured finish.

COMPARTMENT MATTING

The vehicle will have matting placed in the bottom of each body compartment and the bottom of each shelf. The matting will be extruded PVC type or approved equivalent. The matting will be impervious to water or foam. The matting will afford some amount of protection for the floor finish and keep objects from direct contact with the shelving and compartment floor. The matting will allow water to flow to any drains or lowermost part of the compartment floor.

REAR ACCESS LADDER

There will be a sturdy vertical ladder attached at the center of the vehicle at the rear of the vehicle to provide access to the roof. The ladder will have a folding design so the lower most section can be stowed out of the way. The folding section will have a positive latching system with latches on both sides to keep the ladder safely in place. The ladder will be constructed from high-grip knurled aluminum material.

HANDRAILS

There will be extruded aluminum slip-resistant handrails or guardrail at all steps, walkways, and elevated workstations.

RUNNING BOARDS, STEPS, WALKWAYS AND TOWING DEVICES

Running boards, step surfaces, ladder rungs, walkways, and catwalks will have antiskid treads.

Four (4) towing hooks / eyes with shackles will be attached directly to the frame rails. Two (2) will be provided at the front of the vehicle and two (2) will be provided at the rear of the vehicle.

REAR ENGINE ACCESS DOORS

Walk-in access to the engine, cooling system and electrical components will be provided on each side of the vehicle by large, vertical roller shutter type doors. The doors will have aluminum slats with an anodized finish. The individual door slats will be replaceable. The opening lift bar will be constructed from stainless steel and will be an easy to open with a gloved hand. An audible alarm will activate in the cab when doors are opened and vehicle is shifted out of neutral or the parking brake released.

LEFT UPPER COMPARTMENT

Tilt Down Tray

There will be one (1) fixed height, tilt-down, slide out tray provided in the left upper body compartment.

Cord Reel

There will be an electric cord reel provided in the left upper body compartment mounted to the ceiling equipped with 200 feet (60 meters) of 12/3 SO cable. The cord reel will be wired through a 120-volt, 20 amp GFCI circuit breaker and receive its power from the generator. A four-way roller guide will be provided for the cord reel to prevent the cord from chafing or kinking. The cord will be equipped with a rubber ball stop to prevent the cord from pulling through the roller guides during rewinding operations. The cord reel will have a 24-volt DC electric rewind motor and provisions for manual rewind. The manual rewind handle will be securely stored in the compartment near the cord reel.

RIGHT UPPER COMPARTMENT

HALOTRON REEL

There will be a Halotron hose reel floor mounted in the right upper body compartment equipped with 150 feet (45 meters) of 1.0 inch (25.4 meter) diameter booster hose. The hose reel will include a 24-volt DC electric rewind motor with manual rewind provisions and a tension device to prevent the unreeling of the hose. Roller guides will be provided to assure ease of deployment when hose is taken off the reel.

The handline nozzle will be capable of 5 - 7 pounds per second (2.3 -3.2 kilograms per second) of

discharge rate of Halotron with a minimum of straight stream pattern of 25 feet (7.5 meters). A control at the reel will allow charging of the dry chemical to the handline and charging of the Halotron tank. A blow down control will be provided in the cab.

LEFT FRONT LOWER COMPARTMENT

Floor Mounted Hose Storage Tray

There will be one (1) floor mounted, roll-out tray provided in the left front lower body compartment. The shelf will be able to lock in place when in the fully stowed or fully deployed position. The tray will have a bottom that slopes downward from front to rear and will be designed to accommodate no less than 200 feet (61 meters) of 1.75 inch (44.5 millimeter) soft jacketed hose in an accordion configuration.

Height Adjustable Shelf

There will be one (1) height adjustable, roll-out shelf provided in the left front lower body compartment. The shelf will be able to lock in place when in the fully stowed or fully deployed position. The tray will be designed to accommodate no less than 50 feet (15.24 meters) of 1.75 inch (44.5 millimeter) soft jacketed hose in a reverse horseshoe configuration. A vertical divider will be placed in the shelf with an inside dimension of 12 inches (304.8 millimeters) to the outer wall of the shelf. The divider will be located on the left side of the tray when facing the compartment opening.

The front of the floor mounted tray and height adjustable shelf will be approximately 2 inches (51 millimeters) shorter than the end of the tray slides when stowed to allow room for the stored hoses to not contact the inside of the compartment roller shutter door.

RIGHT FRONT COMPARTMENT

There will be one (1) fixed shelf provided in the right front lower body compartment above the hydraulic generator.

Right Rear Compartment

Swing Out Dual Agent Hose Reel

There will be a swing out dual agent hose reel for dry chemical and water/foam discharge provided in the right rear lower body compartment. The reel will be equipped with 100 feet (30 meters) of 1 inch (25 millimeter) twinned dual agent booster hose. The reel will have detents to allow the reel to lock fully stowed in the compartment, deployed 45 degrees out toward the front of the vehicle or deployed 90 degrees out toward the front of the vehicle. The hose reel will be equipped with a 24-volt DC electric rewind motor and manual rewind provisions. The manual rewind handle will be mounted to storage brackets near the hose reel. The Williams "Hydro-Chem" pistol grip nozzle will be capable of discharging 60 gpm (227 lpm) of water/foam solution with a minimum cast distance of 80 feet (24 meters) and a dry chemical discharge rate of 5 - 7 pounds (2.3 - 3.2 kilograms) per second. The wet agent discharge will be controlled prior to the nozzle by a manually operated, quarter-turn ball valve in the compartment. An electronic signal will ramp the vehicle to pump speed any time the reel wet agent discharge is opened when the water pump is engaged unless the vehicle is in structural firefighting mode (if equipped with a structural panel). A switch will be provided at the reel for charging of the dry chemical tank and reel powder supply valve. Blow down controls for the wet agent will be provided at the reel and blowdown for the dry chemical discharge will be controlled from the cab. Roller guides will

be provided at the sides and bottom of the hose reel to assure ease of deployment when hose is taken off the reel. A tension device will be installed to prevent the unreeling of the hose.

RIGHT FRONT LOWER COMPARTMENT TOOL BOARD

A tool board will be installed on the upper portion of the back wall in the right front lower body compartment. The tool board will be sized to fit the space available from the breaker box to the rear (left side) of the compartment and as tall as practical. The tool board will be fabricated from flat peg board aluminum and mounted on stand off brackets to allow space for tool mounting hardware. The tool board will have a raw aluminum finish.

RIGHT REAR LOWER COMPARTMENT TOOL BOARD

A tool board will be installed on the upper portion of the back wall in the right rear lower body compartment. The tool board will be sized to fit the space available from the rear of the auxiliary air compressor to the propellant cylinder storage area and as tall as practical. The tool board will be fabricated from flat peg board aluminum and mounted on stand off brackets to allow space for tool mounting hardware. The tool board will have a raw aluminum finish.

RADIO SYSTEM (HARRIS, ICOM AND SETCOM)

One (1) L3 Harris XL-200M Multiband VHF/800 MHz Mobile Radio
One (1) L3Harris XL-185M 800 MHz Mobile Radio
Two (2) L3Harris XL-CH6H Vehicular Chargers
One (1) Icom IC-A220 Aviation Transceiver with MB-53 Mobile Mount Kit, External Speaker & Antenna
Five (5) Console Mounting Brackets
One (1) SetCom System 1300 3 Position Headset/Intercom System, all positions have radio transmit, receive and Intercom. The system will have a radio select switch for the L3Harris radios

MANUALS

The manuals provided will be in a commercial format utilizing primarily line art for parts identification/assembly drawings and a combination of line art and photographs for service and operations related information. Manuals will be identified with a title page to distinguish them from one another.

WEB BASED SUPPORT

A 24-hour web-based parts and service system will be accessible via an internet browser. Features of this website will include the following:

- A user-specific, secure login
- Access to digital copies of service bulletins and technical instructions
- Access to digital copies of vehicle-specific operator and service manuals, schematics, service diagrams, and parts books
- An aftermarket parts catalog with live inventory level information
- A customer support contact page

OPERATOR'S MANUAL

Two (2) hard copies and two (2) digital copies on USB flash drive of the vehicle operator's manual will be provided in the English language. The operator's manual will provide all information required for the

safe, efficient operation of the vehicle fire extinguishing systems, equipment, special attachments or auxiliary support equipment. The operator's manual will include:

- Drawings and descriptions of locations and functions for all controls and instruments
- Safety information consistent with NFPA and OSHA safety standards
- All operational checks, inspection procedures, and adjustments prior to putting the vehicle into service upon receipt from the manufacturer
- Disabled vehicle towing procedure
- Tire changing procedure
- Tie-down procedures/lashing for vehicle transport via lowboy trailer
- Step by step procedures and descriptions to operate the vehicle, firefighting systems, and auxiliary equipment
- Draining, flushing, re-servicing, etc. post operation procedures
- Operator daily maintenance inspection checklist and basic troubleshooting procedures
- Periodic and preventative maintenance schedule in hours, miles, time period, etc.

The operator's manual will contain line art drawings of the left side, right side, front, and rear of the vehicle exterior showing basic dimensions and weights. The weights provided will be total vehicle and individual axle weights when unladen (no agent, occupants or equipment).

SERVICE AND MAINTENANCE MANUAL

Two (2) hard copies and two (2) digital copies on USB flash drive of the service and maintenance manual will be provided in the English language. The manual will cover vehicle maintenance, troubleshooting and repair procedures ranging from minor to major services. The manual will identify all special tools and testing equipment for inspection, servicing and maintenance. The manual will contain:

- Performance specifications
- Tolerances
- Fluid capacities
- Current, voltage and resistance data
- Test procedures
- Illustrations and exploded views of assemblies
- Table of contents
- Alphabetical index
- Preventative maintenance schedule
- Required periodic maintenance schedule
- Lubrication points and service intervals

A set of the following schematics will be included with the service and maintenance manual:

- Full vehicle electrical diagrams in color
- Full vehicle water/firefighting system/plumbing diagrams
- Full vehicle pneumatic diagrams in color
- Full vehicle hydraulic diagrams in color

PARTS MANUAL

Two (2) hard copies and two (2) digital copies on USB flash drive of the parts manual will be provided in the English language. The parts manual will provide the necessary information to locate and identify the parts and quantities of parts/hardware of vehicle assemblies and components. The parts manual will contain:

- Exploded views of parts/assemblies/subassemblies/special equipment
- Drawings with reference numbers for part identification
- Description and quantity of each component used in an assembly
- Size, thread information, and other information of non-standard hardware (bolts, nuts, washers, etc.)
- Size, thread information, torque specifications and other information of non-standard fittings, lubricants or special components
- A numerical index

ALLISON TRANSMISSION WARRANTY

A five (5) year Allison transmission will be provided.

DRIVETRAIN WARRANTY

A five (5) year drivetrain warranty will be provided.

INSPECTION TRIPS

Two (2) factory inspection trips will be provided, four (4) fire department personnel will travel to the factory for each trip.

Trip - 1 Mid Construction Review

Trip - 2 Final Inspection

LOOSE EQUIPMENT (includes mounting)

LOOSE EQUIPMENT

Quantity	Item	Description
1	iPad Pro 12.9" (latest generation)	Best Buy
1	GDS Locking Vehicle Dock for Apple iPad Pro 12.9” 3rd- 5th Gen (RAM-GDS-DOCKL-V2-AP24CPU) OR latest model to match iPad	Ram Mounts
1	RAM-HOL-ROTO1U Rotoview mount (99-125447)	Ram Mounts
1	DGS Hardwire USB Type-C Power Delivery Charger (RAM-GDS-CHARGE-V3FC-1U)	Ram Mounts
1	Latest Edition of Emergency Response Guidebook	Grainger
2	Vortex Optics - Diamondback HD 10 x 50	Scheels
2	Traffic vests – Vizguard Spiewak yellow/red – Denver Fire – Lg. adjustable	Spiewak website S912 yellow red 006 303-810-8624
1	1 pr – Raptor Rescue Shears	Leatherman on line
1	TNT tool – TN635 6.5lb head, 35" length, 11.5 lbs.	Leatherheads Tools
1	Tire pressure gauge	Grainger 33W452
1	Fleco C16 cable cutter	America.Felco.Com
1	Halligan – Pro Bar 36” 1pc Drop Forged	Fire Hooks PB-36
1	Paratech - TiTAN Crash Axe - 22-000120	LN Curtis
1	8-Pound, 36" Pick Head Axe w/Fiberglass Handle	Fire Hooks LPA-8
1	Pry bar – 1” x 40”	Amazon Hexagonal Bar (1000M)
1	Crowbar - 36"	Fire Hooks GNPB-36
1	Large bolt cutter – 36” length	Fire Hooks BC-36
1	Small bolt cutter – 18” length	Fire Hooks BC-18
1	Set of four 5-inch spanner wrenches	Red Head Brass SW2 26.39 x 4
2	20 Oz Black Rubber Mallet with 13-inch hardwood handle	Ebay Vaughn New
2	2 1/2" NH Spare Hose Gaskets	Kochek G225A
2	5-inch pressure Storz Gaskets	Kochek G508
2	1 1/2" NPSH Spare Hose Gaskets	Kochek G156
1	Raytek temp. gun	RAYMT6U Global Test Supply online
2	Stinger flashlights (Streamlight Stinger DS LED HL)	Steamlight 75432 Light Only
2	Mounted Stinger flashlight chargers	Streamlight 75105
2	Vulcan 180 LED Lantern - (Streamlight)	Streamlight 44311 With Truck Charger
1	Double male	Elkhart M-327A 2-1/2" double male adaptor (M-327-A 2.5 MNH x 2.5 MNH rocker lug Elk-O-Lite Adapters - Double Male, Hose to Hose) (PN 10720001)
1	Double female	Elkhart F-327A 2-1/2" double female adaptor (Adapter Double female Elk-O-Lite 2.5F x 2.5F rocker lug)(PN01405501)
1	2 ½” to 1 ¾” plate reducer	Elkhart A-327A Plate Reducer (A-327-A ELKHART Adapters A-327-A 2.5 FNH x 1.5 MNH rocker lug Elk-O-Lite Adapters - Female to Male, Hose to Hose must be NPSH threads on 1.5in Male) (PN11300LL1)
1	5-inch supply line-(COPRO Dealer 303-219-6013)	5" MegaFlo Breather 33' Storz I Reflect Couplings, Permatek Yellow, Stenciled with 1" black stripe at center point and the following numbering. INQUIRE FOR HOSE NUMBERING SEQUENCE
1	3-inch supply line. Quoted by Mackenzie Gilson 11-15-2024	#FC30X50CR25NLEZ, AAH 3x50' CPLD 2.5NH WHITE CONQUEST POLY DJ HOSE EACH SECTION WILL HAVE THE FOLLOWING MARKINGS: A 1/2" THICK SOLID LINE AT MIDPOINT OF HOSE AROUND THE CIRCUMFERENCE SEQUENTIAL HOSE NUMBERING AT BOTH ENDS OF THE HOSE, TO BE NUMBERED 18" FROM THE COUPLING ON THE HOSE IN BLOCK LETTERING 1" HIGH. THE SAME NUMBER WILL BE STAMPED ON BOTH COUPLINGS OF THE HOSE. NUMBER SEQUENCE: INQUIRE FOR NUMBERING SEQUENCE

1	Pre-connect – 250' of 1 ¾". The hose Tracer will be what ever color Key is using. It cant be specified Stamping is included in hose cost	KEY FIRE HOSE #DP17-TRU, 1.75" TRU ID POLYESTER DOUBLE JACKET FIRE HOSE, RUBBER LINED WITH 1.5" ALUMINUM COUPLINGS NPSH, 50' LENGTH COLOR - White with ½" red TRACER stripe down the middle of one side of the hose KEY FIRE HOSE DOES NOT PROVIDE A 1" thick line at midpoint of hose around the circumference of the hose. Sequential hose numbering marked at both ends of the hose, male and female, to be numbered up 18 inches from the coupling on the hose in block lettering approximately 1" high. Key Hose Coupling Stamping on BOTH COUPLINGS; Numbering: INQUIRE FOR HOSE NUMBERING SEQUENCE
1	1 1/8" open-end wrench	Home Depot Husky Tools
1	24" Rubber Wheel Chocks, Reflective Strip - Pair (JHF-2001083) - SEE RQ-00106300 for supplier info	https://www.mutualscrew.com/product/24-rubber-wheel-chocks-reflective-strip-184616.cfm?source=froogle&gad_source=1&gclid=EAIaIQobChMI5_fsrYXfiQMVeUB_AB0ijQZEEAQYASABEgIkiPD_BwE
1	18" Rubber Wheel Chocks, Reflective Strip -Pair (JHF-2001082)	https://www.mutualscrew.com/product/18-rubber-wheel-chocks-reflective-strip-184615.cfm?source=froogle&gad_source=1&gclid=EAIaIQobChMI4a-a24TfiQMVA1N_AB1zkhGNEAQYAiABEgIjUfD_BwE
1	TIC in wall mounted charger – Bullard NXT Pro (NFPA compliant)	XT Wireless truck mount charger.
2	Seek FirePRO 300 Handheld Thermal Imagers	the fire store
1	DeWalt Cordless tool bag – 20V 6-tool combo kit DCK661D1M1	Contents: Home Depot
1	Drill - DCD771 20V MAX* 1/2 in. Cordless drill/driver	Home Depot Husky Tools
1	Impact drill - DCF885 20V MAX* 1/4 in. Cordless impact driver	Home Depot
1	Circular saw - DCS393 20V MAX* 6-1/2 in. Cordless circular saw	Home Depot
1	Angle grinder - DCG412 20V MAX* 4-1/2 in. Cordless grinder	Home Depot
1	Reciprocating saw - DCS381 20V MAX* Cordless reciprocating saw	Home Depot
1	Oscillating tool - DCS356 20V MAX* XR® Brushless cordless 3-speed oscillating multi-tool	Home Depot Tool Only
1	0 - DCB 203 20V Max Li-ion 2.0Ah battery	Home Depot
1	0 – DCB204 20V Max Li-ion 4.0Ah battery	Home Depot
1	0 – DCB112 Charger	Home Depot
1	Dewalt FlexVolt battery - 20V/60V Max FlexVolt 9AH (2pk)	Home Depot PN DCB609-2
1	DCB112 Charger	Mounted in rig
1	DeWalt 18-inch Large heavy Duty Contractor Tool Bag	https://www.amazon.com/Dewalt-Large-Heavy-Contractor-Packaging/dp/B009L33NA6/ref=asc_df_B009L33NA6/?tag=hyprod-20&linkCode=df0&hvadid=692875362841&hvpos=&hvnetw=g&hvrand=15144718764748407400&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9028806&hvtargid=pla-2281435180938&mcid=eb2b1a0d5a7a3d42bf5add12dcb7233a&hvocijid=15144718764748407400-B009L33NA6-&hvexpln=73&th=1

1	drill index	https://www.homedepot.com/p/DEWALT-Titanium-Nitride-Coated-Speed-Tip-Drill-Bit-Set-21-Pieces-DW1342/203317083
1	1/4" Impact driver set	https://www.zoro.com/dewalt-flextorqr-impact-readyr-screwdriving-bit-sets-with-toughcaser-system-dwa2t35ir/i/G7637971/?utm_source=google&utm_medium=surfaces&utm_campaign=shopping%20feed&utm_content=free%20google%20shopping%20clicks&campaignid=21407295990&productid=G7637971&v=&gad_source=1&gclid=Cj0KCQjwm5e5BhCWARIsANwm06hRshrWfklLrU9jv9MRSxHiCqOM6by6EFOxfnS0a9Qf8avjE-RiZRwaAstgEALw_wcB&gclsrc=aw.ds
1	Drill Screwdriver Set	https://www.homedepot.com/p/DEWALT-Screwdriving-Set-with-Tough-Case-37-Piece-DW2176/203312102
1	reciprocating saw blades	Diablo - 25 Pack 9 inch 14/18 TPI Diablo Steel Demon Bi-Metal Auto Dismantling Reciprocating Saw Blades for 1/16-5/16 Medium Metals AMAZON
1	10-pack 1-1/4" AMPED™ Demo Demon™ Universal Fit Carbide Teeth Oscillating Blades for General Purpose Cuts	https://www.diablotools.com/products/DOU125CGP10
2	6-1/2" x 24-Teeth Demo Demon™ Ultra-Thin Framing/Demolition Saw Blade for Wood	https://www.diablotools.com/products/D0624DA
2	6-1/2" x 48-Teeth Steel Demon™ Cermet II Saw Blade for Medium Metal	https://www.diablotools.com/products/D0648CFA
2	4-1/2" Type 27 Metal Dual Cut and Grind Disc	https://www.diablotools.com/products/DBD045125X01F
2	4-1/2" Diamond Metal Cut-Off Disc	https://www.diablotools.com/products/DDD045DIA101F
2	1 3/4" Fog Nozzles (One Piece)	Chief XD One-Piece Nozzle (FIXED FLOW) FOG 1.5” 125 gpm @ 100 psi – Specify: 1.5” NPSH Inlet Threads - bumper color and bale insert to be “Blue” – Specify: Spinning metal teeth
1	Foam Tube	Elkhart - Mid Range XD Foam Tube

HGACBuy	CONTRACT PRICING WORKSHEET For MOTOR VEHICLES Only	Contract No.:	FS12-23	Date Prepared:	4/2/2025

Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract. As needed, delivery updates will be provided as soon as possible.

Buying Agency:	City and County of Denver	Contractor:	Front Range Fire Appratus
Contact Person:	Leann Rush	Prepared By:	Duane Doucette
Phone:	303-342-2298	Phone:	303-449-9911
Fax:		Fax:	303-449-1203
Email:	leann.rush@flydenver.com	Email:	duaned@frontrangefire.com

Product Description	23AR-103	February 2025 Pricing	Oshkosh Striker 8x8, 2-Door, Aluminum Cab, 2 Passenger Seating, Water Tank Capacity (4500 gal)

A. Product Item Base Unit Price Per Contractor's H-GAC Contract: $2,168,786.00

B. Published Options - Itemize below - Attach additional sheet(s) if necessary.
(Note: Published Options are "manufacturer standard options" which were submitted and priced in Contractor's proposal.)

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	
		Subtotal B:	$621,937.00

C. Customization Category Totals - Itemize below / Attach additional sheet(s) if necessary.
(Note: Customization options are "manufacturer non-standard options" which were submitted and priced in Contractors's proposal.)

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	
		Subtotal C:	$39,177.33

Check: Total cost of Customization Categories (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B).	For this transaction the percentage is:	1%

D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)

Quantity Ordered:	3	X Subtotal of A + B + C:	2,829,900	=	Subtotal D:	$8,489,701.00

E. H-GAC Order Processing Charge (Amount Per Current Policy)	Subtotal E:	$2,000.00

F. Trade-Ins / Special Discounts / Other Allowances / Freight / Installation / Miscellaneous Charges

Description	Cost	Description	Cost
Multi Vehicle discount	-$55,000.00		
		Subtotal F:	-$55,000.00

Delivery Date:	11/1/2026	G. Total Purchase Price (D+E+F):	$8,436,701.00

Respondent: Pierce				
Code or Part No.	Quantity	Option Description	February 2025 Published Pricing	Customization
OSK-98	1	Scania DC16/V8 770hp with brake	$573,492.00	
OSK-14	1	Add roof hatch access step in cab	$1,089.00	
639	1	Light Tower (C)	$38,681.00	
OSK-8	1	Two driving and two fog lights	$579.00	
OSK-9	1	LED ground lighting	$774.00	
OSK-13	3	Upgrade to Smartdock hands' free SCBA bracket for one cre	$2,298.00	
OSK-18	1	Medical storage compartment in cab	$2,898.00	
OSK-19	2	Power strip in cab with shore power provisions	$2,126.00	
	1	Loose Equipment	$0.00	$39,177.33
		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
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		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
		Base Bid	$2,168,786.00	
		Published Options	$621,937.00	
		Total Published Options	$2,790,723.00	
		Unpublished Options	$39,177.33	1%
		Total Options w/o HGAC Fee	$2,829,900.33	

EXHIBIT A

FRONT RANGE FIRE APPARATUS

7600 Miller Court
Frederick, CO 80504
303-449-9911
1-800-334-9911
www.FrontRangeFire.com

DUANE DOUCETTE
303-304-6118
DuaneD@frontrangefire.com

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- Staffed by 7 sales professionals with 150 years of combined experience
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- Mobile services and a full line of parts and equipment

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- Over 30,000 custom chassis built
- More than 30 patents attributed to our continued investment in research, development and safety
- Thousands of years of cumulative experience
- First single-source manufacturer of custom fire apparatus in North America to achieve ISO 9001 certification
- Only manufacturer to have third party, Underwriters Laboratories certification on the entire apparatus

Unshakable Stability

- Rock-solid financials as an Oshkosh Corporation Company
- Oshkosh named a World's Most Ethical Company by Ethisphere Institute
- Recognized as a 2016 Best Governance, Risk, and Compliance Program by NYSE Governance Services
- Complete transparency of a public traded company
- Greater strength from shared engineering and technology across all of Oshkosh Corporation
- With over 100 years of history and numerous industry-first contributions, we're not going anywhere
- America's Best Large Employers list by Forbes

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CERTIFICATION

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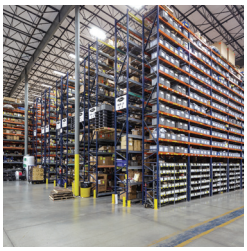

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FRONT RANGE FIRE APPARATUS

INTERNATIONAL FIRE CHIEFS ASSOCIATION
VOLUNTEER & COMBINATION OFFICERS SECTION

Pierce leads the industry in sponsorships that support families of fallen firefighters, recognize outstanding achievement and further the education and safety of the fire service.

www.piercemfg.com

FRONT RANGE FIRE APPARATUS

Pierce

Pierce Manufacturing Inc., An Oshkosh Corporation Company
P.O. Box 2017, Appleton WI 54912-2017 USA

P-0108-SLLSTBLTYSS-FRNTRNG 1/17

FOR FURNISHING FIRE APPARATUS

April 02, 2025

City and County of Denver

The undersigned is prepared to manufacture for you, upon an order being placed by you, for final acceptance by Front Range Fire Apparatus., at its home office in Frederick, Colorado, the apparatus and equipment herein named and for the following prices:

Two (2) Oshkosh Striker 8x8 RT **$5,661,134.00**
Per HGAC FS12-23
Includes delivery to customer location
Per attached specification

Multiple Vehicle Discount **Deduct ($55,000.00)**

Full payment due at factory before shipping if not prepaying

Total **$ 5,606,134.00**

Said apparatus and equipment are to be built and shipped in accordance with the specifications hereto attached, delays due to strikes, war, or intentional conflict, failures to obtain chassis, materials, or other causes beyond our control not preventing, within about 15 to 18 months after receipt of this order and the acceptance thereof at our office at Frederick, Colorado, and to be delivered to you Denver, CO

The specifications herein contained shall form a part of the final contract, and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The specification for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid, and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above. Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.

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

FRONT RANGE FIRE APPRATUS.

By: _____
Duane Doucette
SALES REPRESENTATIVE

Pierce

OSHKOSH AIRPORT PRODUCTS

FRONT RANGE FIRE APPARATUS

Proposal for **Denver International Airport (DEN)**

Prepared by **Front Range Fire Appratus**

01/08/2025

OSHKOSH AIRPORT PRODUCTS

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FRONT RANGE FIRE APPARATUS

DRIVEN TO RESPOND.

CONTENTS

VEHICLE PERFORMANCE FIGURES/MEASUREMENTS

Balances and Clearances

The vehicle weight will be distributed as equally as practical over the axles and tires. The difference in tire load between tires on any axle will not exceed 5 percent of the average tire load for that axle. The difference in load between axles will not exceed 10 percent of the load on the heaviest axle meeting NFPA 414 requirements using the 24R21 tire size.

Approach & Departure Angles	30 degrees
Inter Axle Clearance Angle	12 degrees
Underbody Clearance	22.26 inches (565 millimeters)
Under Axle Clearance at Differential Housing Bowl	16.5 inches (419 millimeters)
Wall-to-Wall Turning Circle Diameter	99.4 feet (30.3 meters)

Exterior Dimensions

The overall vehicle height, length, and width of the vehicle will be consistent with the rated payload and operational performance.

Overall Length	551 inches (14,000 millimeters)
Overall Width (Excluding Mirrors)	120 inches (3,048 millimeters)
Overall Height (Top of Handrails Fully Laden)	150 inches (3,800 millimeters)

Acceleration Performance

The fully laden vehicle acceleration will be from 0-50 mph (0-80 km/h) in 20 - 25 seconds depending on vehicle configuration as well as road and wind conditions. The fully laden vehicle acceleration time will not exceed 35 seconds per NFPA 414 requirements.

Top Speed Performance

The fully laden vehicle will have a minimum top speed of 71 mph (115 km/h) on a flat, level, improved (paved) surface.

Braking Performance

The brake system will meet the following performance requirements at gross vehicle weight (fully laden):

Service Brake:

Stopping Distance From	20 mph (32 km/h)	40 feet (12 meters) Maximum
Stopping Distance From	40 mph (64 km/h)	160 feet (49 meters) Maximum
Hold Fully Laden Vehicle On Grade	50% Minimum Descending	50% Minimum Ascending

Emergency Brake: (Depending on vehicle configuration)

Stopping Distance From	40 mph (64 km/h)	288 feet (88 meters) Maximum

Parking Brake:

Hold Fully Laden Vehicle on Grade	20% Minimum Descending	20% Minimum Ascending

Suspension Performance

An off-road, high mobility Oshkosh® TAK-4®, all-wheel independent suspension system will be provided resulting in no more than 0.5 g rms acceleration at the seat of the vehicle when traversing an 8 inch (24 centimeter) half round at 35 mph (56 km/h) without causing injury to the operating personnel, loss of vehicle control, or damage to the vehicle. The design will allow the vehicle to travel safely at minimum off-road speeds of 35 mph (56 km/h). The Oshkosh® TAK-4®, Independent suspension system design will allow for a minimum of 16 inches (406 millimeters) of total wheel travel and is NFPA414 and 150/522-10E certified.

Gradeability

The vehicle will be able to:

- Ascend a smooth, dry, paved road having a 20 percent grade and maintain a speed of at least 8 mph (13 km/h).
- Ascend and descend a dry, hard surface incline having a 50 percent grade at not less than 1 mph (1.6 km/h).
- Climb a vertical wall at least 18 inches (450 millimeters) high and negotiate terrain that will deflect the opposite wheels of the truck in alternately contrary directions at least 14 inches (360 millimeters).

Dynamic and Static Stability

The vehicle will meet the following stability requirements:

Side slope stability (Tilt Table Meeting SAE J2180)	30 degrees (58 percent grade)
Dynamic balance (Min. Speed on 100 foot (30 meter) Radius Circle)	22 mph (35 km/h)
Capable of performing NATO double lane change at speed up to	50 mph (80 km/h)

Environmental Conditions

The vehicle will be capable of withstanding the following conditions without detrimental effect to the operation:

- Dust particles, as encountered in desert areas
- The corrosive effects of salt fog
- Material decay from fungus and mildew
- Relative humidity up to 100 percent
- Ambient temperature ranging from 17.6 to 122 degrees Fahrenheit (-8 to 50 degrees Celsius)
- Altitude ranging from 0 to 1,968 feet (0 to 600 meters)

PAINT PROCESS

The vehicle shall be painted per Oshkosh Airport Products procedures and standards per PQCP-0309. All aluminum components shall be pre-treated prior to paint using an aluminum conversion coating process. All parts of the vehicle shall be cleaned, treated and primed prior to assembly and final painting. The paint applied to the vehicle shall be a durable, single color acrylic urethane.

CAB PAINT

The cab will be painted #35 Safety Lime (FLNA 10322), the fenders will be painted #35 Safety Lime (FLNA 10322), and the skidplate inserts will be painted #99 Semi-Gloss Black (FLNA 41735). Final colors and layout will be confirmed prior to vehicle construction.

BODY PAINT

The body will be painted #35 Safety Lime (FLNA 10322) , the chassis will be #35 Safety Lime (FLNA 10322) and the hubs will be painted #35 Safety Lime (FLNA 10322). Final paint colors and layout will be confirmed prior to vehicle construction.

REFLECTIVE STRIPING / GRAPHICS

Striping and lettering will be provided and installed to meet customer requirements. The graphics package will be presented to and confirmed by the end user prior to approval packet submission.

REAR CHEVRON STRIPING

There will be alternating color chevron striping located on the rear facing vertical surface of the vehicle installed on the rear fiberglass panels. The stripes will be in a "V" pattern pointing upwards with the stripes meeting at the vehicle centerline. The chevron colors will be red and yellow diamond grade retroreflective material and each stripe will be 6 inches (152 millimeters) in width.

LABELS

The vehicle will be furnished with all informational, functional and safety related labels necessary for operating the vehicle and systems as required by local requirements. The labels will be in the English language.

ENGINE COVER NO STEP LABEL

A label will be provided on the left side of the engine cover on the roof of the vehicle. The label will be rectangular with a white background, red lettering stating NO STEP and a no step pictogram adjacent to the lettering. The label will be installed near the raceway cover and be easily read from the walkway over the engine enclosure.

SWITCH LABELS

Labels will be installed above or below rocker switch banks and electronic controls to indicate the function of the switches. The labels will have a black background with white lettering in the English language. Labels will be installed on the following controls (if applicable):

Cab Interior Rocker Switch Labels

- Agent activation
- Firefighting system discharges
- AC powered lighting

- DC powered lighting
- Upper discharge functions
- Lower discharge functions
- Emergency lighting
- Cab interior lighting
- Chassis controls
- Defroster fans / heated mirror / winterization controls
- Power window controls
- Bus style door controls (if equipped)

Cab Interior Rotary Switch Labels

- Ignition / engine start
- Headlight / marker lights
- Driveline lock
- Electric mirror adjustment

Body Rocker Switch Labels

- Left structural panel function controls

REMOVEABLE NUMBER PLATES

Three (3) number plates will be provided on the exterior of the vehicle painted to match the exterior vehicle paint. The number plates will have low-output LED lights to illuminate the number plates but not create too much glare. The number plates will be removeable and replaceable with another plate for the same location should the number need to be changed. The number plates will be provided in the following locations:

- The left side of the vehicle mounted to the water tank sidesheet
- The right side of the vehicle mounted to the water tank sidesheet
- The right side of the vehicle roof mounted to the cab

The number panels will have quick release pins to secure them to the mounting brackets. The quick release pins will be mechanically connected to the vehicle via coated steel cables to prevent potential FOD.

There will be a total of six (6) sets of three (3) number panels (left side, right side, roof) included with the vehicle.

FUEL CAPACITY LABEL

A label stating DIESEL FUEL ONLY and a label with the fuel capacity will be installed on the inside of the fuel door on the right side of the vehicle. The DIESEL FUEL ONLY tag will be rectangular with a white background and green lettering installed above the fuel door latch. The FUEL CAPACITY label will be installed below the fuel door latch, be rectangular with a white background, have black lettering and state the capacity is 165 GALLONS.

DO NOT DRILL COMPARTMENT WARNING LABELS

A label will be provided on the rear wall of the body compartments that are adjacent to the water and foam reservoirs. The label will read "Do Not Drill" to prevent the water/foam tank from being damaged inadvertently.

UNDERCOAT RUSTPROOFING

The vehicle will have a rust proofing product applied to the interior of the chassis frame rails and square tubing of the superstructures of the vehicle made of ferrous metals where the material may be subject to corrosion from salt spray, salt fog and other external factors.

ENVIRONMENTAL CONDITIONS

The vehicle will be capable of operation in temperatures ranging from -40 C (-40 F) to 43 C (110 F).

WINTERIZATION SYSTEM

The vehicle will have an Espar compartment interior winterization system consisting of a diesel fueled heater, liquid to air heat exchangers and liquid circulating lines which will distribute heat to the lower body storage compartments. The winterization system will provide cold weather protection down to -40 C (-40 F). The heat output for the system will be minimum of 50,000 BTU/hr. The burner head will have an electronic control and diagnostic module. The burner head will feature a 24-volt DC electric ignition spark generator with electrodes, an integrated optical flame monitor and an overheat sensor. The burner will have a 24-volt DC electric combustion air blower. The diesel fuel pump will have an integrated solenoid actuated supply valve and will draw fuel from the main vehicle fuel tank. The burner exhaust will be routed to a safe location outside the vehicle.

CAB ERGONOMICS AND ACCESSORIES

Cab Features

The cab will be 3-point mounted on rubber bushings and constructed of welded aluminum extrusions, aluminum plates and bonded fiberglass panels. The design and construction of the cab will provide the best strength to weight ratio to prevent cab collapse in the event of a vehicle rollover. The cab will comply with ECE R29-3 standards/directive for occupant protection of a commercial vehicle. The cab will include gutters of sufficient size to prevent foam and water from dripping onto the windshield and side windows during turret discharge operations. The cab will have a minimum internal volume of 275 cubic feet (7.79 cubic meters) with a lateral field of vision of 254 degrees (127 degrees left and right of center), with 90 degrees upward and 25 degrees downward visibility when measured from the center of the cab. The cab ground visibility for the driver will be a minimum nearest point of 8.8 feet (2.7 meters) in front of the vehicle.

The cab will have the following features:

- Control console provided between driver and officer positions
- Dashboard console and gauges in front of driver position
- Integrated electronic control and diagnostic systems
- Interior surface coating will be a painted durable grey spatter type finish

CAB DOORS

Access to the cab will be gained with a single hinged door located on each side of the vehicle that opens at least to a 90-degree angle. Woven nylon door check straps will be installed on each door to limit opening travel. The bottom of the cab door openings will include scuff plates for surface protection.

CAB DELUGE SYSTEM

The cab windshield will be equipped with a windshield deluge system. Four (4) brass nozzles will be spaced across the face of the cab above the windshield to distribute clear water from the vehicle water tank. The deluge system will have a 24-volt DC pump motor with an in-line strainer and will automatically drain the deluge system piping outside the compartments automatically when deactivated. The deluge system will be activated by a switch in the cab and when switched on, the windshield wipers will also be activated automatically while the system is in operation.

CAB DOOR INTERIOR GRAB HANDLES

The cab doors will have angled tubular grab handles with an integrated door opening mechanism. The door opening mechanism will be operable with a gloved hand and release the door latch when the interior button/lever is depressed. The door grab handles will have a durable single stage semi-gloss black paint applied to the surface.

CAB CENTER CONSOLE

The cab will have a flat top center console located in between the driver and turret operator seating positions. The upper surface of the center console will be parallel with the cab floor.

CAB GRAB HANDLES

There will be grab handles covered with cushioned and slip resistant material located inside the driver's and passenger door openings to facilitate safe entry and exit from the cab. The grab handles will be placed to ensure three-point contact can be maintained.

CAB STEPS

There will be a heavy duty step provided below the left side and right side cab doors. The steps will include an aggressive pattern on the stepping surface to provide high traction when entering or exiting the cab. The step design will be self-cleaning so that a maximum amount of water, snow, mud or other debris can fall off or through the step. The step will be collapsible and spring loaded to allow the step to contact obstacles and ensure that the required 30 degree angle of approach at the front of the of the vehicle and return to the default shape.

CAB VISIBILITY

There will be a total of 7.8 m² (84 ft².) area for superior visibility of shatterproof automotive tinted safety glass installed in the cab for all windows certified to DOT and ECE 43.
The window measurements will be as follows:

1. A tinted single-piece laminated windshield 3.99 m² (42.9 ft².).
2. Tinted tempered glass upper door window with surface area of 0.66 m² (7.15 ft².).
3. Tinted tempered glass upper rear cab window with surface area of 0.41 m² (4.44 ft².).
4. Tinted tempered glass front angled lower corner window with surface area of 0.34 m² (3.7 ft².).
5. Tinted tempered glass lower door window with surface area of 0.5 m² (4.9 ft².).

CAB DOOR WINDOWS

The cab doors will be equipped with electric controlled slide type windows. There will be a control switch provided for each cab door sliding window that are accessible by the seated driver and turret operator. located on the center console.

CAB MIRRORS

The vehicle cab will be equipped with two (2) Rosco 8 inch x 17 inch (203 millimeters x 432 millimeters) door mounted combination flat and convex mirrors, one (1) located on each side of the cab. The mirrors will be heated and electrically adjustable. The horizontal rotational viewing range will be no less than 60 degrees. Electrical switches for the mirror adjustment and heating feature will be provided within easy reach of the driver.

Two (2) rectangular convex lens spotter mirrors will be provided on the A pillars of the cab structure to eliminate blind spots in front of the vehicle. One (1) mirror will be mounted on the left side of the vehicle and one (1) mirror will be mounted on the right side of the vehicle.

CAB INTERIOR

The cab will be weather-tight, acoustically and thermally insulated to provide noise level not to exceed 85 dB (A) at the driver's ear position. Foam-backed black textured rubber material will cover the interior floor of the cab. The rear wall of the cab will have vinyl covered foam material to dampen noise. The cab will have five (5) vinyl covered, manually adjustable sun visors.

ROOF HATCH

The roof hatch will be constructed from acrylic and will be located on the left side of the cab roof above the outermost seat. The roof hatch will have two (2) manual latches to secure the hatch closed and two (2) gas shocks to hold the hatch lid in the open position.

FOAM SWITCH GUARD

There will be a mechanical guard provided in front of the foam activation switch in the cab.

CONSOLE MOUNTED MAP STORAGE

A storage receptacle will be installed at the rear of the center console to provide storage for maps, binders and clipboards.

SUN SHADES

Two (2) sun shades will be provided in the cab.

CREW SPACE

DRIVER POSITION (CENTER)

The driver's seat will be Seats, Inc., 911 Series non-SCBA type with an integral 3-point seat belt. The seat will be air-ride adjustable, include a manual tilt seatback adjustment and a manual forward/backward slide adjustment feature. The seat cover material will be grey cloth resistant to wear and staining.

RIGHT TURRET OPERATOR SEAT POSITION

The right side turret operator/officer seat will be a Seats, Inc., 911 Series SCBA compatible with an integral red 3-point seat belt. The seatback will have a non-adjustable design and will be a slide adjustable, air-ride suspension type. The seating material will be cloth, grey in color and resistant to wear and staining. The SCBA storage device will be an IMMI SmartDock. The SCBA holder will provide single motion insertion and hands free release of the SCBA, will use no straps and have an inertia locking feature to prevent the SCBA bottle from becoming a projectile.

LEFT OUTSIDE SEAT POSITION

There shall be a step assembly located to the left rear of the driver seating position. The step assembly shall be constructed of formed and welded aluminum with three (3) aggressive non-slip stepping surfaces. The step assembly shall be painted to match the spatter finish interior color.

LEFT INSIDE SEAT POSITION

The left inside seat will be a Seats Inc., 911 Series SCBA compatible with an integral red 3-point seat belt. The seat will have a non-adjustable design and will be fixed mounted. The seating material will be cloth, grey in color and will be resistant to wear and staining. The SCBA storage device will be an IMMI SmartDock. The SCBA holder will provide single motion insertion and hands free release of the SCBA, will use no straps and have an inertia locking feature to prevent the SCBA bottle from becoming a projectile.

RIGHT INSIDE SEAT POSITION

There will be a storage cabinet located to the right rear of the driver seating position. The cabinet will be constructed of formed and welded aluminum and will be painted with a grey spatter type finish. The cabinet will have three (3) height adjustable shelves, four (4) 12-volt DC outlets, a clear anodized Gortite roller shutter door and white LED lighting inside the cabinet actuated by a door switch.

AIR CONDITIONING AND HEATING

A 41,300 BTU Bergstrom, air conditioning (HFC 134A refrigerant) system, integral with the vehicle 60,000 BTU Bergstrom, heater defroster unit will be provided with a 313cc AC compressor driven from the vehicle engine.

MAP LIGHTS

There will be two (2) 24-volt DC auxiliary map lights provided in the cab on or near the center console. One (1) light will be installed near the driver's seat and one (1) light will be installed near the officer's seat. Both map lights will each be attached to 24 inch (60.7 centimeter) long flexible mounts and will have the on/off switch located on the light head.

SIREN / PA SYSTEM

Siren Head

The vehicle will be equipped with a full function siren with public address capability. The siren will be a Whelen, Model 295SL series. The siren head will be backlit for visibility in dark or low light conditions. The siren system will include a hard wired microphone.

Siren Speaker
There will be one (1) Whelen, Model SA315 Series 100-watt speaker mounted at the lower portion of the front skidplate assembly.

CAB DEFROSTER FANS
Two (2) compact, rotary blade fans will be provided in the cab to provide additional air circulation when necessary. The fans will be located on the left and right side of the cab dashboard and will be adjustable for direction. The fans will have two (2) speeds, controlled by a toggle switch on the body of the fan. The fans will both be activated by an ON/OFF switch on the dashboard.

CAB MOUNTED FLASHLIGHTS / LANTERNS
There will be three (3) High Visibility Yellow Pelican 9415 LED lanterns with charging bases provided in the cab. Each light will have an output of 588 lumens. Two (2) will be mounted on the left side of the cab and one (1) will be mounted on the right side of the cab.

ELECTRIC/AIR HORNS
There will be dual Hadley stutter-tone air horns and a pair of high/low tone electric horns mounted underneath the cab, forward of the driver. The air horns will be activated by a switch located in the center of the steering wheel and the electric air horns will be activated by a switch at the end of the turn signal stalk.

FOOT SWITCHES

DRIVER POSITION
There will be two (2) foot switches provided in the cab at the driver seating position. One (1) foot switch will activate the vehicle air horns and one (1) foot switch will activate the siren or public address system.

TURRET OPERATOR POSITION
There will be two (2) foot switches provided in the cab at the turret operator seating position. One (1) foot switch will activate the vehicle air horns and one (1) foot switch will activate the siren or public address system.

LEFT CAB ELECTRONIC EQUIPMENT MOUNTING ARM
A Ram Mounts Severe Duty adjustable pedestal and double swing arm mount will be provided on the left side of the cab, mounted to the floor. The equipment arm will have a Ram Mounts Universal X-Grip Cradle, part number RAM-HOL-UN11U, for a 12 inch (304.8 millimeter) tablet.

A separate flush mount Kussmaul dual port USB-A and USB-C power outlet will be provided near the swing arm on the dash structure.

RIGHT CAB ELECTRONIC EQUIPMENT MOUNTING ARM
A Ram Mounts Severe Duty adjustable pedestal and double swing arm mount will be provided on the right side of the cab, mounted to the dash structure adjacent to the main display monitor. The equipment arm will have a Ram Mounts Universal X-Grip Cradle, part number RAM-HOL-UN11U, for a 12 inch (304.8 millimeter) tablet.

A separate flush mount Kussmaul dual port USB-A and USB-C power outlet will be provided near the swing arm on the dash structure.

VIDEO SYSTEMS

THERMAL IMAGING CAMERA

There will be an NFPA-414 2020 compliant Teledyne FLIR, Model M364C-LR dual payload pan/tilt remote controlled thermal imaging camera provided on center of the vehicle roof below the roof line not to intrude with turret. The thermal imaging camera will aid the driver and crew during complete darkness, severe weather, smoky, foggy or other low visibility conditions. The camera will have pan or azimuth movement of plus/minus 180 degrees from center and elevation movement of plus/minus 45 degrees from horizontal. The camera will have a user selectable and adjustable auto park feature and will be sealed for use in extreme outdoor environments. A mini joystick controller will be integrated into a control pad with switches for all functions.

360 DEGREE NAVIGATION CAMERA

A bird's eye 360 degree camera system will be provided on the vehicle. The bird's eye view will allow the driver to see objects around the perimeter of the vehicle. The camera system will use an electronic control module (ECM) to receive picture data from four (4) wide angle color cameras place at the front, sides and rear of the vehicle. The control module will stitch the video feed into one (1) continuous top-down image of the area immediately surrounding the vehicle for improved scene awareness. The video from the 360 degree camera system will be displayed on the main the in-cab 12 inch (304.8 mm) color display.

The 360 degree camera system will default to display the bird's eye view. The image will automatically switch from the default view:

- When the turn signal switch is activated, the electronic control unit (ECM) will display the image of the camera on the respective side of which turn signal direction is activated.
- When the vehicle is shifted into reverse, the electronic control (ECM) will display the image from the rear camera to act as a back up camera during reversing operations.

FORWARD VIDEO CAMERA

A full color, compact, high resolution, shock resistant, digital camera will be installed in the cab near the windshield facing forward to capture the view in front of the vehicle. The camera will be mounted on the right side of the dashoard in front of the officer seating position.

DIGITAL VIDEO RECORDER (DVR)

A Digital Video Recorder (DVR) unit utilizing hard drive type storage with replay capability and day/date/time encoding will be provided and integrated to the camera and audio inputs as determined by the end user for simultaneous recording. The recorder will have twelve (12) inputs and will be secured and only accessible by keyed lock.

CONTROLS

All instruments, warning lights and controls relative to truck operation will be displayed to the left of the driver so that they will be useful, convenient, and visible to the driver. All instruments, warning lights and controls relative to the firefighting system will be displayed to the right of the driver for center steer

so that they will be ergonomic, convenient, and visible to both the driver and the officer (turret operator). Agent activation to be clearly identified with color coded switches providing the operator immediate identification of the agents. Blue will identify water, Yellow will identify water/foam, and Purple will identify dry chemical powder.

There will be a 12 inch (304.8 mm) display provided in the center of the cab control panel to aid the driver and turret operator. The display will show pump pressure, water levels, foam levels, roof turret position as well as diagnostics with fault codes. The display utilizes the Oshkosh designed control electronics which is CAN based and uses D-Series modules. The display can be user customizable and be programmed for any language.

The following cab mounted controls will be provided as a minimum:

- Accelerator Pedal
- Air Conditioner Controls
- Brake Pedal
- Color Coded Complementary Agent / System Activation
- Rotary Differential Lock Control
- Dome Light Switch Manual / Door Activated
- Foam Concentrate Reservoir Control Valve
- Headlight Switch w/ Dimmer Control
- Heater / Defroster Controls
- Horn Control
- Master Electrical Disconnect Switch (located in engine compartment)
- Panel Lights Switch with Dimmer
- Parking Brake Control
- Power Adjustable Mirror Control
- Rotary Ignition Start/Stop Switch
- Siren Switch with Microphone
- Switches for Emergency Beacon(s) / Strobe(s)
- Switches for Exterior Lights
- Switches for Non-Emergency Amber Beacon(s) / Strobe(s)
- Tilt / Telescoping Steering Wheel Column
- Transmission Range Selector
- Turret Control
- Windshield deluge
- Windshield Wiper and Washer, column mounted
- Cup Holders
- Hand throttle

INSTRUMENTS AND WARNING LIGHTS

The following instruments and warning lights will be provided in the cab:

- Air Pressure (brake and other air-driven accessories)

- Complementary Agent Tank-Charged Indication
- Beacon / Strobe Indicator (s)
- Foam Agent Tank Level Indicator
- Water Tank Level Indicator
- Water Pump Pressure
- Low Air Pressure Warning
- Compartment Door Open Indicator
- Differential Lock Indicator
- Engine Coolant Temperature
- Engine Tachometer
- Fuel Level
- Headlight Beam Indicator
- Speedometer / Odometer
- Voltmeter
- Low Engine Coolant Audible / Visual Alarm
- Digital clock
- Low Oil Pressure / High Water Temperature Audible / Visual Alarm
- Complementary Agent System Pressure Indicator
- Two (2) 12-volt DC accessory power outlets, one (1) each side
- Two (2) 5-volt DC USB A ports, one (1) each side

TELEMATICS

An Oshkosh telematics system specifically designed to interface with the vehicle control system and is a hardware and software solution will be provided. While the main cab display provides in depth diagnostic and fault history functionality for the entire vehicle including its subsystems without the need for other software or hardware tools, the telematics system provides the ability to access some of this information remotely through the internet.

The hardware solution will interface with two (2) vehicle J1939 networks for maximum diagnostic capability while remote connectivity is accomplished using GSM (Cellular) connection.

Remote access will provide agent and fuel levels, vehicle usage, recent faults, vehicle location and maintenance status.

LATERAL ACCELEROMETER

There will be an electronic rollover warning system provided. The system will detect "g" forces exerted on the vehicle. A display will be integrated into the vehicle dash in view of the driver and include an audible alarm. The sensor base unit will be installed in an easily accessible location within the cab.

ELECTRICAL SYSTEM

LIGHTING AND MARKING SYSTEM

The vehicle will be equipped with lighting designed and installed to be compliant with requirements of Federal Motor Vehicle Safety Standard - FMVSS 108.

CLEARANCE / MARKER LIGHTING

All clearance and marker lights will be LED type, 24-volt DC. The lights will be placed in the required locations at the front, sides and rear of the vehicle.

A minimum of four (4) amber LED side marker lights will be located on each side of the vehicle.

One (1) red LED marker light will be located on each side of the vehicle nearest to the rear.

Five (5) amber LED clearance lights will be mounted at the front of the vehicle.

A centered high mount red LED brake light will be installed at the rear of the vehicle and a series of five (5) red LED clearance lights will be mounted at the rear across the top of the bodywork.

TURN SIGNAL INDICATORS

Amber LED lights will be integrated into the headlight placed at the front bumper to function as front marker and turn signal indicator lights.

Two (2) LED light assemblies will be installed at the rear of the vehicle with integrated reverse, stop, tail and turn light functions. The amber turn signal indicators will be located at the outside edge of each assembly, the clear backup lights will be located in the middle and red tail/brake lights will be located to the inside of the housing. The turn signals will be self-cancelling by the cancel cam in the steering column.

HEADLIGHTS

There will be two (2) FMVSS/ECE compliant LED headlights installed, one (1) on each side at the front of the vehicle. The headlights will be certified for local requirements for right-hand traffic (RHT/left-hand steering). A rotary headlight activation switch will be provided on the dashboard and a high/low beam headlight dimmer switch will be provided on the steering column. The headlights will include a daytime running light (DRL) feature.

When the transmission is shifted into neutral and the parking brake is set the daytime running lights (DRL)will be deactivated automatically.

HEADLIGHT ALTERNATING FLASH

The high beam headlights will have an alternating flash emergency lighting function. An activation switch will be provided in the cab emergency lighting switch panel to control the high beam flash. The headlight flash switch will be enabled only when the ignition and master warning light switches are both in the on position. The alternating flash functions will automatically be deactivated when the headlight switch is active and the high beam headlights are activated or the parking brake is set and the vehicle is shifted into neutral.

GROUND LIGHTING

There will be ground lighting installed under the vehicle to illuminate the adjacent ground/work area. The ground lights will be IP 68 rated Luma Bar white LED strip lights encased in aluminum housings. There will be an ON/OFF ground lighting activation switch located in the cab and in addition, the ground lighting will only operate with the parking brake applied and transmission in neutral. The eight (8) lights will be distributed as follows:

- Two (2) under the cab doors, one (1) on each side
- Four (4) under the body compartments, two (2) on each side
- Two (2) under the rear of the vehicle, one (1) on each side aimed rearward

FOG / DRIVING LIGHTS

There will be two (2) LED driving lights and two (2) LED fog lights. The lights will be mounted one (1) of each on the left side and one (1) of each on the right side in a common recessed bezel. The fog lights will be located at the front of the vehicle directly below the headlight assemblies. The fog and drive lights will be activated by switched located on the cab dashboard to the left side of the driver.

SECONDARY DAYTIME RUNNING LIGHTS

Two (2) 24-volt DC strip lights will be installed on the front skidplates, one (1) on the left side and one (1) on the right side. The lights will operate as additional DRL (daytime running lights) and will be activated when the parking brake is released.

LICENSE PLATE ILLUMINATION

There will be one (1) license plate bracket with LED light provided on the vehicle to install a standard U.S. sized license plate. The license plate bracket with LED illumination will be installed at the left rear of the vehicle. The license plate light will be activated with the marker lights.

CAB SCENE / WORKLIGHTS

There will be two (2) 24-volt DC Rigid Industries E Series 10 in. (254 mm) LED cab worklights mounted above the windshield. The cab worklights will each have a glare shield to prevent light from entering the cab interior and will be activated from within the cab by a switch on the center console.

SCENE / WORKLIGHTS - SIDE

There will be eight (8) 24-volt DC, 30 inch (762 millimeter) LED Rigid E-Series side worklights provided on the vehicle. Four (4) lights will be installed on the left side of the vehicle and four (4) lights will be installed on the right side of the vehicle. The lights will be controlled by an on/off switch in the cab and one (1) switch, operational from ground level mounted on the side of the vehicle to control the operation of the respective lights on that side.

SCENE / WORKLIGHTS - REAR

There will be two (2) Rigid Industries 10 inch (254 mm) 24-volt DC LED worklights at the rear of the vehicle with black housings. The rear worklights will be switched from within the cab and from an external switch at the rear of the vehicle accessible from ground level. The lights will automatically illuminate when the vehicle is shifted into the reverse gear.

WARNING LIGHTS

PERIMETER WARNING LIGHTS

There will be ten (10) Whelen, 700 Series, 3 inch (76.2 millimeter) x 7 inch (178 millimeter) red LED warning lights installed around the lower perimeter of the vehicle at or near bumper height. Three (3) lights will be installed on the left side, three (3) lights will be installed on the right side, two (2) lights will be installed at the front and two (2) lights will be installed at the rear of the vehicle. The perimeter warning lights will be switched independently from upper warning lights.

STANDBY LIGHTING

There will be two (2) Whelen, Model L31HAF4, amber strobe standby beacon lights located on the roof of the vehicle. The lights will be located close to the mid-point of the water tank, one (1) on the left side and one (1) on the right side for 360-degree visibility and switched from within the cab.

FRONT UPPER WARNING LIGHTS

There will be two (2) Whelen, Mini Freedom IV, red LED warning lightbars with clear lenses installed on the roof of the vehicle near the front of the body. One (1) light will be installed on the left side and one (1) light will be installed on the right side. The lights will be activated with the upper warning light switch in the cab. The lightbars will be mounted at a 45 degree angle pointing inward toward the front of the vehicle.

UPPER REAR WARNING LIGHTS

There will be two (2) Whelen, Freedom IV, red LED clear lens warning lightbars installed on the roof of the engine cowling at the rear of the vehicle. One (1) lightbar will be installed on the left side and one (1) lightbar will be installed on the right side. The upper rear warning lights will be activated by a switch in the cab on the left side of the dash panel.

STANDBY LIGHTING ACTIVATION

The standby lighting shall have a special activation than standard. The standby lights shall operate per the following conditions:

- Activate when the ignition switch is in the "ON" position
- Deactivate when the emergency lighting is activated
- Reactivate when the emergency lighting is deactivated

LIGHT TOWER

A Will-Burt Night Scan Powerlite Series NS 4.5-900-6 Whelen Spot/Flood 120-volt AC folding light tower will be provided on the roof of the vehicle. The horizontal surface mounted tower will be raised electrically and pneumatically.

Mounting provisions will be provided with the assembly. The installation of unit will be as follows:

- Light tower installation location: Transversely at the front of the body on the roof of the vehicle

- Floodlight and tower control location: Installed on the side of the EMS cabinet at the top, behind the driver seating position.

Design and Construction

The tower will be a series of graduated extruded aluminum tubes that nest one (1) inside another. The tower will have an extended height of approximately 15 feet (4.5 meters) above the mounting location and a stowed height of approximately 11.44 inches (29.1 centimeters) above the mounting surface. The tower will be approximately 44.56 inches (113.2 centimeters) wide by 74.44 inches (189.1 centimeters) in length. The tower will be designed to sustain the intended top load with a 125 percent safety factor and will exceed NFPA requirements of a minimum 50 mph (80 km/h) wind when in a fully raised and

unguyed position. The tower will be of a compact design with a total weight of approximately 176 pounds (79.8 kilograms). The light tower will not exceed 180 pounds (82 kilograms).

The tower tubular sections will be constructed of high strength, heat-treated 6061-T6 aluminum tubes and collars. Each tube will be protected by low friction synthetic collars for smooth operation and long life. Bumpers will be designed to reduce shock on extension and retraction. All exterior surfaces will be anodized for long life and fasteners will be stainless steel for corrosion resistance.

Nesting System

The tower will have an "auto-stow" function. A double click of the mast down button will stow, retract, and shut power off to the unit. An integrated saddle assembly with synthetic, non-marring rests will be provided for the tower and flood light assembly in the nested position.

Floodlight Rotation and Tilt Operation

The tower will be equipped with a Will Burt Model RCP (remote control positioner) to control the rotation and direction of the lights in a manner that provides 360 of light coverage. The remote control positioner unit will be equipped with three (3) gear motors; one (1) for rotation and two for individual positioning of each floodlight bank (one (1) motor for left side tilting and one (1) motor for right side tilting). This feature will be designed so that the lighting may be directed in two separate locations equally and simultaneously for enhanced safety and functionality. The positioner will also rotate the floodlight assembly from zero to 350 degrees and tilt the floodlight assembly from 0 to 346 degrees.

Hand-held Remote Control

A safety yellow in color for high visibility, hand held remote control pendant, connected to a quick-disconnect, 25 foot (7.62 meter) coiled cord will be provided to control the tower. All functions of the tower will be accessible through this remote control including raising with "auto-up" ability, lowering with "auto-stow" ability, rotation and separate buttons for tilting of each floodlight bank and floodlight switching. An auxiliary power button will also be included to control optional equipment such as strobe lights or a camera that is mounted to the mast. Each button of the controller will have a corresponding LED light that provides operational feedback. An LED display that includes alphanumeric feedback will be located in the center of the controller. This display will provide operational feedback and error codes if they occur.

Pneumatic Controls

The pneumatic controls to raise and lower the tower will include an air regulator and solenoid valves. The tower will be able to be fully elevated in approximately 60 seconds. In the event of malfunction of the elevating system while the tower is in operation or being deployed, a method of limiting the rate of descent will be provided to prevent injury to personnel or damage to the equipment. The air supply for pneumatic operation of the tower will be from an external source. The installer will provide piping, shut-off valve, pressure protection valve, air compressor, auxiliary air tank(s) and additional required equipment. The complete air system will be installed in conformance to applicable NFPA and FVMSS brake standards.

Electrical Installation

The wiring harness for the floodlights, accessories, and remote control positioner will be internally routed through telescoping aluminum tubing with a highly flexible cable assembly.

24-volt DC and 120-volt AC electrical wiring will be provided with electrical connections at the tower assembly. Appropriate wiring from the circuit breaker panel for connection to the tower will be provided. The electric power to the tower and light units will automatically disconnect whenever the tower is in the nested position.

The tower operation area will be illuminated automatically by a look-up light whenever the tower is in operation. Any upward movement of the tower from the nested position will energize a red warning light in the cab and a secondary light located at the tower control area. In addition, parking brake interlocks and other equipment as required by applicable NFPA standards will be provided on the light tower installation.

Floodlight System

Six (6) Whelen Pioneer Plus™ Model # PFP2AC will be provided. The 150 watt 120-volt AC Pioneer lighthead will incorporate Super-LED® dual flood light installed in a die-cast white powder coated aluminum housing. The PFP2AC configuration will consist of 72 white Super-LEDs with a clear optic collimator/reflector assembly and a clear non-optic polycarbonate lens. The Pioneer flood light will have 15,000 usable lumens for a total of 90,000 lumens. 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 PFP2AC will be will be vibration resistant. The Pioneer™ PC boards will be conformal coated for additional protection. Two breathable membrane patches will be installed to the bottom of the housing to maintain a consistent internal pressure. The PFP2AC will have extended LED operation with low current consumption and low operating temperature. The fixture will measure 4.125 inches (105 millimeters) high, 14 inches (355.6 millimeters) wide and 2.5 inches (63.5 millimeters) deep.

Warranty

The tower assembly will carry a two (2) year manufacturer parts and labor warranty.

Manuals

Detailed service, parts, operating, and installation manuals will be provided by the tower manufacturer. Samples of such manuals will be provided on request. Two (2) copies of such manuals will be provided in both printed and CD ROM formats.

COMPARTMENT LIGHTING

There will be 24-volt DC Amdor white LED strip lighting provided to illuminate the interior of the compartments. The compartment lighting will be as close to the full height of the compartment opening as practical and will be switched with the opening or closing of the roller shutter door with the ignition in the "ON" position. The two (2) upper body compartments will each have one (1) 20 inch (508 millimeter) compartment light each and the four (4) lower body compartments will have two (2) 40 inch (1,016 millimeter) compartment lights each. Each compartment will have a magnetic switch to activate and deactivate the compartment lights when the doors are opened or closed.

An indicator light in the cab will illuminate when a compartment door is not in the closed position to alert the driver. If the parking brake is released, or the vehicle shifted out of neutral an audible alarm will sound and the compartment door indicator light will flash.

POWER GENERATION

There will be a Harrison 10kW, 120/240-volt AC, 60Hz power generator on the vehicle placed in the right rear lower body compartment with full and easy access for maintenance and inspection. The generator will be hydraulic type powered from an on-board PTO and hydraulic power source and be switched from within the cab. An output display and circuit breaker panel will be located adjacent to the generator. The generator will be equipped with an automatic shut-down based on the following conditions:

- Frequency Too High
- Frequency Too Low
- Invalid speed signal from integral hydraulic motor

OUTLETS

There will be two (2) 120-volt AC, 20 amp NEMA 5-20R straight blade duplex receptacles provided, one (1) on each side of the vehicle mounted to the rear wall of the front lower body compartments. The outlets will have hinged weatherproof covers and be GFI protected. The receptacles will receive power from the on-board generator.

CAB POWER STRIP

There will be one (1) outlet strip installed in the lower portion of the EMS compartment in the cab. The outlet strip will be powered by a dedicated 120-volt AC, 20 amp Kussmaul Auto Eject shoreline connection with yellow weatherproof cover at the right rear of the vehicle. The shoreline connection will be labeled "CAB POWER STRIP".

POWER SUPPLIES

A 24-volt DC vehicle electrical system will be provided. The vehicle DC power will be supplied by a two (2) alternator charging system with a minimum output of 100 amps each. A warning system will be provided in the cab to indicate an alternator failure.

The electrical system will include the following:

- Four (4) group 31, 12-volt DC maintenance free, top post, flooded lead-acid batteries with a minimum of 950 CCA @ 0 degree F (each) and 190 minutes of reserve capacity @ 25 amps.
- A warning label will state that connecting incorrectly to a 12-volt DC system will cause electrical system damage.
- Color coded, heavy duty, insulated battery and ground cables with wire code numbers.
- A backlit remote voltmeter will be installed adjacent to the batteries to read the battery state of charge.
- An engine start disable switch will be provided in the left side engine compartment that will prevent the vehicle from being started from the cab during routine maintenance.
- A lockable total vehicle master electrical disconnect switch rated for full vehicle current to completely de-energize the DC electrical system after the switch.
- Unused electrical distribution connectors or components located on the walls of the upper and lower compartments will have sturdy protective coverings installed to prevent unwanted contact with stored gear.

BATTERY CHARGER

There will be a Delta Q, 120/220-volt AC, 60/50 Hz waterproof battery charger installed in the right rear engine compartment to maintain the chassis batteries. The charger will incorporate a microprocessor controller and will charge and maintain the batteries automatically.

AUXILIARY AIR COMPRESSOR

There will be an on board auxiliary air compressor provided to maintain the vehicle's air system pressure powered by the AC inlet connection. The auxiliary air compressor will be mounted on the interior of a compartment. The compressor will be the rocking piston type and will have two (2) aluminum cylinders with an inlet air filter. The air compressor drive will be a totally enclosed, 1/2 horsepower, 120-volt AC motor with capacitor start and thermal protection. The design of the air compressor will allow for minimum vibration to be transferred to the mounting surface.

ENGINE COOLANT PREHEATER

There will be two (2) 110/120-volt AC, 1500-watt engine (each) coolant preheaters with thermostats provided to heat and maintain engine temperatures of approximately 100-120 degrees Fahrenheit (38-49 degrees Celsius). There will be one (1) engine preheater installed in the cooling system of each engine. The preheaters will be connected to and powered by the shoreline inlet on the vehicle.

RECEPTACLE INLETS

There will be two (2) Kussmaul™, 20-amp, 120-volt AC shoreline inlets provided to operate the dedicated 120-volt AC circuits at right rear of the vehicle. One (1) shoreline will be connected to the battery charger and auxiliary air compressor and one (1) shoreline will be connected to the engine pre-heater. The shoreline inlets will include yellow weatherproof flip up covers.

There will be a release solenoid wired to the vehicle's starter to eject the AC connectors when the engine is starting.

There will be two (2) mating connector bodies supplied with the loose equipment.

There will be a label installed near the inlets stating the following:

- Line Voltage
- Frequency
- Load(s) connected to the circuit

AUXILIARY START FEATURE

There will be 24-volt DC positive and negative posts for jump starting the vehicle provided in the right engine access compartment. The jumper studs will be located adjacent to the battery box and will have removeable color coded protective plastic covers; a red cover for the positive stud and a black cover for the negative stud.

ENGINE FAST START

Two (2) engine fast start buttons will be provided on the exterior of the vehicle. One (1) button will be installed on the left side of the cab adjacent to the cab door and one (1) will be installed at the left rear of the vehicle on the rear access panel. The buttons will be green in color, have aluminum guards to prevent inadvertent activation, and will be labeled "ENGINE FAST START".

AIR INLET RECEPTACLE

There will be a pneumatic inlet with yellow weatherproof cover located at rear of the vehicle provided to maintain vehicle air pressure when connected to an external pressurized air source. The air inlet connection will be a quick disconnect type with a check valve installed to prevent air from bleeding out the connector when disconnected.

There will be a release solenoid wired to the vehicle's starter to automatically eject the air inlet connection when the engine is cranked. A quick release air inlet connection will be provided and shipped with the loose equipment to install on the compressed air line and the end user's facility.

AIR OUTLET RECEPTACLE

A compressed air outlet will be provided in the left upper body compartment to supply compressed air from the vehicle air reservoirs. The air outlet connector will be 0.375 inch (9.53 millimeter), size "A" female quick disconnect coupling. A 50 foot (15.24 meter) length, 0.25 inch (6.35 millimeter) inner diameter air hose will be provided with one (1) 0.375 inch (9.53 millimeter), male size "A" quick disconnect coupling and (1) ball foot air chuck. One (1) 0-150 psi dual angled foot chuck mechanical tire pressure gauge will be provided and shipped with the loose equipment.

PUMP AND ROLL

The vehicle shall be capable of pump and roll operations up to 25 mph (40 km/h).

ENGINE AND ACCESSORIES

Engine

The vehicle will be equipped with two engines. The engines will be Scania DC16, 16.4-liter displacement, turbo charged, 4-stroke diesel type with 90-degree V8 cylinder configuration. The engines will be US EPA Tier 4 final emissions compliant and rated at 770 BHP (574 kW) with a peak torque of 1,950 ft-lb (2644 N-m). The engines will be equipped with electronic fuel management systems. The US EPA Tier 4 final engines will be equipped with selective catalyst reduction and exhaust gas recirculation but will not have diesel particulate filtration to meet emission standards.

An engine high idle control will be provided to maintain the engine idle at approximately 1,450 rpm when activated. The control for this system will be safety interlocked to activate only after the transmission has been placed in the neutral position and the parking brake has been set.

To supplement the conventional vehicle braking system, both engines will be equipped with an engine braking system with one ON/OFF switch located in the cab dash.

Transmission

There will be two (2) Allison, EVS-4850 Series, planetary type, fully automatic, electronic controlled seven-speed transmissions provided. The shift pad for the transmissions will be located in the cab to the left of the driver seating position with backlit switched and a gear indicator display. The transmissions will be separate from the transfer case and located at the rear for easier maintenance. The seven-speed transmissions create better gear ratios, smoother shifting, and less wear and tear on drive components. The transmission level dipstick for the left transmission will be located in the left rear engine cover compartment and the transmission level dipstick for the right transmission will be located in the right rear engine cover compartment.

A single speed transfer case with lockable differential will be provided to supply power to both the front and rear axles. The driveline will be composed of heavy duty metal driveshafts with universal joints at each connection yoke.

Power Uniter

The vehicle driveline will include a synchronized drive component ("Power Uniter") which unites the power of the two diesel engines and two transmissions in the vehicle driveline system. During normal driving conditions, the Power Uniter will transfer and distribute power from both engines to the tandem front and rear axle sets equally. During pump and roll operation the Power Uniter will provide power from the left side, multipurpose engine and transmission to the pump. The right-side drive engine and transmission will remain connected to the vehicle driveline for motive power. A single speed transfer case will distribute motive power to the front and rear tandem axle sets. The Power Uniter will have a torque transmission capacity exceeding the maximum torque developed by the engines and transmissions and will be approved for the application and be manufactured by the chassis builder. The Digital control of the engines, transmissions and Power Uniter system will be managed through the Oshkosh Command Zone® proprietary vehicle software and distributed over the J-1939 data bus. The Power Uniter will have a temperature sensor with a high temperature warning icon in a dash monitor. There will be a power divider to allow the pump to be engaged at any speed or engine RPM and in any gear which is automatically activated for pump operation when the pump switch is engaged from the cab. When in pump mode, the pumping RPM will increase automatically only after a discharge orifice is opened, to minimize heat build-up during standby operation.

ENGINE AIR CLEANER

Each engine will be equipped with an easily replaceable canister type single stage air filter with a pleated paper element. The engine fresh air inlets will each have a bonnet installed on the intake piping to shed water and will be located on the roof of the vehicle.

EXHAUST SYSTEM

The vehicle will have a vertical stainless steel exhaust stack with a rain cap for each engine. The exhaust outlets will be located on the roof of the vehicle. Each exhaust outlet will be equipped with a Ward No Smoke 2 diesel filtration system.

FUEL PRIMING PUMP

The vehicle fuel system will be equipped with a 24-volt DC electric fuel priming pump. The activation switch will be located on the interior of the left engine compartment near the fuel filters.

MUDFLAPS

There will be a rubber mud flap provided behind each wheel well to minimize the amount of road debris cast behind the vehicle by the tires.

CHASSIS AIR

The vehicle will be equipped with a Bendix, Model AD-IS, air dryer. The air dryer module will include an integrated air dryer, a reservoir, a governor, a heater and four (4) pressure protection valves. The air dryer will incorporate a spin-off replaceable desiccant cartridge.

The chassis air system will be supplied by color coded nylon tubing and will have circuit numbers printed on each section of line for easy identification. The color coding on the air lines will be as follows:

- Red will represent the primary air circuit (rear brakes)
- Green will represent the secondary air circuit (front brakes)
- Orange will represent the parking brake and cab air inlet circuit
- Yellow will represent the parking brake air delivery circuit
- Blue will designate auxiliary air circuits (air-ride seats, firefighting system air supply, chassis accessories, etc.)
- Black will represent the rear air inlet and air system drains

FUEL TANK

The fuel tanks will be constructed from formed and welded aluminum with a combined fluid capacity of 150 gallons (586 liters). The fuel tanks will have a bottom drain plug and the filler pipe will be located no higher than 60 inches (152 centimeters) from ground level. The fuel fill will be located on the right side of the vehicle behind a hinged access door with a push to open latch. The fuel tank cap will have provisions to install a lock to prevent the cap from being removed. An anti-drain vent valve will be installed on the fuel tanks to prevent fuel spillage in the event of a rollover. A fuel water separator with drain valve will be provided for the main engine.

A label will be provided near the fuel fill indicating that diesel fuel is required.

FMVSS STEERING & SUSPENSION SYSTEM

The front and rear axles will have adequate capacity to carry the fully loaded vehicle under all intended operating conditions. For vehicle handling, stability and off-runway performance, the axles will have an identical track width of 96 inches (244 cm).

The axles will consist of the following:

1. Front Axle - 62,000 pounds (28,123 kg) rating, double reduction (axle housing and wheel end), enclosed steering drive ends, bevel gear differential with driver operated differential lock.
2. Rear Axle - 62,000 pounds (28,123 kg) rating, double reduction (axle housing and wheel end), bevel gear differential with driver operated differential lock.

The suspension will incorporate the following design elements:

1. Upper and lower control arms will be used on each side of the axle.
2. Each axle will be equipped with an anti-roll bar for increased cornering stability.
3. Steering and non-steering axles will have an adjustable tie rod for alignment of the wheel to the center of the chassis.
4. Each wheel position will have at least one (1) coil spring and one (1) heavy-duty dual acting shock absorber.
5. All pivot and joints will be designed to meet the 20-year service life of ARFF vehicles and include only two (2) grease points per wheel and with proper Oshkosh factory alignment does not require special maintenance.

An off-road, high mobility Oshkosh TAK-4, all-wheel Independent suspension system will be provided resulting in no more than 0.5 g rms acceleration at the seat of the vehicle when traversing an 8 inch (24 cm) half round at 35 mph (56 km/h) without causing injury to the operating personnel, loss of vehicle control, or damage to the vehicle. The design will allow the vehicle to travel safely at minimum off-road speeds of 35 mph (56 km/h). The Oshkosh TAK-4, Independent suspension system design will allow for a minimum of 16 inches (406 mm) of total wheel travel.

The chassis will be equipped with power assisted FMVSS compliant steering that will permit manual steering to bring the fully loaded vehicle to a safe stop in the event of power assist failure. A tilt / telescoping steering wheel will be provided.

To facilitate a tight cornering radius, to reduce tire scrubbing on the rear tandem, and to provide maximum tire life, the rear most axle in a tandem axle configuration will be steerable and interfaced with the front axle steering by mechanical linkage. The rear steering will be active at all times regardless of vehicle speed.

CENTRAL LUBRICATION SYSTEM

An automatic lubrication system will be installed on the vehicle for the chassis. The system will include a reservoir, an electric pump, electronic control and distribution components. Lines and fittings will be routed to distribute lubrication to the appropriate bearings and wear points on the vehicle. The system will be an SKF, "KFU" compact series or approved equal and will be located in the engine compartment to be near the central maintenance area. The reservoir will have total capacity of .79 gallons (3 liters) of lubricating fluid. The pump motor will be 24-volt DC brush type with a rated speed of 1,940 RPM and will have a 3,000 hour service life minimum.

A pressure relief valve will be installed in the system to protect the pump in the event of an obstructed line. There will be an indicator light in the vehicle dash panel to illuminate in the event of a central lubrication system fault. The system electronic control will be located adjacent to the compact reservoir and pump assembly. The control will have a switch panel for operator's input and a three digit LCD display. Outputs to this display will include system preset values, functions and error codes.

REMOTE TRANSMISSION DRAINS

Each transmission will have a remote fluid drain with a manually operated drain valve. The remote drains will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valves will be positioned to allow for the technician to operate the valves while laying on a creeper underneath the vehicle. The end of the drain lines will have a threaded connection with a plug installed to prevent accidental draining should the valve be inadvertently activated. The drains will have labels installed nearby clarifying which transmission the drain is for and that the drain is for transmission fluid.

REMOTE POWER STEERING DRAIN

The power steering oil reservoir will have a remote fluid drain with a manually operated drain valve. The remote drain will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valve will be positioned to allow for the technician to operate the valve while laying on a creeper underneath the vehicle. The end of the drain line will have a threaded connection

with a plug installed to prevent accidental draining should the valve be inadvertently activated. The drain will have a label installed nearby clarifying the drain is for the power steering oil.

REMOTE POWER STEERING DRAIN

The power uniter will have a remote fluid drain with a manually operated drain valve. The remote drain will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valve will be positioned to allow for the technician to operate the valve while laying on a creeper underneath the vehicle. The end of the drain line will have a threaded connection with a plug installed to prevent accidental draining should the valve be inadvertently activated. The drain will have a label installed nearby clarifying the drain is for the power uniter oil.

REMOTE COOLING SYSTEM DRAINS

Each engine cooling system will have a remote fluid drain with a manually operated drain valve. The remote drains will terminate under the vehicle and be attached to a bracket mounted securely to the chassis. The quarter turn valves will be positioned to allow for the technician to operate the valves while laying on a creeper underneath the vehicle. The end of the drain lines will have a threaded connection with a plug installed to prevent accidental draining should the valve be inadvertently activated.The drains will have labels installed nearby clarifying which engine the drain is for and that the drain is for coolant.

BRAKE SYSTEM

The vehicle will be equipped with a dual air braking system including front and rear brakes with an overall vehicle tread width of 3,048 mm (120 in.) in accordance with FMVSS 121 Legislation and UNECE R13 Directive. The brakes will be disc type and equipped with automatic brake adjusters, to be clutch and worm drive type. The system will feature a dual type brake treadle valve with separate supply and delivery circuits. The system to include an all-wheel, split-circuit, powered-assisted service brake, a modulated emergency brake, and a parking brake.

There will be a 6S-6M electronic antilock brake system with a sensor and modulator at each wheel controlled by an electronic control unit (ECU). The ECU will monitor wheel speed during braking and modulate the brakes when excessive wheel slip or lockup is detected. The ECU will blend the feedback from steering wheel ends to reduce steering wheel pull during an ABS event. There will a be provision for ABS diagnostics provided.

The brake system will have the following features:

1. A Bendix AD-IS, automatic air-drying system downstream of the compressor.
2. Air brake chamber for each brake with self-adjusting mechanisms.
3. Drain on all reservoirs controlled from one (1) common location on the exterior of the vehicle.
4. Three (3) quarter-turn air drain valves will be located on the side of the vehicle below the left rear lower body compartment.
5. Visual and audible low air pressure warning device.
6. A manual parking brake valve will be installed in the cab within easy reach of the driver.

The brake system will meet the following design requirements:

1. Capacity to increase air pressure in the supply and service reservoirs from 85 to 100 psi (552 to 690 kPa) when the engine is operating at the vehicle manufacturer's RPM in less than 25 seconds.
2. Capacity for buildup of tank pressure from 0 psi (0 kPa) to the pressure required to release the spring brakes within 15 seconds relying solely on vehicle air compressor.
3. Have a volume 12 times the total combined brake chamber volume at full stroke.

The brake system will meet the following performance requirements at gross vehicle weight (fully laden):

1. Service Brake: (Depending on truck configuration)
    A. Stopping Distance from 20 mph (32 km/h) : Maximum 33 feet (10 meters)
    B. Stopping Distance from 40 mph (64 km/h) : Maximum 121 feet (37 meters)
    C. Hold Fully Loaded Vehicle: Minimum 50% Grade Ascending & Descending
2. Emergency Brake: (Depending on truck configuration)
    A. Stopping Distance from: 64 km/h (40 mph): Maximum 288 feet (86 meters)
3. Parking Brake:
    A. Hold Fully Loaded Vehicle: Minimum 20% Grade Ascending & Descending

WHEEL AND TIRE ASSEMBLY

The vehicle will be equipped with Michelin, Model XZL, size 24R21 all-terrain radial tires. The tires will be tubeless type with full width steel belting and will be non-directional mounted on steel wheels.

SPARE TIRE

The quantity of spare tire and wheel assemblies included with the vehicle and shipped loose will be one (1) Each spare tire and wheel assembly will be composed of one (1) new and unused Michelin, Model XZL 24R21 tire and one (1) new wheel assembly. Each spare tire and wheel assembly will be interchangeable with any wheel position on the vehicle.

WHEEL PAINT COLOR

The wheels will be painted #35 Safety Lime (FLNA 10322)

UPPER MOUNTED EQUIPMENT

TOP MOUNTED LADDER

No ladder or vehicle mounted ladder storage brackets willll be provided.

WATER TANK TREADPLATE WALKWAY

Diamond patterned aluminum panels will be fastened to top of the vehicle water tank in place of the standard adhesive backed grip tape. The panels will provide a durable, high grip walking surface and will be mechanically connected to the water tank structure with screws.

FIREFIGHTING SYSTEM

COMPLEMENTARY AGENT SYSTEMS

DRY CHEMICAL SYSTEM

Agent Container and Components

There will be a 550 pound (250 kilogram) capacity dry chemical extinguishing system provided. The powder vessel will be capable of holding potassium based, sodium bicarbonate or other commercially available dry chemical fire extinguishing agents. The weight held in the powder vessel will be dependent on the density of the powder chosen by the end user. The system will include piping, valves, fittings, components necessary for the storage and discharge of dry chemical complementary agent. The container will be constructed and stamped in accordance with ASME Code for Unfired Pressure Vessels. An over pressure safety valve will be integrated into the system.

The system will include the following:

- Quick acting agent system activation controls will be easily accessed by the seated driver and at least one (1) other crew position. Similar controls will be located near the agent handline (if equipped).
- Cab mounted pressure indicators will be installed that, when the system is activated, will allow the vehicle operator to determine the propellant reservoir pressure as well as the system operating pressure.
- There will be system clean out / blowdown provisions utilizing the propellant for purging dry chemical agent from all discharge piping and hose after use, saving the remaining dry chemical powder in the vessel.
- There will be a feature to "fluff" the dry chemical powder within the storage vessel to prevent caking. The procedure will not require the system to be opened or discharge any powder.
- A 24-volt DC electric winch will be provided to lift and lower the nitrogen cylinder from the ground level to the stored position. The design will be such that it will allow the operator to perform the nitrogen cylinder servicing without the need for any heavy lifting.
- Remote LED bar graph type pressure gauges will be provided in the cab on the firefighting display to indicate system operating pressure and the propellant cylinder pressure.

Propellant, Propellant Containers and Components

The propellant gas will be dry nitrogen. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements (if provided with the vehicle from the manufacturer). The propellant gas cylinder(s) will be stored vertically and will be easily loaded and removed with the assistance of the integrated lifting device and cylinder guide. One (1) propellant cylinder cradle will be supplied with the system for vehicle storage of one (1) cylinder.

A lifting cradle constructed from formed and welded aluminum will be provided. The lifting cradle will be utilized as part of the propellant cylinder storage within the compartment. After the lifting cradle is moved into the storage position there will be a bracket installed to retain the cradle. The cradle will remain installed in the vehicle until the propellant cylinder requires service or replacement.

CLEAN AGENT SYSTEM

Agent Container and Components

There will be a clean agent extinguishing system provided. The clean agent system vessel will have a 460 pound (208 kilogram) storage capacity for Halotron fire fighting agent. The system will include all piping, valves, fittings, other components necessary for the storage and discharge of clean agent. The design of the clean agent vessel and the piping and valving will be done according to all applicable ASME code for Unfired Pressure Vessels. An over pressure safety valve will be integrated into the system.

The system will include:

Quick acting agent system activation controls will be easily accessed by the seated driver and at least one (1) other crew position. Similar controls will be located near the agent handline (if equipped).

- Cab mounted pressure indicators will be installed that, when the system is activated, will allow the vehicle operator to determine the propellant reservoir pressure as well as the system operating pressure.
- There will be system clean out / blowdown provisions utilizing the propellant for purging dry clean agent from all discharge piping and hose after use, saving the remaining clean agent in the vessel.
- A 24-volt DC electric winch will be provided to lift and lower the argon cylinder from the ground level to the stored position. The design will be such that it will allow the operator to perform the argon cylinder servicing without the need for any heavy lifting.
- Remote LED bar graph type pressure gauges will be provided in the cab on the firefighting display to indicate system operating pressure and the propellant cylinder pressure.

Propellant, Propellant Containers and Components

The propellant gas will be dry argon. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements (if provided with the vehicle from the manufacturer). The propellant gas cylinder(s) will be stored vertically and will be easily loaded and removed with the assistance of the integrated lifting device and cylinder guide. One (1) propellant cylinder lifting cradle will be supplied with the system for vehicle storage of one (1) cylinder.

A lifting cradle constructed from formed and welded aluminum will be provided. The lifting cradle will be utilized as part of the propellant cylinder storage within the compartment. After the lifting cradle is moved into the storage position there will be a bracket installed to retain the cradle. The cradle will remain installed in the vehicle until the propellant cylinder requires service or replacement.

DRY CHEMICAL FILL FUNNEL

There will be one (1) dry chemical fill funnel provided and shipped loose with the vehicle. The funnel will measure approximately 18 in. (457 mm) high, 17 in. (432 mm) in diameter at the top opening and 3.75 in. (953 mm) at the bottom opening.

NITROGEN PROPELLANT CYLINDER

There will be one (1) full 400 ft³. (11,327 liter) when pressurized to 2,640 psi (182 bar) Nitrogen cylinder(s) provided and mounted in the truck with a pressure gauge and removable carrier. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements. Propellant gas cylinder(s) will be stored vertically and must be easily loaded and removed with the assistance of an integrated lifting device and cylinder guide.

SPARE NITROGEN CYLINDER

There will be two (2) full 400 ft³. (11,327 liter) when pressurized to 2,640 psi (182 bar) dry nitrogen propellant gas cylinder(s) with pressure gauge provided and shipped loose with the vehicle.

SPARE NITROGEN CYLINDER CARRIER

There will be one (1) spare nitrogen cylinder carrier(s) shipped loose with all parts necessary to make ready and secure a filled nitrogen cylinder for use in the vehicle.

ARGON PROPELLANT CYLINDER

There will be one (1) full 11,327 liter (400 ft³.) when pressurized to 182 bar (2,640 psi) Argon cylinder(s) provided and mounted in the truck with a pressure gauge and removable carrier. All propellant gas cylinders and valves will comply with United States Department of Transportation (DOT) requirements. Propellant gas cylinder(s) will be stored vertically and must be easily loaded and removed with the assistance of an integrated lifting device and cylinder guide.

SPARE ARGON PROPELLANT CYLINDER

There will be two (2) full 400 ft³. (11,327 liter) when pressurized to 2,640 psi (182 bar) Argon cylinder(s) with pressure gauge provided and shipped loose with the truck.

SPARE ARGON CYLINDER CARRIER

There will be one (1) spare argon cylinder carrier(s) shipped loose with all parts necessary to make ready and secure a filled argon cylinder for use in the vehicle.

HALOTRON RESERVICING KIT

A Halotron reservicing kit will be provided which will include one (1) 1,000 lb. (453 kg) capacity vessel filled with Halotron agent. The valving, hoses and necessary components required to transfer the Halotron agent from the reservicing vessel to the vehicle Halotron agent vessel shal be provided.

CLEAN AGENT REMOTE FILL

A remote fill connection will be provided for the clean agent system in the right front lower body compartment. The fill connection will be a quick connect type with a quarter-turn valve with "T" handle and a remote mechanical clean agent gauge adjacent to the connection. The connection, gauge and valve handle will have written text labels.

Extended length hoses will be supplied for the argon and nitrogen propellant cylinders to enable easier cylinder changes. Hoses will be approximately 83" in length.

PROPELLANT LIFTING CRADLE CHAINS

The auxiliary agent propellant cradles will have the standard nylon webbing replaced with hardened steel 2-link chain sling assemblies. Each assembly will have one (1) center master link for lifting with the winch hook and two (2) link chains bolted to each side of the cradle assembly.

REMOTE NITROGEN AND ARGON PROPELLANT PRESSURE GAUGES

Two (2) remote gauges shall be provided to display the Nitrogen and Argon cylinder pressures. The pressure gauges shall allow crew members to easily determine the state of charge while the cylinders are in the stored positions on the vehicle.

HALOTRON TANK DRAIN VALVE

A remote quarter turn drain valve and quick disconnect connection will be provided on the Halotron tank in the left front lower body compartment. The valve will have a "T" handle and will be in the horizontal position when closed and will be in the vertical position when open. The handle will be clearly labeled as the the Halotron reservoir drain.

WATER AND FOAM SYSTEMS

ELECTRONIC FOAM PROPORTIONER (EFP) SYSTEM

The vehicle will be equipped with an electronic foam proportioning (EFP) system capable of metering firefighting foam at a 3% ratio within +/- 0.1% in accordance with NFPA. The system will also have provisions to easily select and change the foam proportioning rate to operate with 1%, 3%, 6%, or 8% foam concentrates. The foam proportioning rates will be selectable by the operator using the center console mounted 12 in. (304.8 mm) color display in the cab.

OSHKOSH ECO-EFP™ FOAM MEASUREMENT SYSTEM

A secondary surrogate foam testing system will be provided to measure the foam proportioning system performance from every discharge on the vehicle without necessitating the actual discharge of foam into the environment. The system will measure discharge flow rates for each discharge on the vehicle. The system will be fully on-board, integrated into the vehicle plumbing and the electronic foam proportioning system. It will measure both the solution and foam fluid flow rates using only water. The system will have ability to archive foam test data for all individual discharges and provide a time and date stamp for up to (3) three years of data. An electronic display will be placed near the water pump the left rear lower body compartment. The display will provide access to view or control system settings, diagnostics functions, current and historical data and system test function. A USB port will provided to download digital data.

FOAM FILL AND DRAIN LOCKOUT

There will be a mechanical lockout provided on the foam tank fill valve and foam tank drain valve. The valves will be locked in the closed position by removeable pins with steel cable lanyards.

FOAM SYSTEM OVERRIDE LOCKOUT

There will be a mechanical lockout provided on the foam proportioning override valve handle. The lockout will have a removeable quick release pin with a coated steel cable lanyard to hold the override valve handle in the closed position.

FOAM TRANSFER PUMP

There will be a Yamada, Model NDP-20, pneumatic diaphragm foam transfer pump permanently mounted in the left rear lower body compartment. The foam transfer pump will have the capability to fill or drain the vehicle foam concentrate tank. The foam transfer pump will share the primary inlet/drain connection on the left side of the vehicle and will have a selectable valve to bypass the foam transfer pump in the compartment.

FOAM SYSTEM PIPING

There will be one (1) 1.5 inch (38 millimeter) NSFHT threaded combination foam reservoir fill/drain connection provided on the left side of the vehicle. The connection will be located on the interior of the left rear lower body compartment adjacent to the foam transfer pump.

FOAM FILL/DRAIN CONNECTION

The foam fill/drain connection(s) will include one (1) 1.5 in. (38 mm) NSFHT to 1.5 in. (38 mm) Camlock male type "C" adapter(s) and mating 1.5 in. (38 mm) Camlock type "C" blind cap(s) with link chain to retain the cap(s) when removed.

FOAM TANK LEVEL LIGHTS

There will be four (4) LED foam tank level indicator lights provided on the upper exterior of the left side and right side of the vehicle. The level lights will be vertically stacked and will include the following colors top to bottom:

amber, amber, amber, red

STRUCTURAL FIRE FIGHTING SYSTEM AND CONTROL PANEL

There will be a Class "A" structural firefighting system capable of 1,000 gpm (3,785 lpm) discharge with fill from draft feature and priming pump provided. All primary pump suctions, controls and operator panel will be located in the left rear lower body compartment with a roll-up door for easy access. One (1) 6 inch (152 millimeter) NPT male pump suction inlet connection equipped with a .25 inch (6.35 millimeter) strainer will be installed in the left rear lower body compartment. A mating cap will be provided that will be capable of withstanding pressures of 500 psi (34.5 bar). A manually operated 2.5 inch (64 millimeter) pump suction inlet connection will be installed in the left rear lower body compartment. The pump suction inlet connection types will be described later in this specification.

STRUCTURAL PANEL DISPLAY

A pump operator's station with LCD display and switch panel will be provided in the left rear lower body compartment. The panel will include at a minimum the following gauges:

- Engine tachometer gauge
- Pump discharge pressure gauge
- Pump suction pressure gauge
- Engine oil pressure gauge
- Engine coolant temperature gauge
- Water tank level gauge
- Foam tank level gauge

The following functions and devices will be provided as part of the structural panel:

- Manually adjustable pilot relief valve with strainer
- A mechanical switch to control the operation of the priming pump (if equipped)
- Structural panel activation switch
- Water tank valve open / closed switch
- A means of selecting water or foam induction for discharge
- Pressure governor / Engine RPM control
- Increase / Decrease hand throttle or system pressure switch
- Preset / Idle switch
- Panel illumination
- Flush mode activation switch

STRUCTURAL PUMP SUCTION INLETS

LARGE DIAMETER INLET
The left large diameter pump suction inlet will have a 5 inch (127 millimeter) NSFHT male connection with female blind cap. The blind cap will have a link chain tether.

SMALL DIAMETER INLET
The small diameter pump suction inlet will have a 2.5 inch (64 millimeter) NSFHT female swivel coupling with a male blind cap. The blind cap will have a link chain tether.

DISCHARGE PIPING
There will be four (4) unregulated, manually operated, 2.5 inch (64 millimeter) structural discharges provided. Two (2) will located in the left front lower body compartment and two (2) will be located in the right front lower body compartment. The discharges will have NSFHT threads and will each be equipped with pressure gauges and bleeder valves. Storage for one (1) SCBA cylinder will be provided on both left and right side front lower body compartments in the discharge panel adjacent to the discharges.

DISCHARGE CAPS
The four (4) 2.5 inch (64 millimeter) discharges will have NSFHT blind caps and link chain lanyards.

WATER TANK
There will be a water and foam tank constructed of UV resistant Polypropylene material provided. The minimum tank capacity will be 4,500 gallons (17,034 liters) of water and 630 gallons (2,384 liters) of foam concentrate with a top-fill opening of at least 27 inches (689 millimeters) for water and 23 inches (584 millimeters) for foam. Both reservoirs will be vented with overflow directed to the ground. The tank will be fitted with longitudinal and transverse baffles, anti-swirl baffles, a sump and isolation valve.

WATER TANK LEVEL LIGHTS
There will be four (4) LED water tank level indicator lights provided on the upper exterior of the left side and right side of the vehicle. The level lights will be vertically stacked and will include the following colors from top to bottom:

blue, blue, blue, red

WATER PUMP AND PUMP DRIVE

The water pump will be a Waterous, model CRQB (also commonly referred to as Model CR), single stage centrifugal design that meets all requirements of ICAO, NFPA 414 as well as FAA Advisory Circular 150/5220/10E. The pump will have a rated capacity of at least 2,000 gpm (7,511 lpm) at an operating pressure of 250 psi (17 bar) with suction vacuum at the manifold inlet of 9 IN-Hg. The pump gearbox will be driven by a driveline from the truck power divider. The pump and pump transmission will have the ability to run continuously without overheat issues in ambient temperatures up 122 degrees Fahrenheit (50 degrees Celsius). The pump body will be vertically split on a single plane for easy removal of the entire impeller assembly including the bronze wear rings.

The pump will be constructed of the following materials:

- Pump Body: Leaded Red Brass, UNS C83600, 30,000 psi tensile strength.
- Impeller: Silicon brass, UNS C87500, 60,000 psi tensile strength.
- Impeller Shaft: 17-4 stainless steel, 135,000 psi tensile strength.
- Wear Ring: High leaded tin bronze, UNS C93200, 35,000 psi tensile strength.

The water pump will be gravity primed from the vehicle water reservoir. The vehicle will have a water piping system allowing the pump to remain primed while the water pump is not engaged. This reduces the time to discharge water when a discharge is opened providing immediate operations and a quicker response to a user input.

The pump drive will be through a power divider to allow the pump to be engaged at any speed and in any gear, which is automatically activated for pump operation when the water pump switch is engaged from the cab.

When in pump mode, the pumping RPM will increase automatically only after a discharge orifice is opened, to minimize heat build-up during standby operation.

A pressure relief protection system will be provided to prevent over pressurization of the water piping system.

An automatic pump overheat protection system will be provided that will discharge to the ground.
The pump body and gearbox will be painted in a durable red primer. The entire pump will be bench tested at the original manufacturer to include 400 psi pressure test and capacity test. A test certificate will be provided with the vehicle.

PIPING, COUPLING, CONNECTIONS AND VALVES

WATER FILL PIPING

There will be one (1) 2.5 inch (64 millimeter) NPT male and one (1) 4 inch (101.6 millimeter) NPT male water fill inlet provided on the left side of the vehicle and one (1) 2.5 inch (64 millimeter) NPT male and one (1) 4 inch (101.6 millimeter) NPT male water fill inlet provided on the right side of the vehicle. The water fill piping will be sized to permit filling in no more than 2 minutes from an 80 psi (5.5 bar) supply source. The water fill connection types for each will be defined later in this document.

The water fill piping will be constructed of welded passivated stainless steel with victaulic and threaded connections where necessary. All components in the water fill piping will be manufactured from stainless steel, brass or other corrosion resistant materials. There will be a pneumatically operated brass butterfly valve with a remotely operated pneumatic switch near the water fill valve to control the supply of water to the tank. Each inlet will have a .75 inch (19 mm) drain port with a quarter-turn valve. The drains will each extend through the compartment floor and drain onto the ground below the body.

The left and right side water fill connections will each have one (1) glycerin filled 3.5 inch (89 millimeter) diameter round mechanical gauge reading from 0 to 200 psi (0 to 1,400 kPa) to monitor pressures within the piping during filling operations.

WATER FILL CAPS

The water fill will be provided with two (2) 2.5 inch (64 millimeter) NSFHT swivel and a 2.5 inch (64 millimeter) NSFHT blind male plug with link chain lanyard.

WATER FILL CAPS

The water fill will be provided with two (2) 4.5 inch (114.3 millimeter) NSFHT male adapter and a 4.5 inch (114.3 millimeter) NSFHT blind cap with link chain lanyard.

WATER/FOAM PIPING MATERIAL

The water and foam system piping material will be 304 stainless steel.

WATER PUMP DRIVE OIL DRAIN/FILL

A remote oil drain and oil fill port will be provided on the water pump drive case. The drain will allow for the used drive case oil to be drained under the vehicle through a bulkhead in the compartment floor. The drain connection will incorporate a removeable threaded oil drain plug. A fill port with removable cap will be provided on the water pump drive case. The fill port will allow for the new oil to be poured into the case vertically through a funnel for ease of maintenance.

PRECONNECTED HANDLINES

PRIMARY PRECONNECT HANDLINE

There will be a regulated primary preconnected handline for the discharge of water/foam provided in the left front lower body compartment. The discharge will be calibrated for a minimum discharge flow rate of 125 gpm (473 lpm) at 100 psi (6.9 bar) through 250 feet (76.2 meters) of 1.75 inch (44.5 millimeter) soft jacketed hose.

The preconnected handline will have the following:

- A formed aluminum housing toward the back of the compartment adjacent to the side discharge panel to house the valve, connection and controls, spatter painted to match the compartment interior
- A 1.5 inch (38 millimeter) pneumatically operated ball valve with manual override handle
- A 1.5 inch (38 millimeter) NPSH threaded connection
- A metal tag with the handline specifications
- An Akron Assault pistol grip nozzle with NPSH female swivel connection, green metal bail and green pistol grip will be included and shipped with the loose equipment

- No hose will be included with the handline

PRIMARY PRECONNECT ACTIVATION

The primary preconnected handline will have automatic activation with a control switch located in the cab and in the left front lower body compartment near the handline outlet. An electro-mechanical safety interlock switch with a tether will be provided that will only allow charging of the handline after all the hose has been deployed from the hose tray. An indicator light will be provided in the cab to alert operators when the crosslay hose is fully deployed from the primary preconnected hose tray. Throttle ramp up for the pumping RPM will be accomplished automatically when the handline discharge nozzle is opened. An override throttle control will be provided for the initial charging of the primary preconnected hose should the throttle not ramp up automatically due to a kink in the soft jacketed hose or flow through the handline being too low.

SECONDARY PRECONNECT HANDLINE

No secondary preconnect handline will be provided.

CROSSLAY COMPARTMENT

The crosslay compartment will be configured as an open area for transverse storage of equipment and tools.

LOWER DISCHARGE

LOW ATTACK BUMPER TURRET

There will be a front bumper mounted Elkhart Brass Scorpion turret installed on a low attack boom. The lower discharge will have water/foam discharge rates of 625/1,250 gpm (2,365/4,731 lpm) 792/1,585 gpm with a minimum straight stream cast distance of 230 feet (70 meters).

The bumper turret will have the following design and performance features:

TURRET SWEEP ASSEMBLY

The turret sweep assembly will consist of two (2) swivel joints allowing the turret to sweep in both horizontal and vertical planes. The horizontal axis rotation will allow the turret discharge to be directed at least 90 degrees to either side of center for a minimum of 180 degree horizontal sweep. The elevation axis will allow the nozzle to be elevated at least 45 degrees above the horizontal and be depressed to discharge agent within 30 feet (9 meters) of the front of the vehicle with the boom in the fully raised position.

The turret assembly will be equipped with an auto leveling feature to maintain a consistent turret discharge angle regardless of the position of the boom mechanism during raising or lowering operations. Both the horizontal and vertical drive motors will be permanent magnet type, 24-volt DC electric gear motors and will have a clutch mechanism and/or limit switches to prevent damage to the motors at rotation limits. The motors will be sealed to NEMA 4 requirements.

CONTROLS

An electronic joystick control will be provided in the cab located within easy reach of the driver and turret operator/officer seating positions with integrated switches for the following:

- Water/Foam discharge activation with LED indicator light (momentary or maintained)
- Water/Foam discharge rate with LED indicator light, if applicable
- Auxiliary agent activation with LED indicator light, if applicable
- Nozzle pattern from straight stream to fully dispersed (fog pattern)

The joystick fore/aft and left/right inputs will be used to control the movement of the turret position on the X and Y axes. The turret movement speed in the horizontal and vertical planes will be proportional to the amount of input angle applied to the joystick.

A switch panel will be installed directly behind the joystick with rocker switches for the following functions:

- Turret deploy/stow
- Turret oscillate activation
- Turret mounted floodlight activation, if applicable
- Low attack boom up/down movement activation

The rocker switches will be backlit and will be dimmable in tandem with all other cab control switch backlighting. The normal backlighting color will be white and should a malfunction occur, the switch backlighting color will change to red to indicate there is a fault with the control or turret for the lower discharge.

LOW ATTACK BOOM DESIGN

The low attack assembly will be capable of being lowered from the stored position near bumper height to the fully lowered position with the centerline of the turret discharge approximately 24 inches (610 millimeters) above the ground. The low attack boom will utilize a 24-volt DC motor to drive a hydraulic pump when actuated. The hydraulic pump will power two (2) hydraulic cylinders to lower and raise the boom assembly. A linear potentiometer and a proximity switch will be used to determine and communicate the position of the low attack boom during operation with the vehicle firefighting system.

The turret assembly will be attached to the front bumper of the vehicle and will be mounted onto the low attack boom. The turret mounting and boom will be adequately reinforced to sustain all anticipated loads and reaction forces when the bumper discharge is activated. The design will allow the turret and nozzle to be stored in a position providing minimum protrusion from the front of the vehicle to maintain a 30 degree angle of approach.

LOWER DISCHARGE NOZZLE

NASP NOZZLE

An Elkhart Brass nozzle will be provided on the lower discharge with variable pattern control and an automatic flow mechanism. The automatic flow mechanism will maintain consistent discharge pressure and flow whether in the straight stream or fully dispersed (fog) pattern. The nozzle will be a non-air

aspirating (NASP) type with 24-volt DC powered electric infinitely variable pattern actuation for straight stream or fog pattern selection.

The nozzle patterns will meet or exceed all performance requirements defined in the latest edition of NFPA-414.

BUMPER TURRET LIGHTING

There will be one (1) J.W. Speaker, model 735 24-volt DC light emitting diode (LED) spot light provided on the bumper turret. The spot light will follow the bumper turret movements on the vertical and horizontal axes and will be controlled by a switch bank located near the bumper turret joystick.

UPPER MOUNTED DISCHARGE

ROOF TURRET

There will be a high volume Elkhart Brass Scorpion turret installed on the roof of the vehicle. The upper discharge will have a water/foam flow discharge rate of 625/1,250 gpm (2,366/4,732 lpm) with a minimum straight stream cast distance of 230 feet (70 meters).

The turret will include the following design and performance features:

TURRET SWEEP ASSEMBLY

The nozzle sweep assembly will consist of two (2) separate swivel joints allowing the nozzle to sweep in both the horizontal and vertical planes. The horizontal rotation axis will allow the nozzle to be directed at least 135 degrees to either side of center for a minimum of 270 degrees of horizontal sweep. The vertical elevation axis will allow the nozzle to be elevated at least 45 degrees above horizontal and be depressed 15 degrees below horizontal.

Both horizontal and vertical drive motors will be permanent magnet type, 24-volt DC electric gear motors and will be with a clutch mechanism and/or limit switches to prevent damage to the motors at rotation limits. The motors will be sealed to NEMA 4 requirements.

CONTROLS

An electronic joystick control will be provided in the cab located within easy reach of the driver and turret operator/officer seating positions with integrated switches for the following:

- Water/Foam discharge activation with LED indicator light (momentary or maintained)
- Water/Foam discharge rate with LED indicator light, if applicable
- Auxiliary agent activation with LED indicator light, if applicable
- Nozzle pattern from straight stream to fully dispersed (fog pattern)

The joystick fore/aft and left/right inputs will be used to control the movement of the turret position on the X and Y axes. The turret movement speed in the horizontal and vertical planes will be proportional to the amount of input angle applied to the joystick.

A switch panel will be installed directly behind the joystick with rocker switches for the following functions:

- Turret deploy/stow

- Turret oscillate activation
- Turret mounted floodlight activation, if applicable

The rocker switches will be backlit and will be dimmable in tandem with all other cab control switch backlighting. The normal backlighting color will be white and should a malfunction occur, the switch backlighting color will change to red to indicate there is a fault with the control or turret for the upper discharge.

TURRET BODY DESIGN

The turret body assembly will be made from hard anodized Elk-O-Lite aluminum alloy for long life and corrosion resistance. The turret assembly and mounting will be adequately reinforced to sustain all anticipated loads and reaction forces when discharging. The design will allow the turret to be stowed in compact a position.

JOYSTICK LOCATION

The turret control joysticks will be located on top of the center console between the driver and turret operator seating positions. The lower discharge joystick and switch panel will be mounted on the left side of the center console, nearest the driver and the upper discharge joystick and switch panel will be mounted on the right side of the center console, nearest the turret operator.

UPPER DISCHARGE NOZZLE

NASP NOZZLE

An Elkhart Brass nozzle will be provided on the upper discharge with variable pattern control and an automatic flow mechanism. The automatic flow mechanism will maintain consistent discharge pressure and flow whether in the straight stream or fully dispersed (fog) pattern. The nozzle will be a non-air aspirating (NASP) type with 24-volt DC powered electric infinitely variable pattern actuation for straight stream or fog pattern selection.

The nozzle patterns will meet or exceed all performance requirements defined in the latest edition of NFPA-414.

ROOF TURRET LIGHTING

There will be one (1) 24-volt DC J.W. Speaker light emitting diode (LED) spotlight provided on the roof turret. The spotlight will have an output of 3,680 effective lumens. The spotlight will be controlled by an activation switch adjacent to the roof turret joystick.

UNDERTRUCK NOZZLES

There will be four (4) undertruck nozzles provided to discharge water/foam beneath the vehicle as well as the inner sides of the wheels and tires spaced in a pattern from the front axle to the rear axle of the chassis. The nozzles will be brass construction and will be capable of flowing 19 gpm (72 lpm) each with a total flow of 76 gpm (288 lpm). The undertruck nozzles will be activated by a switch in the cab.

BODY COMPONENTS

COMPARTMENTS

The body compartments will be weather-tight, vented and drained to allow collected water to run out under the vehicle. Each compartment will be equipped with Gortite brand roller shutter type doors. The doors will have replaceable aluminum slats with an anodized finish. The door lift bar will be constructed from round stainless steel and will have adequate room to be operated with a gloved hand. The spring loaded compartment door roller mechanism will be 3 inches (7.62 mm) in diameter to provide maximum interior space.

The vehicle will have adequate compartment space to enclose the firefighting systems and storage of rescue equipment. The body construction will include one (1) upper body compartment and two (2) lower body compartments per side for a total of three (3) on the left and three (3) on the right. The lower compartments will have minimum door opening sizes of 50 inches (127 cm) in height and 62 inches (157.4 cm) in width.

The total compartment space will be = 303.33 ft³. (8.59 m³)

The left side compartment interior dimensions will be the following:

1. Left side upper: 27 inches (685.8 mm) high x 30 inches (762 mm) wide x 28 inches (711.2 mm) deep = 13.125 ft³. (.37 m³)
2. Left side front lower: 50inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)
3. Left side rear lower: 50 inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)

The right side compartment interior dimensions will be the following:

1. Right side upper: 27 inches (685.8 mm) high x 30 inches (762 mm) wide x 28 inches (711.2 mm) deep = 13.125 ft³. (.37 m³)
2. Right side front lower: 50 inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)
3. Right side rear lower: 50 inches (1,270 mm) high x 63 inches (1,600.2 mm) wide x 38 inches (965.2 mm) deep = 69.27 ft³. (1.96 m³)

The compartments will be fabricated from formed, welded and riveted aluminum sheet material. The interior of the compartments will be chemically pre-treated and painted with a durable grey spatter type textured finish.

COMPARTMENT MATTING

The vehicle will have matting placed in the bottom of each body compartment and the bottom of each shelf. The matting will be extruded PVC type or approved equivalent. The matting will be impervious to water or foam. The matting will afford some amount of protection for the floor finish and keep objects from direct contact with the shelving and compartment floor. The matting will allow water to flow to any drains or lowermost part of the compartment floor.

REAR ACCESS LADDER

There will be a sturdy vertical ladder attached at the center of the vehicle at the rear of the vehicle to provide access to the roof. The ladder will have a folding design so the lower most section can be stowed out of the way. The folding section will have a positive latching system with latches on both sides to keep the ladder safely in place. The ladder will be constructed from high-grip knurled aluminum material.

HANDRAILS

There will be extruded aluminum slip-resistant handrails or guardrail at all steps, walkways, and elevated workstations.

RUNNING BOARDS, STEPS, WALKWAYS AND TOWING DEVICES

Running boards, step surfaces, ladder rungs, walkways, and catwalks will have antiskid treads.

Four (4) towing hooks / eyes with shackles will be attached directly to the frame rails. Two (2) will be provided at the front of the vehicle and two (2) will be provided at the rear of the vehicle.

REAR ENGINE ACCESS DOORS

Walk-in access to the engine, cooling system and electrical components will be provided on each side of the vehicle by large, vertical roller shutter type doors. The doors will have aluminum slats with an anodized finish. The individual door slats will be replaceable. The opening lift bar will be constructed from stainless steel and will be an easy to open with a gloved hand. An audible alarm will activate in the cab when doors are opened and vehicle is shifted out of neutral or the parking brake released.

LEFT UPPER COMPARTMENT

Tilt Down Tray

There will be one (1) fixed height, tilt-down, slide out tray provided in the left upper body compartment.

Cord Reel

There will be an electric cord reel provided in the left upper body compartment mounted to the ceiling equipped with 200 feet (60 meters) of 12/3 SO cable. The cord reel will be wired through a 120-volt, 20 amp GFCI circuit breaker and receive its power from the generator. A four-way roller guide will be provided for the cord reel to prevent the cord from chafing or kinking. The cord will be equipped with a rubber ball stop to prevent the cord from pulling through the roller guides during rewinding operations. The cord reel will have a 24-volt DC electric rewind motor and provisions for manual rewind. The manual rewind handle will be securely stored in the compartment near the cord reel.

RIGHT UPPER COMPARTMENT

HALOTRON REEL

There will be a Halotron hose reel floor mounted in the right upper body compartment equipped with 150 feet (45 meters) of 1.0 inch (25.4 meter) diameter booster hose. The hose reel will include a 24-volt DC electric rewind motor with manual rewind provisions and a tension device to prevent the unreeling of the hose. Roller guides will be provided to assure ease of deployment when hose is taken off the reel.

The handline nozzle will be capable of 5 - 7 pounds per second (2.3 -3.2 kilograms per second) of

discharge rate of Halotron with a minimum of straight stream pattern of 25 feet (7.5 meters). A control at the reel will allow charging of the dry chemical to the handline and charging of the Halotron tank. A blow down control will be provided in the cab.

LEFT FRONT LOWER COMPARTMENT

Floor Mounted Hose Storage Tray

There will be one (1) floor mounted, roll-out tray provided in the left front lower body compartment. The shelf will be able to lock in place when in the fully stowed or fully deployed position. The tray will have a bottom that slopes downward from front to rear and will be designed to accommodate no less than 200 feet (61 meters) of 1.75 inch (44.5 millimeter) soft jacketed hose in an accordion configuration.

Height Adjustable Shelf

There will be one (1) height adjustable, roll-out shelf provided in the left front lower body compartment. The shelf will be able to lock in place when in the fully stowed or fully deployed position. The tray will be designed to accommodate no less than 50 feet (15.24 meters) of 1.75 inch (44.5 millimeter) soft jacketed hose in a reverse horseshoe configuration. A vertical divider will be placed in the shelf with an inside dimension of 12 inches (304.8 millimeters) to the outer wall of the shelf. The divider will be located on the left side of the tray when facing the compartment opening.

The front of the floor mounted tray and height adjustable shelf will be approximately 2 inches (51 millimeters) shorter than the end of the tray slides when stowed to allow room for the stored hoses to not contact the inside of the compartment roller shutter door.

RIGHT FRONT COMPARTMENT

There will be one (1) fixed shelf provided in the right front lower body compartment above the hydraulic generator.

Right Rear Compartment

Swing Out Dual Agent Hose Reel

There will be a swing out dual agent hose reel for dry chemical and water/foam discharge provided in the right rear lower body compartment. The reel will be equipped with 100 feet (30 meters) of 1 inch (25 millimeter) twinned dual agent booster hose. The reel will have detents to allow the reel to lock fully stowed in the compartment, deployed 45 degrees out toward the front of the vehicle or deployed 90 degrees out toward the front of the vehicle. The hose reel will be equipped with a 24-volt DC electric rewind motor and manual rewind provisions. The manual rewind handle will be mounted to storage brackets near the hose reel. The Williams "Hydro-Chem" pistol grip nozzle will be capable of discharging 60 gpm (227 lpm) of water/foam solution with a minimum cast distance of 80 feet (24 meters) and a dry chemical discharge rate of 5 - 7 pounds (2.3 - 3.2 kilograms) per second. The wet agent discharge will be controlled prior to the nozzle by a manually operated, quarter-turn ball valve in the compartment. An electronic signal will ramp the vehicle to pump speed any time the reel wet agent discharge is opened when the water pump is engaged unless the vehicle is in structural firefighting mode (if equipped with a structural panel). A switch will be provided at the reel for charging of the dry chemical tank and reel powder supply valve. Blow down controls for the wet agent will be provided at the reel and blowdown for the dry chemical discharge will be controlled from the cab. Roller guides will

be provided at the sides and bottom of the hose reel to assure ease of deployment when hose is taken off the reel. A tension device will be installed to prevent the unreeling of the hose.

RIGHT FRONT LOWER COMPARTMENT TOOL BOARD

A tool board will be installed on the upper portion of the back wall in the right front lower body compartment. The tool board will be sized to fit the space available from the breaker box to the rear (left side) of the compartment and as tall as practical. The tool board will be fabricated from flat peg board aluminum and mounted on stand off brackets to allow space for tool mounting hardware. The tool board will have a raw aluminum finish.

RIGHT REAR LOWER COMPARTMENT TOOL BOARD

A tool board will be installed on the upper portion of the back wall in the right rear lower body compartment. The tool board will be sized to fit the space available from the rear of the auxiliary air compressor to the propellant cylinder storage area and as tall as practical. The tool board will be fabricated from flat peg board aluminum and mounted on stand off brackets to allow space for tool mounting hardware. The tool board will have a raw aluminum finish.

RADIO SYSTEM (HARRIS, ICOM AND SETCOM)

One (1) L3 Harris XL-200M Multiband VHF/800 MHz Mobile Radio
One (1) L3Harris XL-185M 800 MHz Mobile Radio
Two (2) L3Harris XL-CH6H Vehicular Chargers
One (1) Icom IC-A220 Aviation Transceiver with MB-53 Mobile Mount Kit, External Speaker & Antenna
Five (5) Console Mounting Brackets
One (1) SetCom System 1300 3 Position Headset/Intercom System, all positions have radio transmit, receive and Intercom. The system will have a radio select switch for the L3Harris radios

MANUALS

The manuals provided will be in a commercial format utilizing primarily line art for parts identification/assembly drawings and a combination of line art and photographs for service and operations related information. Manuals will be identified with a title page to distinguish them from one another.

WEB BASED SUPPORT

A 24-hour web-based parts and service system will be accessible via an internet browser. Features of this website will include the following:

- A user-specific, secure login
- Access to digital copies of service bulletins and technical instructions
- Access to digital copies of vehicle-specific operator and service manuals, schematics, service diagrams, and parts books
- An aftermarket parts catalog with live inventory level information
- A customer support contact page

OPERATOR'S MANUAL

Two (2) hard copies and two (2) digital copies on USB flash drive of the vehicle operator's manual will be provided in the English language. The operator's manual will provide all information required for the

safe, efficient operation of the vehicle fire extinguishing systems, equipment, special attachments or auxiliary support equipment. The operator's manual will include:

- Drawings and descriptions of locations and functions for all controls and instruments
- Safety information consistent with NFPA and OSHA safety standards
- All operational checks, inspection procedures, and adjustments prior to putting the vehicle into service upon receipt from the manufacturer
- Disabled vehicle towing procedure
- Tire changing procedure
- Tie-down procedures/lashing for vehicle transport via lowboy trailer
- Step by step procedures and descriptions to operate the vehicle, firefighting systems, and auxiliary equipment
- Draining, flushing, re-servicing, etc. post operation procedures
- Operator daily maintenance inspection checklist and basic troubleshooting procedures
- Periodic and preventative maintenance schedule in hours, miles, time period, etc.

The operator's manual will contain line art drawings of the left side, right side, front, and rear of the vehicle exterior showing basic dimensions and weights. The weights provided will be total vehicle and individual axle weights when unladen (no agent, occupants or equipment).

SERVICE AND MAINTENANCE MANUAL

Two (2) hard copies and two (2) digital copies on USB flash drive of the service and maintenance manual will be provided in the English language. The manual will cover vehicle maintenance, troubleshooting and repair procedures ranging from minor to major services. The manual will identify all special tools and testing equipment for inspection, servicing and maintenance. The manual will contain:

- Performance specifications
- Tolerances
- Fluid capacities
- Current, voltage and resistance data
- Test procedures
- Illustrations and exploded views of assemblies
- Table of contents
- Alphabetical index
- Preventative maintenance schedule
- Required periodic maintenance schedule
- Lubrication points and service intervals

A set of the following schematics will be included with the service and maintenance manual:

- Full vehicle electrical diagrams in color
- Full vehicle water/firefighting system/plumbing diagrams
- Full vehicle pneumatic diagrams in color
- Full vehicle hydraulic diagrams in color

PARTS MANUAL

Two (2) hard copies and two (2) digital copies on USB flash drive of the parts manual will be provided in the English language. The parts manual will provide the necessary information to locate and identify the parts and quantities of parts/hardware of vehicle assemblies and components. The parts manual will contain:

- Exploded views of parts/assemblies/subassemblies/special equipment
- Drawings with reference numbers for part identification
- Description and quantity of each component used in an assembly
- Size, thread information, and other information of non-standard hardware (bolts, nuts, washers, etc.)
- Size, thread information, torque specifications and other information of non-standard fittings, lubricants or special components
- A numerical index

ALLISON TRANSMISSION WARRANTY

A five (5) year Allison transmission will be provided.

DRIVETRAIN WARRANTY

A five (5) year drivetrain warranty will be provided.

INSPECTION TRIPS

Two (2) factory inspection trips will be provided, four (4) fire department personnel will travel to the factory for each trip.

Trip - 1 Mid Construction Review

Trip - 2 Final Inspection

LOOSE EQUIPMENT (includes mounting)

LOOSE EQUIPMENT

Quantity	Item	Description
1	iPad Pro 12.9" (latest generation)	Best Buy
1	GDS Locking Vehicle Dock for Apple iPad Pro 12.9” 3rd- 5th Gen (RAM-GDS-DOCKL-V2-AP24CPU) OR latest model to match iPad	Ram Mounts
1	RAM-HOL-ROTO1U Rotoview mount (99-125447)	Ram Mounts
1	DGS Hardwire USB Type-C Power Delivery Charger (RAM-GDS-CHARGE-V3FC-1U)	Ram Mounts
1	Latest Edition of Emergency Response Guidebook	Grainger
2	Vortex Optics - Diamondback HD 10 x 50	Scheels
2	Traffic vests – Vizguard Spiewak yellow/red – Denver Fire – Lg. adjustable	Spiewak website S912 yellow red 006 303-810-8624
1	1 pr – Raptor Rescue Shears	Leatherman on line
1	TNT tool – TN635 6.5lb head, 35" length, 11.5 lbs.	Leatherheads Tools
1	Tire pressure gauge	Grainger 33W452
1	Fleco C16 cable cutter	America.Felco.Com
1	Halligan – Pro Bar 36” 1pc Drop Forged	Fire Hooks PB-36
1	Paratech - TiTAN Crash Axe - 22-000120	LN Curtis
1	8-Pound, 36" Pick Head Axe w/Fiberglass Handle	Fire Hooks LPA-8
1	Pry bar – 1” x 40”	Amazon Hexagonal Bar (1000M)
1	Crowbar - 36"	Fire Hooks GNPB-36
1	Large bolt cutter – 36” length	Fire Hooks BC-36
1	Small bolt cutter – 18” length	Fire Hooks BC-18
1	Set of four 5-inch spanner wrenches	Red Head Brass SW2 26.39 x 4
2	20 Oz Black Rubber Mallet with 13-inch hardwood handle	Ebay Vaughn New
2	2 1/2" NH Spare Hose Gaskets	Kochek G225A
2	5-inch pressure Storz Gaskets	Kochek G508
2	1 1/2" NPSH Spare Hose Gaskets	Kochek G156
1	Raytek temp. gun	RAYMT6U Global Test Supply online
2	Stinger flashlights (Streamlight Stinger DS LED HL)	Steamlight 75432 Light Only
2	Mounted Stinger flashlight chargers	Streamlight 75105
2	Vulcan 180 LED Lantern - (Streamlight)	Streamlight 44311 With Truck Charger
1	Double male	Elkhart M-327A 2-1/2" double male adaptor (M-327-A 2.5 MNH x 2.5 MNH rocker lug Elk-O-Lite Adapters - Double Male, Hose to Hose) (PN 10720001)
1	Double female	Elkhart F-327A 2-1/2" double female adaptor (Adapter Double female Elk-O-Lite 2.5F x 2.5F rocker lug)(PN01405501)
1	2 ½” to 1 ¾” plate reducer	Elkhart A-327A Plate Reducer (A-327-A ELKHART Adapters A-327-A 2.5 FNH x 1.5 MNH rocker lug Elk-O-Lite Adapters - Female to Male, Hose to Hose must be NPSH threads on 1.5in Male) (PN11300LL1)
1	5-inch supply line-(COPRO Dealer 303-219-6013)	5" MegaFlo Breather 33' Storz I Reflect Couplings, Permatek Yellow, Stenciled with 1" black stripe at center point and the following numbering. INQUIRE FOR HOSE NUMBERING SEQUENCE
1	3-inch supply line. Quoted by Mackenzie Gilson 11-15-2024	#FC30X50CR25NLEZ, AAH 3x50' CPLD 2.5NH WHITE CONQUEST POLY DJ HOSE EACH SECTION WILL HAVE THE FOLLOWING MARKINGS: A 1/2" THICK SOLID LINE AT MIDPOINT OF HOSE AROUND THE CIRCUMFERENCE SEQUENTIAL HOSE NUMBERING AT BOTH ENDS OF THE HOSE, TO BE NUMBERED 18" FROM THE COUPLING ON THE HOSE IN BLOCK LETTERING 1" HIGH. THE SAME NUMBER WILL BE STAMPED ON BOTH COUPLINGS OF THE HOSE. NUMBER SEQUENCE: INQUIRE FOR NUMBERING SEQUENCE

1	Pre-connect – 250' of 1 ¾". The hose Tracer will be what ever color Key is using. It cant be specified Stamping is included in hose cost	KEY FIRE HOSE #DP17-TRU, 1.75" TRU ID POLYESTER DOUBLE JACKET FIRE HOSE, RUBBER LINED WITH 1.5" ALUMINUM COUPLINGS NPSH, 50' LENGTH COLOR - White with ½" red TRACER stripe down the middle of one side of the hose KEY FIRE HOSE DOES NOT PROVIDE A 1" thick line at midpoint of hose around the circumference of the hose. Sequential hose numbering marked at both ends of the hose, male and female, to be numbered up 18 inches from the coupling on the hose in block lettering approximately 1" high. Key Hose Coupling Stamping on BOTH COUPLINGS; Numbering: INQUIRE FOR HOSE NUMBERING SEQUENCE
1	1 1/8" open-end wrench	Home Depot Husky Tools
1	24" Rubber Wheel Chocks, Reflective Strip - Pair (JHF-2001083) - SEE RQ-00106300 for supplier info	https://www.mutualscrew.com/product/24-rubber-wheel-chocks-reflective-strip-184616.cfm?source=froogle&gad_source=1&gclid=EAIaIQobChMI5_fsrYXfiQMVeUB_AB0ijQZEEAQYASABEgIkiPD_BwE
1	18" Rubber Wheel Chocks, Reflective Strip -Pair (JHF-2001082)	https://www.mutualscrew.com/product/18-rubber-wheel-chocks-reflective-strip-184615.cfm?source=froogle&gad_source=1&gclid=EAIaIQobChMI4a-a24TfiQMVA1N_AB1zkhGNEAQYAiABEgIjUfD_BwE
1	TIC in wall mounted charger – Bullard NXT Pro (NFPA compliant)	XT Wireless truck mount charger.
2	Seek FirePRO 300 Handheld Thermal Imagers	the fire store
1	DeWalt Cordless tool bag – 20V 6-tool combo kit DCK661D1M1	Contents: Home Depot
1	Drill - DCD771 20V MAX* 1/2 in. Cordless drill/driver	Home Depot Husky Tools
1	Impact drill - DCF885 20V MAX* 1/4 in. Cordless impact driver	Home Depot
1	Circular saw - DCS393 20V MAX* 6-1/2 in. Cordless circular saw	Home Depot
1	Angle grinder - DCG412 20V MAX* 4-1/2 in. Cordless grinder	Home Depot
1	Reciprocating saw - DCS381 20V MAX* Cordless reciprocating saw	Home Depot
1	Oscillating tool - DCS356 20V MAX* XR® Brushless cordless 3-speed oscillating multi-tool	Home Depot Tool Only
1	0 - DCB 203 20V Max Li-ion 2.0Ah battery	Home Depot
1	0 – DCB204 20V Max Li-ion 4.0Ah battery	Home Depot
1	0 – DCB112 Charger	Home Depot
1	Dewalt FlexVolt battery - 20V/60V Max FlexVolt 9AH (2pk)	Home Depot PN DCB609-2
1	DCB112 Charger	Mounted in rig
1	DeWalt 18-inch Large heavy Duty Contractor Tool Bag	https://www.amazon.com/Dewalt-Large-Heavy-Contractor-Packaging/dp/B009L33NA6/ref=asc_df_B009L33NA6/?tag=hyprod-20&linkCode=df0&hvadid=692875362841&hvpos=&hvnetw=g&hvrand=15144718764748407400&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9028806&hvtargid=pla-2281435180938&mcid=eb2b1a0d5a7a3d42bf5add12dcb7233a&hvocijid=15144718764748407400-B009L33NA6-&hvexpln=73&th=1

1	drill index	https://www.homedepot.com/p/DEWALT-Titanium-Nitride-Coated-Speed-Tip-Drill-Bit-Set-21-Pieces-DW1342/203317083
1	1/4" Impact driver set	https://www.zoro.com/dewalt-flextorqr-impact-readyr-screwdriving-bit-sets-with-toughcaser-system-dwa2t35ir/i/G7637971/?utm_source=google&utm_medium=surfaces&utm_campaign=shopping%20feed&utm_content=free%20google%20shopping%20clicks&campaignid=21407295990&productid=G7637971&v=&gad_source=1&gclid=Cj0KCQjwm5e5BhCWARIsANwm06hRshrWfklLrU9jv9MRSxHiCqOM6by6EFOxfnS0a9Qf8avjE-RiZRwaAstgEALw_wcB&gclsrc=aw.ds
1	Drill Screwdriver Set	https://www.homedepot.com/p/DEWALT-Screwdriving-Set-with-Tough-Case-37-Piece-DW2176/203312102
1	reciprocating saw blades	Diablo - 25 Pack 9 inch 14/18 TPI Diablo Steel Demon Bi-Metal Auto Dismantling Reciprocating Saw Blades for 1/16-5/16 Medium Metals AMAZON
1	10-pack 1-1/4" AMPED™ Demo Demon™ Universal Fit Carbide Teeth Oscillating Blades for General Purpose Cuts	https://www.diablotools.com/products/DOU125CGP10
2	6-1/2" x 24-Teeth Demo Demon™ Ultra-Thin Framing/Demolition Saw Blade for Wood	https://www.diablotools.com/products/D0624DA
2	6-1/2" x 48-Teeth Steel Demon™ Cermet II Saw Blade for Medium Metal	https://www.diablotools.com/products/D0648CFA
2	4-1/2" Type 27 Metal Dual Cut and Grind Disc	https://www.diablotools.com/products/DBD045125X01F
2	4-1/2" Diamond Metal Cut-Off Disc	https://www.diablotools.com/products/DDD045DIA101F
2	1 3/4" Fog Nozzles (One Piece)	Chief XD One-Piece Nozzle (FIXED FLOW) FOG 1.5” 125 gpm @ 100 psi – Specify: 1.5” NPSH Inlet Threads - bumper color and bale insert to be “Blue” – Specify: Spinning metal teeth
1	Foam Tube	Elkhart - Mid Range XD Foam Tube

HGACBuy	CONTRACT PRICING WORKSHEET For MOTOR VEHICLES Only	Contract No.:	FS12-23	Date Prepared:	4/2/2025

Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract. As needed, delivery updates will be provided as soon as possible.

Buying Agency:	City and County of Denver	Contractor:	Front Range Fire Appratus
Contact Person:	Leann Rush	Prepared By:	Duane Doucette
Phone:	303-342-2298	Phone:	303-449-9911
Fax:		Fax:	303-449-1203
Email:	leann.rush@flydenver.com	Email:	duaned@frontrangefire.com

Product Description	23AR-103	February 2025 Pricing	Oshkosh Striker 8x8, 2-Door, Aluminum Cab, 2 Passenger Seating, Water Tank Capacity (4500 gal)

A. Product Item Base Unit Price Per Contractor's H-GAC Contract: $2,168,786.00

B. Published Options - Itemize below - Attach additional sheet(s) if necessary.
(Note: Published Options are "manufacturer standard options" which were submitted and priced in Contractor's proposal.)

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	
		Subtotal B:	$621,937.00

C. Customization Category Totals - Itemize below / Attach additional sheet(s) if necessary.
(Note: Customization options are "manufacturer non-standard options" which were submitted and priced in Contractors's proposal.)

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	
		Subtotal C:	$39,177.33

Check: Total cost of Customization Categories (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B).	For this transaction the percentage is:	1%

D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)

Quantity Ordered:	3	X Subtotal of A + B + C:	2,829,900	=	Subtotal D:	$8,489,701.00

E. H-GAC Order Processing Charge (Amount Per Current Policy)	Subtotal E:	$2,000.00

F. Trade-Ins / Special Discounts / Other Allowances / Freight / Installation / Miscellaneous Charges

Description	Cost	Description	Cost
Multi Vehicle discount	-$55,000.00		
		Subtotal F:	-$55,000.00

Delivery Date:	11/1/2026	G. Total Purchase Price (D+E+F):	$8,436,701.00

Respondent:	**Pierce**			
Code or Part No.	Quantity	Option Description	February 2025 Published Pricing	Customization
OSK-98	1	Scania DC16/V8 770hp with brake	$573,492.00	
OSK-14	1	Add roof hatch access step in cab	$1,089.00	
639	1	Light Tower (C)	$38,681.00	
OSK-8	1	Two driving and two fog lights	$579.00	
OSK-9	1	LED ground lighting	$774.00	
OSK-13	3	Upgrade to Smartdock hands' free SCBA bracket for one cre	$2,298.00	
OSK-18	1	Medical storage compartment in cab	$2,898.00	
OSK-19	2	Power strip in cab with shore power provisions	$2,126.00	
	1	Loose Equipment	$0.00	$39,177.33
		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
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		#N/A	$0.00	
		#N/A	$0.00	
		#N/A	$0.00	
		Base Bid	$2,168,786.00	
		Published Options	$621,937.00	
		Total Published Options	$2,790,723.00	
		Unpublished Options	$39,177.33	1%
		Total Options w/o HGAC Fee	$2,829,900.33	

EXHIBIT C

FRONT RANGE FIRE APPARATUS

7600 Miller Court
Frederick, CO 80504
303-449-9911
1-800-334-9911
www.FrontRangeFire.com

DUANE DOUCETTE
303-304-6118
DuaneD@frontrangefire.com

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- Over 30,000 custom chassis built
- More than 30 patents attributed to our continued investment in research, development and safety
- Thousands of years of cumulative experience
- First single-source manufacturer of custom fire apparatus in North America to achieve ISO 9001 certification
- Only manufacturer to have third party, Underwriters Laboratories certification on the entire apparatus

Unshakable Stability

- Rock-solid financials as an Oshkosh Corporation Company
- Oshkosh named a World's Most Ethical Company by Ethisphere Institute
- Recognized as a 2016 Best Governance, Risk, and Compliance Program by NYSE Governance Services
- Complete transparency of a public traded company
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- With over 100 years of history and numerous industry-first contributions, we're not going anywhere
- America's Best Large Employers list by Forbes

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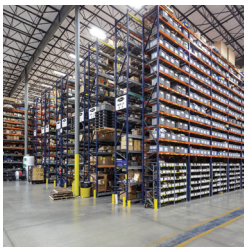

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24/7
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FRONT RANGE FIRE APPARATUS

INTERNATIONAL FIRE CHIEFS ASSOCIATION
VOLUNTEER & COMBINATION OFFICERS SECTION

Pierce leads the industry in sponsorships that support families of fallen firefighters, recognize outstanding achievement and further the education and safety of the fire service.

www.piercemfg.com

FRONT RANGE FIRE APPARATUS

Pierce

Pierce Manufacturing Inc., An Oshkosh Corporation Company
P.O. Box 2017, Appleton WI 54912-2017 USA

P-0108-SLLSTBLTYSS-FRNTRNG 1/17

FOR FURNISHING FIRE APPARATUS

March 19, 2025

City and County of Denver

The undersigned is prepared to manufacture for you, upon an order being placed by you, for final acceptance by Front Range Fire Apparatus., at its home office in Frederick, Colorado, the apparatus and equipment herein named and for the following prices:

One (1) F550 Patrol Unit, (includes equipment) **Per HGAC FS12-23 includes HGAC fee** **Includes delivery to customer location** **Per attached component list** **Delivery is approximately 22.0 to 24.0 Months**		**$599,469.50**
Multiple Vehicle Discount	**Deduct**	**($10,000.00)**
Payment Due at factory final inspection		
	Total	**$ 589,469.50**

Said apparatus and equipment are to be built and shipped in accordance with the specifications hereto attached, delays due to strikes, war, or intentional conflict, failures to obtain chassis, materials, or other causes beyond our control not preventing, within about 22 to 24 months after receipt of this order and the acceptance thereof at our office at Frederick, Colorado, and to be delivered to you Denver, CO

The specifications herein contained shall form a part of the final contract, and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The specification for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid, and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above. Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.

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

FRONT RANGE FIRE APPRATUS.

By: _____
Duane Doucette
SALES REPRESENTATIVE

FRONT RANGE
FIRE APPARATUS

Specification for:
Type-6
C-3468 (Ford F550 - 4x4 - Gas - EXT Cab - 60" CA)

Submitted To:
Denver International Airport
25365 E 75th Ave. Denver, CO 80249

Specification **1273**
01/02/2025

Prepared by:
Duane Doucette
Front Range Fire Apparatus

C-3468 FORD F550 - 4X4 - GAS - EXT CAB - 60" CA

One (1) FORD F-550 two axle drive 4 x 4, dual rear wheels (DRW), Super Cab, XL cab and chassis

Measurements / Capacities:
Cab to Axle: 60 inch

Fuel tank size: 40 US Gallon
Wheelbase: 168 inches

Weight Ratings:
GVWR: 19,500 LBS
Front GAWR: 7,500 LBS
Rear GAWR: 14,706 LBS

Engine:
7.3L 2V DEVCT V8 Gas
350 HP at 3900 RPM
468 ft-lb at 3900 RPM

Transmission:
TorquShift 10 speed automatic transmission with overdrive.
PTO Provision

Axles:
Front: Mono-beam non-independent suspension with anti-roll bar
Rear: Dana M300 rigid axle leaf spring suspension.
Differential Gears: 4.88 Gears, Limited slip Rear Differential
Electrical Shift on the fly transfer case

Wheels:
Factory Tires: 225/70R19.5G BSW A/T, Radial all weather / off road tread
Front Wheels: two (2) 19.5" x 6" Painted steel, ten (10)-hole pattern steel disc wheels, GRAY
Rear Wheels: four (4) 19.5" x 6" Painted Steel, ten (10)-hole pattern steel disc wheels, GRAY

Cab Controls:
Controls for heat, defroster, and air conditioning

Powered Door Locks
Powered Windows
Powered Mirrors
Manual tilt steering wheel: (Unless superseded below in options)

Electrical Systems:
Duel alternator 410 amp, 12-volt
Two (2) 12-volt, 750 CCA, 78-amp hour batteries
AM/FM Stereo with MP3 Player with fixed antenna
Upfitter Switches
Upfitter Interface Module
Trailer Brake Controller
Trailer harness

Safety / Security:
Air bags: Safety canopy system, first row overhead airbag restraint system, dual seat mounted side impact airbag restraint system
Brakes: 4-wheel ABS, disc brakes, brake assist
Driveline traction control
Factory jack and lug nut wrench set
Tow Hooks: front loops

Seats:
Seating capacity: six (6)
Vinyl Seat Covering
Front 40-20-40 HD folding split bench seat
Rear 60-40 Folding rear split bench seat
Manual driver lumbar support
4-way driver seat adjustment
4-way passenger seat adjustment

Miscellaneous Included Equipment:
Power Steering
Exhaust system: horizontally mounted, discharge on passenger side of chassis aft of rear wheels.
Cooling system: protected to -30 degrees
Printed Manuals: one (1) printed chassis operation manual

Colors:
Interior color: Medium Earth Gray
Exterior cab color: Race Red (Unless superseded below in options)

Chrome Grill With Black Insert

C-4136 60" CAB TO AXLE

The chassis Cab to Axle measurement shall be 60".

C-4274.3 CAB REPAINT - SOLID - ONE CUSTOM COLOR

1. Cab Color: Lime Yellow Pierce #40
2. Description: Solid Lime Yellow Pierce #40

COMPLETE CAB SINGLE COLOR PAINT SCHEME, DOOR JAMBS PAINTED

Aftermarket Paint Warranty covers defects in the applied paint for up to three years or 36,000 miles, whichever comes first.

C-3545.2 CAB STEPS - FORD SUPER CAB

The cab shall be equipped with steel step assemblies, on each side of the cab. There shall four (4) stirrup steps mounted two (2) each side on the cab steps. They shall be installed in the best location to allow easy access to the cab.

The stepping surface shall be lined with NFPA aluminum diamond plate.

C-5589.2 3IN LIFT KIT - FORD

There shall be a 2-3" lift installed. Kit shall include the following components. The fenders and fender flares shall be modified for tire clearance.

- Upgraded Coils
- Upgraded Radius Arm W/ Skeeter Badging.
- Brake Line relocation brackets.
- Front Bump Stops.
- Track Bar
- Front Sway Bar.
- Skeeter 2.5 Reservoir Shocks with brackets.
- Dual Stabilizers.

NOTE THE OVERALL HEIGHT OF THE APPARATUS SHALL NOT EXCEED 99".

C-4202 TIRES/WHEELS - SUPER SINGLE - TOYO M608Z 285/70R19

There shall be four (4) Toyo M608Z super single front and rear tires, There shall be 285/70R19.5, radial all terrain tread. The tire weight rating shall be load range "H" (6,395 lbs), and the speed rating shall be 75 mph.

There shall be four (4) wheels for the front and rear tires. There shall be C" disc, ten (10)-hole pattern with a rating to match or exceed the tire rating.

NOTE: REQUIRES 2" LIFT MINIMUM

C-4171 TIRE PRESSURE INDICATOR
There shall be a set of tire pressure indicators installed on the valve stems of the wheels. The indicators shall show if the tire is at the correct pressure by showing a "Green" indicator on the valve stem. The indicator shall show "Red" when the pressure is incorrect.

C-3902 FRONT BUMPER - STOCK BUMPER
The stock chassis front bumper shall be utilized.

C-3519 CONSOLE, ALUM/POLY, SM TRUCK
A custom fabricated DA aluminum electrical console and enclosure shall be located between the driver's and passenger's seats. It shall house the siren, switches, cup holder, map box, equipment storage, and auxiliary equipment. It shall have a custom poly faceplate. It shall extend fully to the dash.

C-4551 POWER OUTLETS, 12V, DUAL 4.8A USB, CAB
There shall be 1 Dual USB-A/USB-C power outlets rated at 4.8amps shall be provided in cab.

LOCATIONS: Determined at preconstruction.

C-4354 CONSOLE - UPGRADED FUSE BLOCK
The fuse block in the center console shall be upgraded to a 5025 100amp style fuse block. This fuse block shall be wired to the same signal as the rest of the Skeeter electrical system.

C-3822 CAB POLY - SCBA AND EMS CABINETS - FULL 2ND ROW
The interior cab shall be equipped with a SCBA and an EMS storage cabinet. The cabinet shall be mounted between the back cab wall and

the rear of the front seats. The cabinet shall be constructed of 1/2" polyurethane.

The SCBA cabinet shall house two (2) SCBA brackets, and have storage underneath for two (2) spare SCBA bottles. The EMS cabinet shall be constructed to allow storage of EMS components.

C-3871 RADIO INSTALL - 3 RADIOS (CUSTOMER PROVIDED)

Three (3) fire radios shall be supplied by the purchaser to be installed.

Location: Finalized at preconstruction.

ALL EQUIPMENT NECESSARY TO INSTALL/OPERATE A CUSTOMER SUPPLIED RADIO MUST BE PRESENT AT SKEETER BRUSH TRUCKS WITHIN 30 DAYS OF COMPLETED PRE-CONSTRUCT. IF ALL COMPONENTS ARE NOT PRESENT THE RADIO WILL NOT BE INSTALLED

C-4003 INSTALL RADIO ANTENNAS (ANTENNAS ONLY)

One 1 radio antenna with cable shall be supplied by the purchaser and installed on the apparatus at a location to be determined by the purchaser.

THIS OPTION DOES NOT INCLUDE INSTALLATION OF RADIOS, OR MDT/MCT.

ALL EQUIPMENT NECESSARY TO INSTALL/OPERATE A CUSTOMER SUPPLIED RADIO MUST BE PRESENT AT SKEETER BRUSH TRUCKS WITHIN 30 DAYS OF COMPLETED PRE-CONSTRUCT. IF ALL COMPONENTS ARE NOT PRESENT THE RADIO WILL NOT BE INSTALLED

C-4009 CAMERA SYSTEM - ROSCO - 1 CAM

One (1) Rosco STSK4532 rear view mirror camera system shall be furnished utilizing a camera which provides a wide field of view and picture quality. A sealed camera enclosure shall be utilized along with electronic connections.

One (1) camera shall cover the rear of the apparatus, which will activate during back-up mode and during normal operations if needed.

C-3612 REAR RECEIVER - STANDARD - WINCH/ROPE/TRAILER

The rear of the chassis shall be equipped with one (1) square steel tube receiver assembly for trailer use and winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame assembly. The receiver shall be rated at approximately 10,000#.

The rear receiver assembly shall be equipped with two (2) heavy duty rear tow loops, one (1) each side.

C-3530 TRAILER PLUG - 12V - 7 PIN

Wiring shall be provided at the rear of the apparatus for the towing of an auxiliary trailer. A 12 volt seven (7) pin electrical connector shall be wired to the chassis stop, running, and turn lights.

C-4205.10 R200 - RSQ SQD, ALUM, 114" X 88", 60" CA

The body will be a custom fabricated severe service Rescue-Squad type, constructed of all aluminum. The body shall be 114" long by 88" wide, designed for a 60" cab to axle dimension.

FLAT-BED SUB-STRUCTURE
The body shall have 6" x 1.75" structural aluminum channel main frame rails. The body frame rails shall be isolated from the truck frame by .500" industrial isolators.

FLAT-BED CROSS-MEMBER SUB-STRUCTURE
The cross-members shall be 3" x 2 5/16"" structural aluminum I beams with cross-members on 12" centers.

FLAT-BED MOUNTING
The body shall be bolted to the chassis frame rails at the rear end of the frame. There shall be brackets installed at the middle of the body frame to prevent side to side movement. The body shall be spring mounted at the front of the body frame. The flexible mounting system shall allow for body/chassis flexing during extreme off road conditions.

SQUARE FRONT BODY CORNERS
The front corners of the body shall be square.

HEADACHE RACK
The front of the body shall have a 2" formed aluminum tube headache rack. The rack shall extend the full width of the body and be attached to the front body corners. The assembly shall extend above the chassis

cab and have mounting platform for installation of the light bar and other lights. Wiring for the lights will be placed inside the tubing for protection. The headache rack shall have four (4) vertical 2" tubes for extra strength.

SIDE BODY ACCESS STEP
There shall be a body access step assisting in access to top of the tool/hose trays from the side of the apparatus. It shall be a stirrup design, and be fabricated from 1" aluminum tubing. They shall be installed under the front of the body, one (1) each side.

FUEL FILLER
The fuel filler tube and cap shall be installed at the driver's side, rear of the body.

FENDER PANELS
The lower portion of the flat-bed body shall have fender panels over and aft of the rear wheel panel area. The panels shall be constructed of .125" aluminum smooth plate on all exterior surfaces. The wheel well openings will be cut out to conform to the wheels.

REAR BODY PANEL
A vertical body panel shall be installed at the rear of the body constructed of .190" smooth aluminum. The panel shall house the running lights, taillights, back-up lights, and emergency lights. The body panel shall be angled to allow for a 30 degree angle of departure.

SIDE BODY COMPARTMENTS, FRONT BODY -- DRIVER'S AND PASSENGER'S SIDES
Two (2) body equipment storage compartments shall be installed at the front of the body just behind the headache rack, one (1) each side of the apparatus. The dimensions shall be approximately: 30" wide, 43.5" high, and 14" deep. The compartments shall be constructed of .125" aluminum smooth plate on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with a single latch installed. The doors shall be equipped with gas operated door opening assistant cylinders.

The compartments shall be hinged at the rear.

TRANSVERSE COMPARTMENT
The upper portion of the front vertical compartments shall be transverse. The dimensions shall be 18" wide x 21.5" high x 88" deep.

There shall be a lift up door accessing the transverse compartment. It shall be approximately 50" long x 18" wide.

SIDE UPPER BODY COMPARTMENTS
There shall be two (2) side upper body compartments, one (1) each side. The dimensions shall be approximately: 48" wide, 21.5" high, and 14" deep. The compartments shall be constructed of .125" aluminum smooth plate on all exterior surfaces. Each compartment shall be equipped with a horizontally hinged drop down door with a latch installed. The doors shall be equipped with retaining straps. The hinge shall be at the bottom edge of the compartment.

SIDE BODY COMPARTMENTS, REAR BODY -- DRIVER'S AND PASSENGER'S SIDES
Two (2) body equipment storage compartments shall be installed at the rear of the body just behind the side upper body compartments, one (1) each side of the apparatus. The dimensions shall be approximately: 32" wide, 43.5" high, and 14" deep. The compartments shall be constructed of .125" aluminum smooth plate on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with a single latch installed. The doors shall be equipped with gas operated door opening assistant cylinders. Each vertical compartment shall have one (1) fixed shelf. The compartment floors shall be lined with ventilated vinyl floor liner.

The compartments shall be hinged at the rear.

The compartments shall be equipped with:
-a swing door with latch installed
-key type door locks.
-dual gas operated door opening assistant cylinders.
-a white LED strip light that is automatically controlled by a door activated switch.
-a louvered vent

Compartment Matting shall be installed in the compartment. It shall be black in color and lock together design.

The actual door openings shall be approximately 3" smaller in dimension.

COMPARTMENTATION TOPSIDE
There will be integral lift up door style compartments on the driver's

and passenger's side of the body upper body The compartments shall be 14" wide x 110" long, and 8" high.

The compartment shall be on the top of the vertical side surface, and have a lift up door with latch on the outside, on the vertical surface.

The same style of door handle as used on the side compartments will be used on this compartment.

The compartments shall be equipped with:
-a swing door with latch installed
-key type door locks.
-a white LED strip light that is automatically controlled by a door activated switch.
-a louvered vent

Compartment Matting shall be installed in the compartment. It shall be black in color and lock together design.

The actual door openings shall be approximately 3" smaller in dimension.

C-4692 DS VERTICAL DIVIDER
There shall be one (1) vertical divider installed in the upper body full length compartment.

The exact location shall be determined at pre-construction.

C-4280 PS VERTICAL DIVIDER
There shall be one (1) vertical divider installed in the upper body full length compartment.

The exact location shall be determined at pre-construction.

C-4276 PAINTED FINISH BODY AND COMPARTMENTS/TRAYS, HOUSINGS
The exterior surface of all body skins, compartments, and trays shall all be Painted.

The surface shall be sanded, acid washed, acid primed, primed, and top coat painted in accordance with the paint manufacturers specifications.

The interior of all compartments shall be coated in Zolatone textured coating.

All Exterior welds shall be ground down, and filled with body filler.

Aftermarket Paint Warranty covers defects in the applied paint for up to three years or 36,000 miles, whichever comes first.

C-3593 REAR CENTER UNDER BODY COMPT 108"
An under body equipment storage compartment shall be installed under the flatbed surface located in the center rear of the apparatus. The compartment shall be between the vertical body beams, upper floor surface, and an aluminum lower floor area. The compartment shall be equipped with a hinged drop down door with dual latches installed. The floor shall be constructed of aluminum.

The exterior dimensions shall be approximately: 108" Deep

C-4692 DS HOSE TRAY DIVIDER
There shall be one (1) full length hose tray divider installed in the hose tray. This option covers up to a 16"x10"x72" tray.

C-4280 PS HOSE TRAY DIVIDER
There shall be one (1) full length hose tray divider installed in the hose tray. This option covers up to a 16"x10"x72" tray.

C-4670 NO-- REAR FOLD DOWN STEP
There shall be no rear fold down step installed.

C-3614 REAR STEP, PULL OUT
There shall be a rear "Pull-Out-Fold-Down" step located at the rear of the apparatus, step shall be stowed in a pocket under the rear of the unit. Storage pocket shall be fabricated to allow easy access to deploying for operation.

C-4559 SLIDE OUT TRAY, 500LBS MAX, 16" X 82" TRANSVERSE
There shall be a 500 lbs max capacity slide out tray installed. Dimensions shall be 16" wide by 82" long.

The tray shall slide out both sides of the body.

Location: Front transverse compartment.

C-4209.2 ADJUSTABLE SHELF
There shall be 4 adjustable shelfs located in the *** Enter Location

Below*** compartment constructed of smooth aluminum. There shall be adjustable tracking mounted to the wall of the compartment to allow height adjustment of the shelf. The shelf shall be no larger than 4 feet wide by 2 feet deep. The tracking shall be as long as possible to allow for max adjustment range of shelf.

QTY: 4
LOCATION: TBD at the pre-construct meeting.

C-3797 NFPA COMPLIANCE

The fire apparatus shall be built to the purchaser's requirements stated in this specification in compliance with all state and federal highway safety requirements. The vehicle is designed to meet NFPA 1900.

Unless included in the specification, the customer will provide all the necessary equipment to comply with NFPA 1900.

C-3632.3 225 GALLONS, POLY

The water tank shall have a capacity of 225 gallons.

The water tank shall be constructed of black polypropylene, poly-welded and tested inside and out. The tank manufacturer shall define the floor, top, sides, ends, and baffles material thickness. The tank shall carry a lifetime warranty.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. The tank covers shall be welded on top and bottom, and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's data plate.

The water tank shall be rectangular in shape and engineered for a low center of gravity.

The water tank construction shall conform to applicable NFPA standards.

A 1.5" drain plug shall be installed in the bottom of the water tank under P/S wheel well for water tank draining and flush-out of debris.

The fill tower shall incorporate a vent and overflow system shall be designed into the water tank. The system shall include a 3" diameter pipe that functions both as an air vent while emptying the tank and as an overflow when filling the tank. The overflow shall discharge excess water below the frame rails of the vehicle.

The tank fill tower shall be located in the driver's side rear corner of the water tank.

The water tank shall be equipped with translucent water level sight gauge in the rear wall of the tank.

C-3660 WATER TANK GAUGE - REAR+CAB

One (1) Class 1 "Intelli-Tank" water tank level gauge shall be installed on pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 tank. A pressure transducer shall be mounted on the outside of the tank in an easily accessible area.

Cab Mounted -
One (1) Class 1 "Intelli-Tank" mini water tank level gauge shall be installed in the cab or center console. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/4 tank.

C-3890 AUX FIRE PUMP MTNG, REAR CENTER, BOLTED

The auxiliary fire pump shall be installed at the center rear of the body. The sub-structure shall have welded in mounting sub-plates between the structural members.

C-3700.2 PLUMBING ENCLOSURE, SMALL - PLUMBING

There shall be an insulated enclosure surrounding the fire pump plumbing. The enclosure shall be fabricated of aluminum. Hinged doors and access panels shall be installed for servicing of the engine.

If so equipped, the engine and pump control panel shall be provided at the rear of the vehicle. The following shall be located at the operator's position:

2.5" discharge pressure gauge
start/stop control
throttle control
low oil pressure warning light
tachometer (if so equipped)

The plumbing enclosure shall be mounted at the rear of the body.

C-4689.2 PUMP ENCLOSURE, LARGE - PUMP

The fire pump house shall be installed above the pump and engine. The enclosure shall be fabricated of aluminum and be removable for service.

There shall be a vinyl cover installed covering the rear opening, full length and height. It shall be fixed mounted to the pump cover on the top, and have velcro on the sides and bottom.

C-3699 PUMP PANEL - REAR DECK MOUNT

A pump panel enclosure shall be installed. The enclosure shall be fabricated of aluminum with a DA finish, bolted in place with a pump instrument panel installed.

An engine and pump control panel shall be installed in the pump panel enclosure. The following shall be on the pump panel:

2.5" discharge pressure gauge
start/stop control
throttle control

low oil pressure warning light

The pump control panel shall be installed at the passenger's side rear corner of the body.

C-4256 FLUSH PLUMBING

The plumbing at the rear of the bed shall not protrude beyond the perimeter of the deck surface.

C-3706 MANIFOLD, SS (STANDARD)

The auxiliary fire pump plumbing system shall be built mostly of stainless steel piping, fittings, and connections. Victaulic couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Tank connections and remote plumbing shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

This shall include valves and hose threads.

C-4732 VALVES, AKRON, BRASS, QUARTER TURN

All valves 1" and larger used in the plumbing installation shall be Akron quarter turn full flow type.

C-5247 NPSH HOSE THREADS
The hose threads shall be National Pipe Straight Hose thread (NPSH) on all base threads on the apparatus intakes and discharges, unless otherwise specified.

C-3715 TANK FILL AND COOLING LINE 1" WATER TANK
One (1) 1" fire pump to water tank refill and bypass cooler line shall be provided. The pump to tank valve shall be a 1" full flow quarter turn ball valve with local control handle. A 1" flex hose shall be installed to the water tank.

C-3708 DISCHARGE, 2.5", REAR, 2.5"FM X 1.5"M, 1
One (1) 2-1/2" discharge shall be installed at the rear pump area, controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NH male hose threads. The discharge shall be equipped with 2-1/2" female x 1-1/2" chrome plated brass reducer, 1-1/2" chrome cap and cable.

C-3710 DISCHARGE, 1.5", REAR, W/1.5" CAP
One (1) 1-1/2" discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have 1-1/2" NPT x 1-1/2" NH male hose threads and cap.

C-5044 NO 3/4" DISCHARGE
NO --3/4" Discharge

C-3858 DISCHARGE, 1.5",PRE-CONNECT
One (1) pre-connect 1.5" discharge shall be installed at the front of the top full length compartment on driver side. The discharge shall be equipped with a 1.5" diameter quarter turn ball valve at the pump manifold. The outlet shall be equipped with a 1.5" NPT female chicksan swivel x 1-1/2" male NH hose thread.

The pre-connect fitting will be a chrome finish.

C-4016 HOSE REEL, HANNAY, CNTR MOUNT
One (1) Hannay aluminum hose reel shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 12 volt rewind and manual crank rewind provisions.

The reel shall be mounted above the water pump and plumbing, center of the rear flat-bed body. There shall be a custom aluminum platform to support it.

One (1) 1" discharge shall be piped from the fire pump to each hose reel with flexible high pressure hose. The quarter turn ball valve shall be on manifold.

The hose reel shall be provided with a Hannay top mounted stainless steel roller assembly.

C-3727 100 FOOT REEL CAPACITY

Each hose reel shall have a capacity of 100 feet of hose.

C-3855 HOSE, WATER, 300#, 3/4" X 100'

One (1) 100' foot length of 3/4" water hose shall be installed on the hose reel. The hose shall be equipped with chrome plated pin lug couplings and have a 300 PSI working pressure.

C-3695 FOAM SYSTEM, FOAMPRO 1601, CLASS A

A FoamPro part number S106-1600/2.0 electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flow meter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flow meter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

1. Activate the foam proportioning system
2. Select the proportioning rates from 0.1% to 1.0%
3. See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM at

200 PSI with a maximum operating pressure of 400 PSI. The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 horsepower electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

1. Operator control module
2. Paddlewheel flow meter
3. Pump and electric motor/motor driver
4. Wiring harnesses
5. Low level tank switch
6. Foam tank
7. Foam injection check valve
8. Main waterway check valve
9. Flowmeter and tee with NPT threads.

The foam system shall be installed and calibrated to manufacturer's requirements. In addition the system shall be tested and certified by the apparatus manufacturer to applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance with SAE standards. An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

The FoamPro 1600 Series foam system shall be provided with a six (6) foot control cable from the controller to the foam pump assembly. The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head. The Foam Pro shall have a secondary On / Off push button control located in cab.

A FoamPro part number 2660-0032 brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 15 GPM and 520 GPM and be capable of operation between 5 GPM to 625 GPM. The tee shall have NPT and Victaulic inlet and outlets connections.

A FoamPro part number 6032-0018 instruction and system rating label shall be provided. The label shall display information for a FoamPro 1600 Series foam system and shall meet applicable sections of the NFPA standards. A FoamPro foam system schematic label shall be installed on the pump panel near foam controls. The label shall be a diagram of the FoamPro 1600 foam system layout and shall meet applicable sections of the NFPA standards.

A 1" fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

C-3661 FOAM TANK CAPACITY, 10 GALLONS, CLASS A,

The Class A foam tank shall have a capacity of 10 gallons.

The foam concentrate tank shall be provided with a fill pipe having a volume of not less than 2 percent of the total tank volume. The filler opening shall be capped with a sealed air-tight threaded cover. The fill opening shall be designed to incorporate a removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped into the tank.

The foam tank filler shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color-coded label or visible permanent marking that reads "CLASS A -- FOAM TANK FILL" shall be placed at or near the foam concentrate tank fill opening. An additional label shall be placed at or near any foam concentrate tank fill opening stating the type of foam concentrate the system is designed to use.

Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, along with a warning message that states "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

A 3/4" fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

A 3/4" diameter connection, piping, and valve shall be installed for the

foam tank for draining purposes.

C-5495 ELECTRIC FOAM FILL SYSTEM

There shall be a truck mounted FRC electric foam fill system capable of re-filling the Class B foam tank from a 5 gallon container sitting of the ground next to the apparatus. It shall consist of a fill pump (permanently installed on the apparatus), fill hose, and pipe (for insertion into the container). The inlet of the foam tank shall be 1.5".

C-3764 STOP/TAIL/TURN LIGHTS, WHELEN M6BTT/M6FC

Two (2) Whelen M6 Series Model M6BTT 4-5/16" x 6-3/4" brake, turn, tail lights with M6FC chrome flanges shall be provided. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthead configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lightheads shall be surface mountable via two screws.

The lightheads shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination. The lighthead shall include 164 flash patterns including: a variety of CA Title 13 compliant, sinkable, left/right, top/bottom, in/out, and steady burn. The lightheads shall have the Whelen exclusive NERM (Non-Emergency Recognition Mode) feature.

The lens/reflector assembly shall be wet sealed and resistant to: water, moisture, dust, and other environmental conditions. The outer lens shall have a hard coating applied to increase strength and ensure longevity. The light engine shall be installed at the rear of the unit and be completely sealed. The pc board shall be conformal coated for additional protection.

The lights shall be furnished with five 6" wire pigtails, a Santoprene rubber gasket and the #M6FC chrome flanges shall be included for installation.

C-3765 BACK UP LIGHTS, WHELEN M6 SERIES, LED,

Two (2) Whelen M-Series, 4" x 6" rear LED back-up lights shall be installed.

C-3876 SIREN, ELECTRONIC, WHELEN, 295SLSA6

Whelen Model #295SLSA6, self-contained electronic siren amplifier shall be provided. The heavy duty 100/200 watt, six (6) function siren shall have the following features: hands-free operation, public address, park kill, push to talk, and radio re-broadcast. The siren shall have the following tones: wail, yelp. piercer, and air horn.

The unit shall have solid-state over/under voltage shutdown and output short circuit protection. The siren shall have the "SI Test" self-diagnostic feature for silent speaker inspection. The siren shall have a face plate with green LED backlighting for easy control selection and visibility. The siren shall have a hard wired unidirectional microphone with a 17" extendable coil cord.

The unit shall be installed in the center console.

C-3747 SIREN SPEAKER (1)

One (1) Whelen Model #SA315P Projector Series siren speaker shall be provided with bracket. The 100 watt siren speaker shall be designed in a black nylon composite housing with 123 decibel rating.

Location shall be: Behind the front grille.

C-5427.2 WHELEN, LIBERTY II WITH OPTICOM

There shall be a Whelen Liberty II Duo lightbar with opticom installed on the apparatus. The 54" lightbar shall be designed to meet the minimum clearing requirements for Zone A Upper. The internal components of the lightbar shall be housed within a two piece extruded aluminum base/top. The outer shell shall be clear optic polycarbonate lenses designed to maximize light output and shield against environmental elements.

There shall be a built-in Opticom emitter installed in the center of the lightbar.

The lightbar will include the following:

One (1) red flashing LED module in the driver's side fourth rear facing position.
One (1) red flashing LED module in the driver's side third rear facing position.
Open in the driver's side second rear facing position.
One (1) red flashing LED module in the driver's side first rear facing position.
One (1) red flashing LED module in the driver's side rear corner position.
Open in the driver's side end position.
One (1) red flashing LED module in the driver's side front corner position.
Open in the driver's side first front position.
One (1) red flashing LED module in the driver's side second front

position.
Open in the driver's side third front position.
One (1) red flashing LED module in the driver's side fourth front position.
One (1) 795 LED traffic light controller set to national standard high priority in the center positions.
One (1) red flashing LED module in the passenger's side fourth front position.
Open in the passenger's side third front position.
One (1) red flashing LED module in the passenger's side second front position.
Open in the passenger's side first front position.
One (1) red flashing LED module in the passenger's side front corner position.
Open in the passenger's side end position.
One (1) red flashing LED module in the passenger's side rear corner position.
One (1) red flashing LED module in the passenger's side first rear facing position.
Open in the passenger's side second rear facing position.
One (1) red flashing LED module in the passenger's side third rear facing position.
One (1) red flashing LED module in the passenger's side fourth rear facing position.
There will be clear lenses included on the lightbar.

The following switches may be installed in the cab on the switch panel to control the lightbar: a switch to control the flashing LED modules. the traffic light controller will be activated by a cab switch with emergency master control, and there will be no momentary activation switch.
The red flashing LED modules in the front and rear positions may be load managed when the parking brake is applied.

C-4563 LIGHTBAR MOUNT CAB ROOF, NO GUARD

The lightbar shall be mounted on the cab roof. The light bar shall be properly sealed and watertight.

C-0000 WARNING, REAR UPPER BEACONS

There will be two (2) Whelen, Model L31H*F, 4.00" high x 7.18" in

Diameter LED warning beacons provided at the rear of the truck.

- The driver side beacon will be red.
- The passenger side beacon will be blue.
- The lens will be clear.

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

C-0000 COMMAND LIGHT

The apparatus will be equipped with a Whelen,Model L31HAF, amber LED beacon. The light will be installed on the rear driver's side of headache rack.

The light will be used for FAA amber requirement for airport operation and may not be operated off airport grounds.

The light will be activated by a separate switch labeled "AIRPORT LIGHT"

C-3750.2 WARNING LIGHTS, WHELEN, M-6 SERIES (12)

ZONE A -- LOWER FRONT WARNING LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed in the lower front area of the cab. The warning lights shall incorporate Linear-Super LED and Smart LED technology. Each lighthead shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread. Each lighthead assembly shall have internal flasher, eleven (11) Scan-Lock flash patterns, including steady burn and synchronize power functions. The lightheads shall have a conformal coated circuit board for moisture protection. The lights shall be mounted in a chrome plastic flange bezel assembly.

COLOR: RED LED/CLEAR LENS

ZONE B AND D -- INTERSECTION LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed. The warning lights shall be installed in cab fenders, one (1) each side, as far forward as possible. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lighthead shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread. The lighthead assembly shall have internal flasher, eleven (11) Scan-Lock flash patterns, including steady burn and synchronize power functions.

COLOR: RED LED/CLEAR LENS

ZONE B AND D -- LOWER REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed. The warning lights shall be located one (1) each side lower rearmost side body area as space permits. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series Model #M6R 4" x 6" warning lights and a chrome flange shall be upper horizontal compartment door. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

ZONE C -- UPPER REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series Model #M6R 4" x 6" warning lights and a chrome flange shall be installed in the upper rear body panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

ZONE C -- LOWER REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed. The warning lights shall be located one (1) each side, rover the wheel wells. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

C-4070 GROUND LIGHTS - CHASSIS - LED STRIPS - 4DOOR

Four (4) LED ground strip lights shall be installed under the cab step area in compliance with NFPA standards, two (2) on each side of the apparatus, wired to the Cencom, and the chassis interior lights.

SP-0000 CAB SPOTLIGHTS

There will be two (2) Unity, Model 335CL, white 12 volt DC LED spotlights with
chrome housing provided on each side of the cab.
These lights may be load managed when the parking brake is applied.

C-3528 KUSSMAUL 1000 - WITH AUTO-EJECT

A Kussmaul Autocharge 1000, Model 091-215-12, high output automatic battery charger shall be provided. The battery charger shall be wired to the 12 volt battery system. The unit shall be mounted in a clean, dry area accessible for service and/or maintenance. It shall be wired to the specified shore power receptacle.

It shall include a compatible Digital Status Display Center.

It shall also include 15 amp "auto-eject" shore power receptacle with hinged weatherproof cover and an enclosure for protection from dirt and damage. The shore power plug shall be "ejected" when the chassis' engine starter is engaged and the receptacle shall be wired to any 120 volt A/C equipment requiring shore power.

Location shall be: Rear body panel, d/s

Color of Digital Status Display Center and Auto Eject: Yellow

C-3598 DOOR AJAR LIGHT, LED

A "door ajar" warning light shall be installed on the center console. The light shall be flashing red LED light with a clear lens.

The door ajar light shall be activated by door ajar switches installed on every compartment door.

C-3777 STRIPE, REFLECTIVE, 3M DIAMOND GRADE, FRONT CHEVRON,

There shall be alternating chevron striping installed across the front bumper where permitted. The chevron striping shall consist of 6" diamond grade in the following colors:

Colors to be determined at preconstruction meeting.

C-3779 STRIPE, REFLECTIVE, 3M DIAMOND GRADE, REAR CHEVRON,

There shall be alternating chevron striping installed on the rear vertical body panel. The chevron striping shall consist of 6" diamond grade in the following colors:

Colors to be determined at preconstruction meeting.

C-3769 CUSTOM DOOR GRAPHICS

The apparatus shall be provided with FOUR (4) custom designed sign gold graphics, emblems, or seals. The installation shall be designed primarily with letters and numbers as specified. The purchaser shall approve of the design graphics prior to installation.

C-3766 LETTERING, CAB, 3" REFLECTIVE

The cab lettering shall be Scotchlite reflective material, shaded in black. A quantity of up to fifty (50) three inch (3") letters shall be installed as directed by Fire Department.

SKEETER BRUSH TRUCKS DOES NOT ORDER OR PROVIDE SIGN GOLD LETTERING OR LOGOS

C-3771 STRIPE, CAB/BODY, SINGLE REFLECTIVE, 4"

The cab and body shall have a straight Scotchlite reflective stripe applied horizontally. The stripe shall be a 4'' minimum in width and be applied horizontally around the cab and body in accordance with NFPA standards. The purchaser shall specify the color and location of the stripe.

C-3525 BATTERY SWITCH, MASTER DISCONNECT, CH, R

A rotary type master disconnect switch shall be provided in the cab within easy reach of the driver. The switch shall have a switch plate with Off/On label.

There shall be a GREEN indicator light in the center console indicating the power is "ON".

C-3759 FUSE BOX

An electric enclosure for the 12 volt wiring shall be installed in the the apparatus. It shall have a removable panel or door to be able to access the components inside for maintenance purposes. It will be mounted in a location predetermined by the factory, accessible to the end user. Size shall be pre-determined by the factory.

C-3758 BACK UP ALARM
One (1) back up alarm shall be installed.

C-3763 LICENSE PLATE, MOUNTING
There shall be mounting provisions for the front and rear license plates.

An LED license plate light shall be installed on the rear vertical wall of the body for the rear license plate.

C-3762 CLEARANCE LIGHTS, LED, DOT
All LED identification lights shall be installed on the vehicle as required by applicable highway regulations.

C-4429 MUD FLAPS, REAR WHEELS, SEV LOGO
The chassis shall be supplied with mud flaps with the manufacturer's logo. The mud flaps shall be installed behind the rear wheels.

C-3570 EMBLEMS, SKEETER
Three (3) Skeeter emblems will be affixed to the cab and body.

C-4022 DRAWINGS
There shall be design drawings submitted to the customer prior to the pre-construct conference. The CAD drawings shall include all sides of the apparatus. The customer shall agree to the drawings reflecting the correct apparatus design and layout prior to construction.

C-3760 ELECTRICAL HARNESS & WIRING
The following describes the low voltage electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest Federal DOT standards, current automotive electrical system standards and the applicable requirements of the NFPA.

Wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops shall not exceed 10 percent in all wiring from the power source to the using device. The wiring, wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with

GXL temperature properties. Exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. Wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

All wiring connections and terminations shall provide positive mechanical and electrical connections and be installed in accordance with the device manufacturer's instructions. When wiring passes through metal panels, electrical connections shall be secured with mechanical type fasteners and rubber grommets

Wiring between cab and body shall be split using connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. 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 the system.

Electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. When required, automatic reset breakers and relays shall be housed in the main body junction panel.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage.

Low voltage overcurrent protective devices shall be provided for the electrical circuits. The devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. Overcurrent protection devices shall be automatic reset type suitable for electrical equipment and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. Electro-magnetic interference suppression shall be provided in the system as required in applicable SAE standards.

The electrical system shall include the following:

Electrical terminals in weather exposed areas shall have a non-

conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.
All electrical wiring shall be placed in a protective loom or be harnessed.
Exposed connections shall be protected by heat shrink material and sealed connectors.
Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall be caulked with silicone.
Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.
A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
All lights in a weather exposed area that have their sockets shall have corrosion preventative compound added to the socket terminal area.

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

C-3780 CAPACITIES PLACARD, REFLECTIVE

The apparatus shall have a reflective placard that provides the following information:

Water Tank Capacity
Pump Capacities
NWCG Typing
Skeeter Contact Information

C-3474 CHASSIS PREP

The chassis cab shall be "prepped" for fire apparatus production as follows:
a) Wash and clean chassis
b) Weigh chassis for NFPA reports
c) Quality control check in.

C-3630 FINAL ASSEMBLY

The apparatus shall be assembled in a high quality and controlled environment. The fit, form, and finish of the body shall be to the

highest level fire apparatus manufacturing standards. Upon completion, the apparatus shall be ready for final inspection and road testing as required herein.

C-3795 OPERATIONAL PUMP TEST

The fire pump shall have an operational pump test performed by a Skeeter Emergency Vehicles technician with a run time of one (1) hour to confirm proper operations of all pump related components.

*** NOTE: ALL TESTING SHALL BE DONE AND PERFORMANCE OBSERVED BETWEEN SEA LEVEL AND 1000' ELEVATION.

*** HIGH ALTITUDE PERFORMANCE MAY NOT REPRESENT TESTING RESULTS SHOWN.

C-3796 12V ELECTRICAL LOAD

A 12 volt electrical load analysis shall be performed in order to test response and stationary modes of electrical amp load.

C-3799 ROAD TEST, 10 MILES

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise.

C-3800 5-YEAR PARTS & LABOR/10-YEAR BODY INTEGR

A five (5) year parts and labor warranty on items manufactured by Skeeter Emergency Vehicles and a ten (10) year warranty on the structural integrity of the body. For warranty issues please contact your local dealer or Skeeter Emergency Vehicle service center and request warranty from the service advisor at that location.

C-3761 WIRING HARNESS, BODY ELECTRICAL

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

C-4522 FULL 1900 APPARATUS NFPA AND SAFETY LABELING

Per NFPA a permanent label shall be mounted in the cab showing the following information:
A permanent label in the driving compartment shall specify the quantity and type of the following fluids used in the vehicle and tire information:
1. (1)
Engine oil
2. (2)
Engine coolant
3. (3)
Chassis transmission fluid
4. (4)
Pump transmission lubrication fluid
5. (5)
Pump priming system fluid, if applicable
6. (6)
Drive axle(s) lubrication fluid
7. (7)
Air-conditioning refrigerant
8. (8)
Air-conditioning lubrication oil
9. (9)
Power steering fluid
10. (10)
Cab tilt mechanism fluid
11. (11)
Transfer case fluid
12. (12)
Equipment rack fluid
13. (13)
CAFS air compressor system lubricant
14. (14)
Generator system lubricant
15. (15)*
Front tire cold pressure
16. (16)*
Rear tire cold pressure
17. (17)
Maximum tire speed ratings

The following FAMA Labels shall be installed, further described below.
FAMA Labels: 07,06,43,10,20,22,23,24,25,28,44,45,41,42,17

There shall be a label identifying the number of seat belted locations on the unit.

A final stage manufacturer shall install "hearing loss" potential warning labels on the vehicle in any areas or fixed equipment that produces excessive noise levels. (exhaust outlet, sirens and air horns shall not be required for such equipment.)

A warning label stating: "NO RIDING ON REAR OF APPARATUS" shall be installed on rear of the apparatus. The label shall be applied to the vehicle at the rear step area. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion, is prohibited.

The below listed labels shall be installed on/in the apparatus. All label shall comply with NFPA 1900 Edition standards on location and design set in each standard.

(1) Fluid Data Label
(2) Safety Sign FAMA07, Seat Belt Use
(3) Safety Sign FAMA43, No Helmets Vehicle in Motion
(4) Pump Test Label

The following shall be installed or provided on the apparatus in accordance with NFPA 1900:

One (1) placard indicating fluid type and capacity shall be installed on the apparatus
One (1) Label indicating height and weight of the apparatus shall be installed in a location visible to the driver.
One (1) Safety Sign, FAMA 06, which warns of the need to use a seatbelt while the vehicle is in motion.
One (1) Safety Sign, FAMA 10, which warns of the need secure all loose items in the cab while the vehicle is in motion.
One (1) Safety Sign, FAMA 24, which warns against riding on the vehicle while it is in motion.
One (1) Safety sign, FAMA 23, which warns of the proper climbing method, shall be visible to personnel entering the cab and at each designated climbing location on the body.
One (1) Safety sign, FAMA 25, which warns of the need for training prior to operating the apparatus, shall be located on the pump

operator's panel.
One (1) Safety Sign, FAMA 43, warning not to wear helmets while vehicle is in motion shall be visible from each seat.
One (1) Indicator installed in the cab of the apparatus that when illuminated will indicate "Pump Engaged" and "OK to Pump" if the apparatus is designed to pump and roll the indicator shall be labeled "OK" to Pump and Roll"

There shall be handrails at each entrance to driving or crew compartment and each position where there are steps or ladders for climbing.

There shall be a set of tire pressure indicators installed on the valve stems of the wheels. The indicators shall show if the tire is at the correct pressure by showing a "Green" indicator on the valve stem. The indicator shall show "Red" when the pressure is incorrect.

There shall be a low voltage electrical monitoring system, audible and visual alarm when voltage becomes low.

Two (2) solid bottom wheel chocks shall be included with the apparatus.

All materials used for exterior surfaces designated as stepping, standing, and walking areas and all interior steps shall have a minimum slip resistance in any orientation of 0.68 when tested wet using the English XL tester in accordance with the manufacturer's instructions or 0.52 when tested wet using the Brungraber Mark II tester in accordance with the manufacturer's instructions.

Rollover stability test results are available upon request.

The following equipment shall be furnished by the contractor:

(1) Two solid bottom wheel chocks, mounted in readily accessible locations, each
designed to hold the apparatus, when loaded to its GVWR, on a 15 percent grade
with the transmission in neutral and the parking brake released

(2) One set of tire tools, including a jack and a lug wrench, if a spare tire is carried on
the apparatus

The following additional equipment shall be carried on the apparatus:

(1) One of the following traffic warning devices:
(a) Five fluorescent orange traffic cones not less than 28 in. (711 mm) in height,
each equipped with a 6" (152 mm) retroreflective white band no more than 4" (102
mm) from the top of the cone, and an additional 4 in. (102 mm) retroreflective
white band 2 in. (51 mm) below the 6 in. (152 mm) band
(b) One reflective triangle kit
(2) Five illuminated warning devices such as highway flares,
unless the traffic cones or reflective triangles specified in 5.7.2(1) have

illuminating capabilities
(3) One traffic vest for each seating position, each vest to comply with ANSI/ISEA 207,
Standard for High-
Visibility Public Safety Vests, and to have a five-point breakaway feature that
includes two at the shoulders, two at the sides, and one at the front
(4) One approved, dry chemical portable fire extinguisher with a minimum capacity in
accordance with the following:
(a) For a GVWR below 33,000 lb (15,000 kg), a 2A-10-B:C extinguisher
(b) For a GVWR 33,000 lb (15,000 kg) and above, a 3A-40-B:C extinguisher
(5) One first-aid kit

C-3883 PUMP, DARLEY 2.5 AGH HYDRAULIC PUMP (Pierce System)

There shall be a Darley model number 2.5AGEH single stage, centrifugal hydraulic driven pump shall be provided. The hydraulically driven gear operated pump shall meet the following performance requirements:

250 gpm (946 L/M) @ 150 psi (10.3 bar)
175 gpm (662 L/M) @ 200 psi (13.8 bar)
125 gpm (473 L/M) @ 250 psi (17.2 bar)

The pump shall have one (1) 2.5" NPT inlet. A 2.5" NPT flanged discharge shall be supplied. The pump shall be capable of operation in either direction of rotation.

The pump shall be constructed with the following features:

The pump casing shall be aluminum alloy, vertically split for greater resistance against leakage, with a minimum tensile strength of 30,000 psi.

Cast solid bronze renewable double labyrinth impeller seal rings.

A balanced bronze alloy impeller with stainless steel shaft, splined to the pump shaft for a precision fit.

The impeller shall have a double seal ring designed to eliminate end thrust.

Oversized deep groove radial ball bearings shall be utilized for longer life.

All openings shall be protected from road dirt and water with oil seals and water slinger.

The precision ground, corrosion resistant stainless steel splined pump shaft shall be designed to resist wear, vibration, corrosion and withstand the effects of torque.

Heat treated, alloy steel gears shall be utilized to drive the pump.

The mechanical seal shall use silicon carbide mechanical seals with welded springs. The stationary face of our mechanical seals is made from silicon carbide, an extremely hard and heat dissipative material, which resists wear and dry running damage much better than conventional Ni-resist and Tungsten Carbide materials.

Pump will have a 13T 16/32 involute spline and SAE " B " drive adapter

The unit shall have dimensions of 12"L x 9"W x 14"H high and weight of 45 pounds.

HYDRAULIC PUMP DRIVE SYSTEM **(Pierce System)**
The drive system for the Fire Pump shall be a hydraulic PTO drive system. It shall consist of a hydraulic pump, hydraulic motor, fluid

reservoir, heat exchanger, and hydraulic manifold.

PRESSURE GOVERNOR(S)
There shall be two (2) pressure governor/pump throttle control units. One (1) in the chassis cab, and one (1) on the rear pump panel.

SP-1010 BUMPER TURRET LIGHTS
Two (2) Whelen, Model PSBS12, 4" LED spotlights will be mounted on the bumper turret. Both spotlights will be controlled by a single switch in the cab.

SP-1012 PUMP COMPARTMENT HEATER
One (1) hot water heater rated for 33,000 BTU, will be installed in the pump compartment. It will be mounted low facing the back of the pump panel.

Controls for the heater will be located at the pump operator's panel. An On/Off master switch will be provided for the hot water heater on the cab instrument panel.

The pump compartment will be enclosed at the top to retain the heat generated by the heater inside the pump compartment.

Both the supply and the return lines will have shutoff valves.

SP-1009 LOW WATER LEVEL
A light will be provided in the center console to indicate when the water level in the water tank is at 100 gallons.

This is used to reduce the water on the apparatus to enter the parking garage.

C-5428 PRE-CONSTRUCT CONFERENCE VIA TEAMS.
The preconstruction meeting shall be held virtual through Microsoft Team. It shall be attended by the purchasing department, the apparatus sales dealer along with a representative from Skeeter Emergency Vehicles.

SP-OOOO MID INSPECTION AT FACTORY
Three (3) Representatives from the purchaser and the dealer shall be present at Skeeter's manufacturing facility in Hillsboro, Tx for the mid review inspection

of the apparatus. A factory representative will assist the purchaser with review of the specifications to confirm they match the apparatus.

C-4269 FINAL INSPECTION AT FACTORY

Three (3) Representatives from the purchaser and the dealer shall be present at Skeeter's manufacturing facility in Hillsboro, Tx for the final inspection

of the apparatus. A factory representative will assist the purchaser with review of the specifications to confirm they match the apparatus.

Cost of transportation to and from the facility shall be the responsibility of the purchaser.

*** NOTE, UNLESS PRIOR APPROVAL BY SKEETER BRUSH TRUCKS, FINAL INSPECTION AT THE PLANT IS MANDATORY ***

C-3790 TRAINING, FACTORY SUPPLIED, FACTORY LOCA

The bidder shall demonstrate and familiarize the purchaser regarding the vehicle's operation. This shall include operation of chassis, major components, review of delivery information and documentation. This demonstration shall be completed at Skeeter Brush Trucks factory location in Hillsboro, Texas.

C-4340 DELIVERY, DEALER PROVIDED

Delivery of the apparatus from the manufacture's plant to the customer shall be provided by the dealer.

*It is the dealer's responsibility to deliver all loose equipment not physically mounted to the apparatus

WARD NO SMOKE

No Smoke direct source diesel exhaust filtration system shall be provided and installed at customer location.

RADIO SYSTEM COMPONENTS (Harris, icom and Setcom)

One (1) L3 Harris XL-200M Multiband VHF/800 MHz Mobile Radio
One (1) L3Harris XL-185M 800 MHz Mobile Radio
Two (2) L3Harris XL-CH6H Vehicular Chargers
One (1) Icom IC-A220 Aviation Transceiver with MB-53 Mobile Mount Kit, External Speaker & Antenna
Five (5) Console Mounting Brackets
One (1) SetCom System 1300 3 Position Headset/Intercom System, all positions have radio transmit, receive and Intercom. The system will have a radio select switch for the L3Harris radios

LOOSE EQUIPMENT (includes mounting)

Quantity	Item	Description
1	iPad Pro 12.9" (latest generation)	best buy
1	GDS Locking Vehicle Dock for Apple iPad Pro 12.9” 3rd- 5th Gen (RAM-GDS-DOCKL-V2-AP24CPU) OR latest model to match iPad	Ram Mounts
1	RAM Double Socket Swivel & Ratchet Arm – C-Size	Ram Mounts
1	RAM-HOL-ROTO1U Rotoview mount (99-125447)	Ram Mounts
2	RAM Round Plate with Ball – C-Size	RAM Mounts
1	DGS Hardwire USB Type-C Power Delivery Charger (RAM-GDS-CHARGE-V3FC-1U)	Ram Mounts
2	Stinger flashlights (Streamlight Stinger DS LED HL)	Streamlight
2	mounted Stinger flashlight chargers	Streamlight
2	Traffic vests – Vizguard Spiewak yellow/red – Denver Fire – Lg. adjustable	Spiewak
2	Binoculars - Vortex Optics Diamondback HD 10 x 50	Scheels
1	Set of elevator keys	Elevatorkeys.com - Universal Flex Shaft Hoistway Door Key Set (10 pc.)
1	Tire pressure gauge	Grainger 33W452
1	Vulcan 180 LED Lantern - (Streamlight)	With truck mounted charger Streamlight
1	TIC in wall mounted charger – Bullard NXT Pro (NFPA compliant)	XT Wireless truck mount charger. LN Curtis
2	Seek FirePRO 300 Handheld Thermal Imagers	the fire store
1	FDC Key	Knoxbox.com - Knox FDC Wrench
1	Statpacks G3+ Backup EMS Bag - RED	https://statpacks.com/product/g3-backup/
3	Statpacks Universal Cells	https://statpacks.com/product/g3-universal-cell/
1	Statpacks G3+ Tidal Volume - GREEN	https://statpacks.com/product/g3-tidal-volume/?srsltid=AfmBOorfzlXzn9N_YD6_pbr1geXubX7Xau1tdVAF7J-yD_-uKYPS3V-Z
1	Statpacks G3+ Perfusion - BLUE	https://statpacks.com/product/g3-perfusion/?srsltid=AfmBOoqlxDjNwB_JoQRW1HhB9Buzy1XmciluKG25lZ83SflZvlxxTxcR
1	RAD57 Pulse CO-Oximeter	https://professional.masimo.com/products/continuous/rad57/
1	AED	Lifepak CR2 Defibrillator
1	Spare portable O2 bottle	D Size priced as that is the most common
1	SKED – Tactical version	SK-215C-GR. 6530-01-659-4527
2	MCI bags MES - Rush Moab 10 Blk. 019 #56964.	Contents each:
10	10 – Black SOF Tactical Tourniquets	on line
1	1 pr – Raptor Rescue Shears	on line
1	1 – RT Sling-Link Technical Duty (MEN1-31Lx5x2)	online
1	1 – Triage Tape Kit	Grainger 38F343
	* https://thevestguy.com/collections/triage-packs/products/triage-pack-only (Lime green)	the vest guy pack only
	* Custom name tag (please inquire)	the vest guy
	* North American Rescue Triage Tape (Set of 4)	North American Rescue
1	Set of small wheel chocks - 18” rubber wheel chocks reflective strip	https://www.trafficsafetywarehouse.com/Airplane-Wheel-Chock-18W-x-5-1_2H-x-6D/productinfo/AC-18//
1	Telescoping ladder – USTEPS Rescue ladder – 11.5 ft Firefighters	amazon
2	Extrication Helmets	Team Wendy Exfil SAR Backcountry Helmet TW-82N-LG - Lime Yellow
2	Lights for Extrication Helmets	Princeton Tec EOS II Tactical MPLS (Light) PTT-EOS-II-MPLSBK-Black Grainger
1	CMC Pro Rope Bag - Medium ORANGE	Item 431201
2	Rope logs	https://www.allhandsfire.com/Rope-Log?utm_source=google&utm_medium=cpc&utm_campaign=20033500534&utm_term=&gad_source=1&gclid=Cj0KCQjwsoe5BhDiARIsAOXVoUuu3wQjg9v4e5n_oIJ6OS8-zQ9rVshfn9rgis0vhaw1X7G16rU5i58aAi4AEALw_wcB

1	150’ of 1/2" static kernmantle rope - Orange	https://www.riggingwarehouse.com/503-p130070046-sterling-1-2-orange-htp-climbing-rigging-rope-150.html
1	150’ of 1/2" static kernmantle rope - Lime Green	https://www.riggingwarehouse.com/503-p130190046-sterling-1-2-neon-green-htp-climbing-rigging-rope-150.html
1	Stokes Litter Harness	https://www.cmcpro.com/equipment/rescue-litter-harness/
1	16,000 lbs single sheave prusik minding pulley	https://cmigearusa.com/collections/frontpage-rescue-pulleys/products/rp129nfpa
2	20,000 lbs single sheave pullies	https://cmigearusa.com/collections/frontpage-heavy-duty-pulleys/products/rp123nfpa
6	16000 lbs. (72kN) locking carabiners	Screw-lock gold https://rescuegear.com/products/cmc-steel-locking-d-carabiners?variant=29408939986
2	8 mm prusiks, 75” length	1 Red Prusik by the foot; 1 Blue Prusik by the foot; https://www.rocknrescue.com/product/rnr-8-mm-prusik-cord/?srsltid=AfmBOortzVTGoxxFT-Z61wVIiBUvT3L4ZMvraCfUuFJnTbPT1Yb6dG1e
1	30' 1/2" static kernmantle rope - Orange	By the foot - https://www.rope.com/products/km-iii-static-rope?variant=39350322561058&ab_version=A&utm_campaign=SHOPPINGSmart_AllProducts&gad_source=1&gclid=Cj0KCQjw3vO3BhCqARIsAEWblcC7H6wpIbj5cFU2qBCKctOj_8VjAXKAJgLj1k3XcRUcEMjMTZNo-6waApFAEALw_wcB
1	Neon green rope bag	RNR Grand Rope Bag - Neon Green, Small - https://www.rocknrescue.com/product/rnr-grand-rope-bags/
1	Orange rope bag	RNR Grand Rope Bag - Orange, Small - https://www.rocknrescue.com/product/rnr-grand-rope-bags/
1	100' small dia. tag-line	By the foot yellow 3/8" Rigging rope - https://www.riggingwarehouse.com/502-806024100000-samson-3-8-yellow-stable-braid-rigging-rope-per-foot-coated.html
2	15' red 1" tubular webbing	https://www.rocknrescue.com/product/1-inch-nylon-tubular-webbing/?srsltid=AfmBOopFSWMQVL2mx2RMz8q9nLV2no5cpxxIIruBSnclS53_0l6jhXv0
1	20' green 1" tubluar webbing	https://www.rocknrescue.com/product/1-inch-nylon-tubular-webbing/?srsltid=AfmBOopFSWMQVL2mx2RMz8q9nLV2no5cpxxIIruBSnclS53_0l6jhXv0
1	17 inch - 18 pocket open top tool bag	https://www.homedepot.com/pep/Husky-17-in-18-Pocket-Open-Top-Tool-Bag-HD70017-TH/312387487
1	5 gas meter – Safeware MSA A-ALT5X-DLK0110C00 with sensors: PID, O2, CO, LEL, H2S	online
1	5 gas meter – Safeware MSA A-ALT5X-DLK0110C00 with sensors: CO, LEL, H2S, O2, CO2, HCN	online
1	Combustible Gas Detector	https://www.sensit-direct.com/product/sensit-tkx-combustible-gas-leak-detector
1	Rad meter	https://www.mirion.com/products/technologies/defense-security-systems/defense-cbrne-instruments/defense-survey-handheld-instruments/ultraradiac-plus-personal-radiation-monitor
1	Raytek temp. gun	RAYMT6U
1	TNT tool – TN635 6.5lb head, 35" length, 11.5 lbs.	Leatherheads
1	Flat head axe - 8-pound w/fiberglass handle	Fire Hooks LFA-8
1	8-Pound, 36" Pick Head Axe w/Fiberglass Handle	Fire hHooks LPA-8

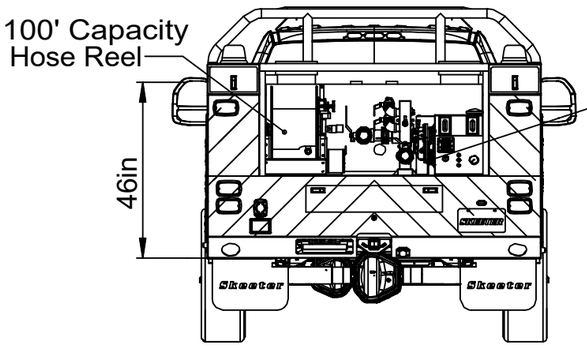
1	Pry bar – 1” x 40”	Amazon Hexagonal Bar (1000M)
1	Rabbit tool - Hydra Ram II – 6” max spread	Fire Hooks HR-2
1	Halligan – Pro Bar 30” 1pc Drop Forged	Fire Hooks PB-36
1	Large bolt cutter – 36” length	Fire Hooks BC-36
1	Small bolt cutter – 18” length	Fire Hooks BC-18
1	Crowbar – 36” length	Fire Hooks GNPB-36
1	Lockout Kit 18-piece	Steck Manufacturing - LT1000
1	Lockout Rod Kit	Steck Manufacturing - STC32955
1	yellow caution tape	Home Depot 3" x 1000'
1	Hose reel crank	On Line Generic
1	Paratech Titan Crash Axe	LN Cvurtis
1	K tool kit with keys	Fire Hooks
1	25’ section of 3” hose	#FC30X25CR25NLEZ, AAH 3x25' CPLD 2.5NH White Conquest Poly DJ Hose. Each section will have the following markings: A 1" thick solid line at midpoint of hose around the circumference, sequential hose numbering at both ends of the hose, to be numbered 18" from the coupling on the hose in block lettering 2" high. The same number will be stamped on both couplings of the hose. INQUIRE FOR HOSE NUMBERING SEQUENCE.
1	Double male	Elkhart M-327A 2-1/2" double male adaptor (M-327-A 2.5 MNH x 2.5 MNH rocker lug Elk-O-Lite Adapters - Double Male, Hose to Hose)
1	Double female	Elkhart F-327A 2-1/2" double female adaptor (Adapter Double female Elk-O-Lite 2.5F x 2.5F rocker lug)
1	2 ½” to 1 ¾” plate reducer	Elkhart A-327A Plate Reducer (A-327-A ELKHART Adapters A-327-A 2.5 FNH x 1.5 MNH rocker lug Elk-O-Lite Adapters - Female to Male, Hose to Hose must be NPSH threads on 1.5in Male)
1	Hydrant wrench w/ 2 spanner kit	Red Head 148-3
1	Pre-connect – 150’ of 1 ¾” hose. The Tracer stripe cant be specified, it will be what Key is using at the time. Price includes stamped couplings	KEY FIRE HOSE #DP17-TRU, 1.75“ TRU ID POLYESTER DOUBLE JACKET FIRE HOSE, RUBBER LINED WITH 1.5” ALUMINUM COUPLINGS NPSH, 50‘ LENGTH COLOR - White with ½” red TRACER stripe down the middle of one side of the hose KEY FIRE HOSE DOES NOT PROVIDE A 1” thick line at midpoint of hose around the circumference of the hose. Sequential hose numbering marked at both ends of the hose, male and female, to be numbered up 18 inches from the coupling on the hose in block lettering approximately 1” high. Key Hose Coupling Stamping on BOTH COUPLINGS; Numbering: INQUIRE FOR HOSE NUMBERING SEQUENCE
4	1 3/4" Shutoff	Nozzle Shutoff: Elkhart 1.5” XD Shutoff – 1.5” NPSH female inlet w/ 1 ½” NPSH male threads on outlet – water way 1 3/8” – Specify: “Laser Etch DFD Scramble” Bale Insert "Black"
2	1 3/4" Fog Nozzle Tip	Tip: Elkhart Chief XD Fixed Flow FOG 1.5” 175 GPM @ 50psi – Specify: 1.5” NPSH Inlet Threads - bumper color and bale insert to be “Orange” – Specify: Spinning metal teeth
1	Foam Tube	Elkhart - Mid Range XD Foam Tube
1	Rescue42 TeleCrib Junior struts w/mounting bracket	To be mounted in transverse sliding tray
2	Rescue42 TeleCrib Struts - 4-foot, 2-pin - 15000 lbs.	To be mounted in transverse sliding tray
2	Rescue42 Hook Clusters	CTC-505
2	Rescue42 Chain Sets	CTC-521 This all comes in Truck Kit CTC6002
2	Rescue42 Ratchet Straps	CTC-504
2	Rescue42 Cinch Rings	CTC-506

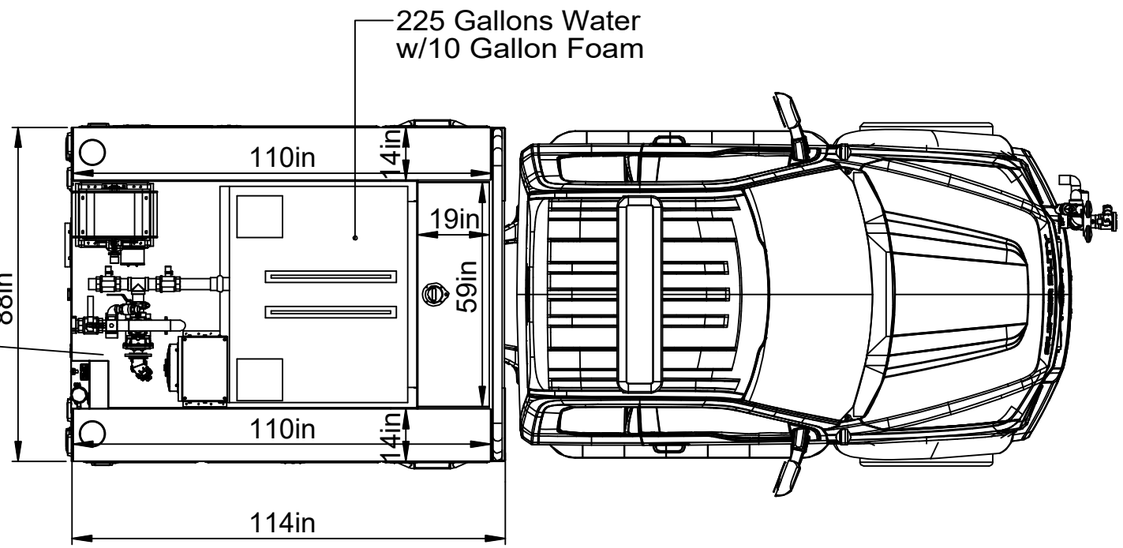
1	Rescue42 large acessory bag	CTC-512
1	51-inch forestry shovel	https://www.nationalfirefighter.com/store/p/4162-Council-USFS-Firefighting-Shovel.aspx
1	forestry shovel sheath	https://www.nationalfirefighter.com/fire-shovel-sheath.aspx
1	JR Fire Tools McLeod 48	https://www.nationalfirefighter.com/j-r-fire-tools-mcleod-48.aspx
1	McLeod tool sheath	https://www.nationalfirefighter.com/mcleod-tool-sheath.aspx?srsltid=AfmBOopzJU44YNjhaQ8FNyiV9K6ojYn8yIWjr0DxNe5g6o4BkyUzIUpO
1	36.5 in. Classic Fiberglass Handle with Round Point Heavy-Duty Steel Shovel and Cushion Grip	https://www.homedepot.com/p/Nupla-36-5-in-Classic-Fiberglass-Handle-with-Round-Point-Heavy-Duty-Steel-Shovel-and-Cushion-Grip-75-69-248/317167868
1	47 in. Fiberglass Handle Steel Blade Transfer Shovel with Comfort Step	https://www.homedepot.com/p/Ames-47-in-Fiberglass-Handle-Steel-Blade-Transfer-Shovel-with-Comfort-Step-25337100/204476047
1	Leak kit blue bag	WORKPRO 18-inch Close Top Wide Mouth Storage Tool Bag with Adjustable Shoulder Strap, Sturdy Bottom AMAZON
1	1 - 55-gallon drum bung wrench	Haz Mat Resource Straight handle
1	1 - Set of 3 dome clamps w/canvas storage bag	Lid-Loc-3 HazMat Resource
2	2 – Wax toilet bowl rings	Home Depot
1	1 – Roll of Gorilla tape	https://www.homedepot.com/p/Gorilla-25-yds-All-Weather-Tape-6009002/310661119
2	2 – Containers of gas tank puddy - 4 lbs.	https://hazmatresource.com/product/spill-kit-and-leak-control/premix-containers/
1	1 – Bag of assorted wooden plugs (various sizes)	https://marinecityhardware.com/products/marine-city-boat-tapered-conical-soft-wood-plugs-set-of-10-7-different-sizes?_pos=1&_sid=0a3e195bd&_ss=r
1	1 – 20 oz Rubber Mallet	Ebay, Vaughn New
2	2 - Fix-Stix Emergency Epoxy	https://hazmatresource.com/product/spill-kit-and-leak-control/fix-stix-emergency-epoxy-putty/
1	1 – F4 tape	https://www.amazon.com/Bond-Self-Fusing-Electrical-Insulation-Waterproof/dp/B001HETINI?th=1
2	50’ section of 2” hose - High rise packs	PLEASE INQUIRE FOR HOSE SPEC AND NUMBER SEQUENCE (KEY Big 10 mwb)
1	2 ½” to 1 ½” bell reducer	2 ½” NH Female to 1 ½” NPSH male reducer (Elkhart 102A Aluminum Swivel Bell Reducer)
2	High rise Smoothbore tip 1"	Tip: Elkhart 187 XD (Short Barrel) 1” Smooth Bore Tip for 1.5” Nozzles w/ 1.5” NPSH Inlet Threads specify: “Green Bumper”
6	Fire hose straps for 2-inch hose	Turning out Solutions - Brian Jenkinson
1	DeWalt Cordless tool bag – 20V 6-tool combo kit DCK661D1M1	Home Deopt
1	1 – Drill - DCD771 20V MAX* 1/2 in. Cordless drill/driver	Home Depot
1	1 – Impact drill - DCF885 20V MAX* 1/4 in. Cordless impact driver	Home Depot
1	1 – Circular saw - DCS393 20V MAX* 6-1/2 in. Cordless circular saw	Home Depot
1	1 – Angle grinder - DCG412 20V MAX* 4-1/2 in. Cordless grinder	Home Depot
1	1 – Reciprocating saw - DCS381 20V MAX* Cordless reciprocating saw	Home Depot
1	1 – Oscillating tool - DCS356 20V MAX* XR® Brushless cordless 3-speed oscillating multi-tool	Home Depot
1	1 - DCB 203 20V Max Li-ion 2.0Ah battery	Home Depot
1	1 – DCB204 20V Max Li-ion 4.0Ah battery	Home Deopot
1	1 – DCB112 Charger	Home Depot
1	Dewalt FlexVolt battery - 20V/60V Max FlexVolt 9AH (2pk)	Home Depot DCB609-2
1	DCB112 Charger	Mounted in rig

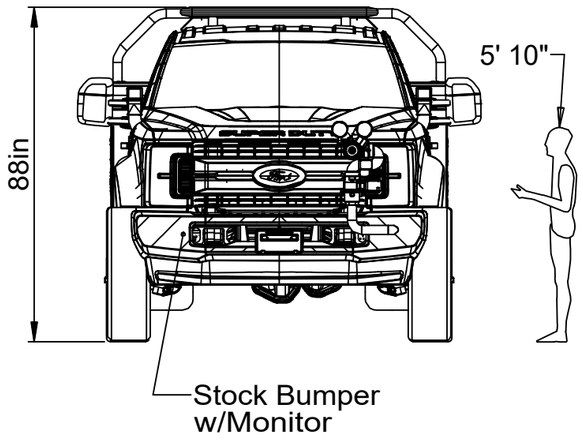
1	DeWalt 18-inch Large heavy Duty Contractor Tool Bag	https://www.amazon.com/Dewalt-Large-Heavy-Contractor-Packaging/dp/B009L33NA6/ref=asc_df_B009L33NA6/?tag=hyprod-20&linkCode=df0&hvadid=692875362841&hvpos=&hvnetw=g&hvrand=15144718764748407400&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9028806&hvtargid=pla-2281435180938&mcid=eb2b1a0d5a7a3d42bf5add12dcb7233a&hvocijid=15144718764748407400-B009L33NA6-&hvexpln=73&th=1
1	drill index	https://www.homedepot.com/p/DEWALT-Titanium-Nitride-Coated-Speed-Tip-Drill-Bit-Set-21-Pieces-DW1342/203317083
1	1/4" Impact driver set	https://www.zoro.com/dewalt-flextorqr-impact-readyr-screwdriving-bit-sets-with-toughcaser-system-dwa2t35ir/i/G7637971/?utm_source=google&utm_medium=surfaces&utm_campaign=shopping%20feed&utm_content=free%20google%20shopping%20clicks&campaignid=21407295990&productid=G7637971&v=&gad_source=1&gclid=Cj0KCQjwm5e5BhCWARIsANwm06hRshrWfklLrU9jv9MRSxHiCqOM6by6EFOxfnS0a9Qf8avjE-RiZRwaAstgEALw_wcB&gclsrc=aw.ds
1	Drill Screwdriver Set	https://www.homedepot.com/p/DEWALT-Screwdriving-Set-with-Tough-Case-37-Piece-DW2176/203312102
1	reciprocating saw blades	Diablo - 25 Pack 9 inch 14/18 TPI Diablo Steel Demon Bi-Metal Auto Dismantling Reciprocating Saw Blades for 1/16-5/16 Medium Metals AMAZON
1	10-pack 1-1/4" AMPED™ Demo Demon™ Universal Fit Carbide Teeth Oscillating Blades for General Purpose Cuts	https://www.diablotools.com/products/DOU125CGP10
2	6-1/2" x 24-Teeth Demo Demon™ Ultra-Thin Framing/Demolition Saw Blade for Wood	https://www.diablotools.com/products/D0624DA
2	6-1/2" x 48-Teeth Steel Demon™ Cermet II Saw Blade for Medium Metal	https://www.diablotools.com/products/D0648CFA
2	4-1/2" Type 27 Metal Dual Cut and Grind Disc	https://www.diablotools.com/products/DBD045125X01F
2	4-1/2" Diamond Metal Cut-Off Disc	https://www.diablotools.com/products/DDD045DIA101F
1	Halotron extinguisher w/bracket	Amerex Model 398 2A:10B:C Grainger
1	2.5 gallon water extinguisher w/bracket	Amerex Model 240 2A 2.5-gallon with bracket 810 grainger
1	CO2 extinguisher w/bracket	Amerex Model 330 10B:C Grainger
1	Dry-chemical extinguisher w/bracket	Buckeye Model 20S ABC, Item 12120, 20A:120B:C Granger
1	Set of jumper cables	Forney 52875 12 foot Amazon
1	Tow rope	Amazon Kinetic Recovery 30' x 54,000 pounds
1	Hurst spreader/cutter – (Hurst SC 258 E3 Connect)	https://www.jawsoflife.com/rescue-products/e3-connect/combi-tools/sc-258-e3-connect-combi
2	Hurst E3 batteries	LN Curtis
2	Hurst E3 battery chargers	1 mounted in rig on shoreline power; 1 loose ship AC power
1	Confined space cutter (mounted) – Holmatro Mini Cutter CCU10	Craig Fire and Safety COMES WITH 2 BATTERIES
2	Batteries – (18V 2Ah batteries CBPA 182)	Craig Fire and Safety
1	In-Rig Mounted charger – (CBCH2 (AC-US))	Craig Fire and Safety
1	Bracket for CCU10 Mini Cutter	Craig Fire and Safety
2	50-caliber metal ammo cans	Amazon New
1	Hurst SC 358 Chain set with adapters	LN Curtis
1	Lastest Edition Emergency Response Guidebook	Grainger 33W452
1	Latest Edition of NIOSH Pocket Guide	Various Online Sources
2	Vortex Optics - Diamondback HD 10 x 50	Scheels
1	Glass master - GMM-2	Glas-Master

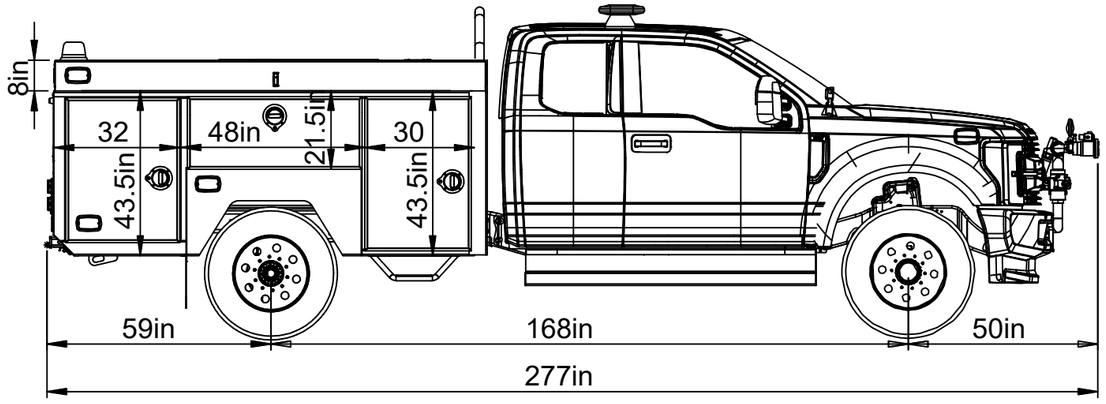
1	First Responders Field Guide to Hazmat and Terrorism Response 2023	https://www.firebelleproductions.com/product/hazmat-terrorism-emergency-response/

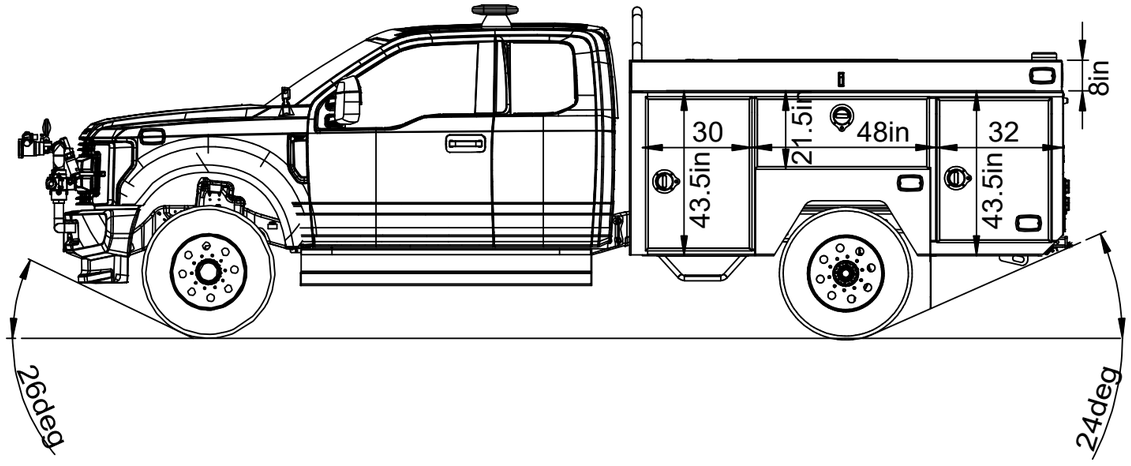
DENVER INTERNATIONAL AIRPORT'S
NWCG TYPE 6 CUSTOM RESCUE SQUAD WILDLAND ENGINE
SKEETER EMERGENCY VEHICLES











PROPERTY OF
SKEETER EMERGENCY VEHICLES

NOT FOR PRODUCTION. FEATURES AND DIMENSIONS ARE SUBJECT TO CHANGE

NOTE: FEATURES AND DIMENSIONS SHOWN ARE PRELIMINARY AND ARE SUBJECT TO CHANGE. MINOR DETAILS NOT SHOWN	PREPARED FOR: DENVER INTERNATIONAL AIRPORT	DRAWN BY: ALONDRA P. SPEC DATE: 12/27/2024	TITLE: PRELIMINARY OVERVIEW	SPEC # 1273 SHEET 1 OF 1

CONTRACT PRICING WORKSHEET
For MOTOR VEHICLES Only

Contract No.:	FS12-23	Date Prepared:	03/05/25

This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents MUST be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly.

Buying Agency:	City and County of Denver	Contractor:	Front Range Fire Appratus
Contact Person:	Leann Rush	Prepared By:	Duane Doucette
Phone:	303-342-2298	Phone:	303-304-6118
Fax:		Fax:	
Email:	leann.rush@flydenver.com	Email:	duaned@frontrangefire.com

Product Code:	BBB03	Description:	Ford F550 4x4 Lifter Body

A. Product Item Base Unit Price Per Contractor's H-GAC Contract: $205,501.00

B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.
(Note: Published Options are options which were submitted and priced in Contractor's bid.)

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	$278,582.75
		Subtotal B:	$278,582.75

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

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	$114,885.75
		Subtotal C:	$114,885.75

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B). **For this transaction the percentage is:** 23.73%

D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)

Quantity Ordered:	2	X Subtotal of A + B + C:	598969.499	=	Subtotal D:	$1,197,939.00

E. H-GAC Order Processing Charge (Amount Per Current Policy)	Fee included	Subtotal E:	$1,000.00

F. Trade-Ins / Other Allowances / Special Discounts / Freight / Installation

Description	Cost	Description	Cost
Multi Vehicle Discount	-$20,000.00		
		Subtotal F:	-$20,000.00

Delivery Date:	22 to 24 months	G. Total Purchase Price (D+E+F):	$1,178,939.00

Option Number	Qty	Description	Published Options	Unpublished Options
4136	1	60" Cab to Axle	$116.44	
3994	1	Lift - 2in Lift Kit - Ford 4x4	$3,443.33	
4342	1	Rear Receiver - Large - Winch/Rope/Trailer	$4,693.67	
4323	1	Tires and Wheels, Super Single 335/80	$13,142.78	
4274	1	Cab Repaint - Solid - One Custom Color	$12,577.64	
3822	1	Cab Poly - SCBA and EMS Cabinets - Full 2nd Row	$3,157.90	
3522	1	Cab Poly - EMS Cabinet - Half 2nd Row	$3,522.75	
3871	1	Radio Install - 3 Radios (Customer Provided)	$2,392.72	
3536	1	Intercom - FireCom - Wireless - 2 Position	$12,333.88	
4003	3	Install Radio Antennas (Antennas Only)	$1,899.67	
4818	1	Console Electronics Upgrade	$4,312.50	
4551	2	Power Outlets, 12V, Dual 4.8A USB, Cab	$557.59	
3902	1	Front Bumper - Stock Bumper	$143.75	
3497	1	Skid Plate - Front Bumper - 1/4in Aluminum	$627.72	
3499	1	Skid Plate - Transfer Case - 1/4in Aluminum	$1,172.77	
4656	1	R300 - Rsq Sqd, Alum, 138" x 96", 84" CA	$58,202.78	
4466	1	RSQ SQUAD BODY PAINT	$15,691.69	
4829	1	Increase Body Height 6"	$1,449.00	
3575	1	Transverse Compartment (Rescue) 18"W	$1,195.89	
4965	1	Graphics Upgrade "B"	$9,343.75	
4522	1	Full 1906 Apparatus NFPA and Safety Labeling	$2,300.00	
4016	1	Hose Reel, Hannay, Cntr Mount	$5,196.74	
3695	1	Foam System, FoamPro 1601, Class A	$10,869.13	
4680	1	TFT EF-1 Front Bumper Monitor	$12,457.64	
		Upgrade to Pierce Husky 3 System	$0.00	$4,651.23
4009	1	Camera System - Rosco - 1 Cam	$1,270.04	
733	1	Rescue Tools - Power Unit, (2) Rams, Cutter, Spreader, Hoses	$69,911.00	
763	1	Battery powered hand tools and saws	$14,000.00	
		Harris Radios	$0.00	$21,339.73
		Icom Radio	$0.00	$2,490.00
		Ward No Smoke	$0.00	$13,315.79
		Loose Equipment	$0.00	$73,089.00
685	60	Labor Rate, per hour	$12,600.00	
		Base Bid	$205,501.00	
		Published Options	$278,582.75	
		Total Published Options	$484,083.75	
		Unpublished Options	$114,885.75	23.73%
		Total Options w/o HGAC Fee	$598,969.50	

EXHIBIT D

FRONT RANGE FIRE APPARATUS

7600 Miller Court
Frederick, CO 80504
303-449-9911
1-800-334-9911
www.FrontRangeFire.com

DUANE DOUCETTE

303-304-6118
DuaneD@frontrangefire.com

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- Staffed by 7 sales professionals with 150 years of combined experience
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- Mobile services and a full line of parts and equipment

Untouchable Fire Apparatus Expertise

- Over 30,000 custom chassis built
- More than 30 patents attributed to our continued investment in research, development and safety
- Thousands of years of cumulative experience
- First single-source manufacturer of custom fire apparatus in North America to achieve ISO 9001 certification
- Only manufacturer to have third party, Underwriters Laboratories certification on the entire apparatus

Unshakable Stability

- Rock-solid financials as an Oshkosh Corporation Company
- Oshkosh named a World's Most Ethical Company by Ethisphere Institute
- Recognized as a 2016 Best Governance, Risk, and Compliance Program by NYSE Governance Services
- Complete transparency of a public traded company
- Greater strength from shared engineering and technology across all of Oshkosh Corporation
- With over 100 years of history and numerous industry-first contributions, we're not going anywhere
- America's Best Large Employers list by Forbes

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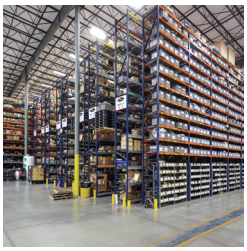

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FRONT RANGE FIRE APPARATUS

INTERNATIONAL FIRE CHIEFS ASSOCIATION
VOLUNTEER & COMBINATION OFFICERS SECTION

Pierce leads the industry in sponsorships that support families of fallen firefighters, recognize outstanding achievement and further the education and safety of the fire service.

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FRONT RANGE FIRE APPARATUS

Pierce

Pierce Manufacturing Inc., An Oshkosh Corporation Company
P.O. Box 2017, Appleton WI 54912-2017 USA

P-0108-SLLSTBLTYSS-FRNTRNG 1/17

FOR FURNISHING FIRE APPARATUS

March 19, 2025

City and County of Denver

The undersigned is prepared to manufacture for you, upon an order being placed by you, for final acceptance by Front Range Fire Apparatus., at its home office in Frederick, Colorado, the apparatus and equipment herein named and for the following prices:

One (1) F550 Patrol Unit, (includes equipment) **Per HGAC FS12-23 includes HGAC fee** **Includes delivery to customer location** **Per attached component list** **Delivery is approximately 22.0 to 24.0 Months**		**$599,469.50**
Multiple Vehicle Discount	**Deduct**	**($10,000.00)**
Payment Due at factory final inspection		
	Total	**$ 589,469.50**

Said apparatus and equipment are to be built and shipped in accordance with the specifications hereto attached, delays due to strikes, war, or intentional conflict, failures to obtain chassis, materials, or other causes beyond our control not preventing, within about 22 to 24 months after receipt of this order and the acceptance thereof at our office at Frederick, Colorado, and to be delivered to you Denver, CO

The specifications herein contained shall form a part of the final contract, and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The specification for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid, and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above. Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.

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

FRONT RANGE FIRE APPRATUS.

By: _____
Duane Doucette
SALES REPRESENTATIVE

FRONT RANGE
FIRE APPARATUS

Specification for:
Type-6
C-3468 (Ford F550 - 4x4 - Gas - EXT Cab - 60" CA)

Submitted To:
Denver International Airport
25365 E 75th Ave. Denver, CO 80249

Specification **1273**
01/02/2025

Prepared by:
Duane Doucette
Front Range Fire Apparatus

C-3468 FORD F550 - 4X4 - GAS - EXT CAB - 60" CA

One (1) FORD F-550 two axle drive 4 x 4, dual rear wheels (DRW), Super Cab, XL cab and chassis

Measurements / Capacities:
Cab to Axle: 60 inch

Fuel tank size: 40 US Gallon
Wheelbase: 168 inches

Weight Ratings:
GVWR: 19,500 LBS
Front GAWR: 7,500 LBS
Rear GAWR: 14,706 LBS

Engine:
7.3L 2V DEVCT V8 Gas
350 HP at 3900 RPM
468 ft-lb at 3900 RPM

Transmission:
TorquShift 10 speed automatic transmission with overdrive.
PTO Provision

Axles:
Front: Mono-beam non-independent suspension with anti-roll bar
Rear: Dana M300 rigid axle leaf spring suspension.
Differential Gears: 4.88 Gears, Limited slip Rear Differential
Electrical Shift on the fly transfer case

Wheels:
Factory Tires: 225/70R19.5G BSW A/T, Radial all weather / off road tread
Front Wheels: two (2) 19.5" x 6" Painted steel, ten (10)-hole pattern steel disc wheels, GRAY
Rear Wheels: four (4) 19.5" x 6" Painted Steel, ten (10)-hole pattern steel disc wheels, GRAY

Cab Controls:
Controls for heat, defroster, and air conditioning

Powered Door Locks
Powered Windows
Powered Mirrors
Manual tilt steering wheel: (Unless superseded below in options)

Electrical Systems:
Duel alternator 410 amp, 12-volt
Two (2) 12-volt, 750 CCA, 78-amp hour batteries
AM/FM Stereo with MP3 Player with fixed antenna
Upfitter Switches
Upfitter Interface Module
Trailer Brake Controller
Trailer harness

Safety / Security:
Air bags: Safety canopy system, first row overhead airbag restraint system, dual seat mounted side impact airbag restraint system
Brakes: 4-wheel ABS, disc brakes, brake assist
Driveline traction control
Factory jack and lug nut wrench set
Tow Hooks: front loops

Seats:
Seating capacity: six (6)
Vinyl Seat Covering
Front 40-20-40 HD folding split bench seat
Rear 60-40 Folding rear split bench seat
Manual driver lumbar support
4-way driver seat adjustment
4-way passenger seat adjustment

Miscellaneous Included Equipment:
Power Steering
Exhaust system: horizontally mounted, discharge on passenger side of chassis aft of rear wheels.
Cooling system: protected to -30 degrees
Printed Manuals: one (1) printed chassis operation manual

Colors:
Interior color: Medium Earth Gray
Exterior cab color: Race Red (Unless superseded below in options)

Chrome Grill With Black Insert

C-4136 60" CAB TO AXLE

The chassis Cab to Axle measurement shall be 60".

C-4274.3 CAB REPAINT - SOLID - ONE CUSTOM COLOR

1. Cab Color: Lime Yellow Pierce #40
2. Description: Solid Lime Yellow Pierce #40

COMPLETE CAB SINGLE COLOR PAINT SCHEME, DOOR JAMBS PAINTED

Aftermarket Paint Warranty covers defects in the applied paint for up to three years or 36,000 miles, whichever comes first.

C-3545.2 CAB STEPS - FORD SUPER CAB

The cab shall be equipped with steel step assemblies, on each side of the cab. There shall four (4) stirrup steps mounted two (2) each side on the cab steps. They shall be installed in the best location to allow easy access to the cab.

The stepping surface shall be lined with NFPA aluminum diamond plate.

C-5589.2 3IN LIFT KIT - FORD

There shall be a 2-3" lift installed. Kit shall include the following components. The fenders and fender flares shall be modified for tire clearance.

- Upgraded Coils
- Upgraded Radius Arm W/ Skeeter Badging.
- Brake Line relocation brackets.
- Front Bump Stops.
- Track Bar
- Front Sway Bar.
- Skeeter 2.5 Reservoir Shocks with brackets.
- Dual Stabilizers.

NOTE THE OVERALL HEIGHT OF THE APPARATUS SHALL NOT EXCEED 99".

C-4202 TIRES/WHEELS - SUPER SINGLE - TOYO M608Z 285/70R19

There shall be four (4) Toyo M608Z super single front and rear tires, There shall be 285/70R19.5, radial all terrain tread. The tire weight rating shall be load range "H" (6,395 lbs), and the speed rating shall be 75 mph.

There shall be four (4) wheels for the front and rear tires. There shall be C" disc, ten (10)-hole pattern with a rating to match or exceed the tire rating.

NOTE: REQUIRES 2" LIFT MINIMUM

C-4171 TIRE PRESSURE INDICATOR
There shall be a set of tire pressure indicators installed on the valve stems of the wheels. The indicators shall show if the tire is at the correct pressure by showing a "Green" indicator on the valve stem. The indicator shall show "Red" when the pressure is incorrect.

C-3902 FRONT BUMPER - STOCK BUMPER
The stock chassis front bumper shall be utilized.

C-3519 CONSOLE, ALUM/POLY, SM TRUCK
A custom fabricated DA aluminum electrical console and enclosure shall be located between the driver's and passenger's seats. It shall house the siren, switches, cup holder, map box, equipment storage, and auxiliary equipment. It shall have a custom poly faceplate. It shall extend fully to the dash.

C-4551 POWER OUTLETS, 12V, DUAL 4.8A USB, CAB
There shall be 1 Dual USB-A/USB-C power outlets rated at 4.8amps shall be provided in cab.

LOCATIONS: Determined at preconstruction.

C-4354 CONSOLE - UPGRADED FUSE BLOCK
The fuse block in the center console shall be upgraded to a 5025 100amp style fuse block. This fuse block shall be wired to the same signal as the rest of the Skeeter electrical system.

C-3822 CAB POLY - SCBA AND EMS CABINETS - FULL 2ND ROW
The interior cab shall be equipped with a SCBA and an EMS storage cabinet. The cabinet shall be mounted between the back cab wall and

the rear of the front seats. The cabinet shall be constructed of 1/2" polyurethane.

The SCBA cabinet shall house two (2) SCBA brackets, and have storage underneath for two (2) spare SCBA bottles. The EMS cabinet shall be constructed to allow storage of EMS components.

C-3871 RADIO INSTALL - 3 RADIOS (CUSTOMER PROVIDED)

Three (3) fire radios shall be supplied by the purchaser to be installed.

Location: Finalized at preconstruction.

ALL EQUIPMENT NECESSARY TO INSTALL/OPERATE A CUSTOMER SUPPLIED RADIO MUST BE PRESENT AT SKEETER BRUSH TRUCKS WITHIN 30 DAYS OF COMPLETED PRE-CONSTRUCT. IF ALL COMPONENTS ARE NOT PRESENT THE RADIO WILL NOT BE INSTALLED

C-4003 INSTALL RADIO ANTENNAS (ANTENNAS ONLY)

One 1 radio antenna with cable shall be supplied by the purchaser and installed on the apparatus at a location to be determined by the purchaser.

THIS OPTION DOES NOT INCLUDE INSTALLATION OF RADIOS, OR MDT/MCT.

ALL EQUIPMENT NECESSARY TO INSTALL/OPERATE A CUSTOMER SUPPLIED RADIO MUST BE PRESENT AT SKEETER BRUSH TRUCKS WITHIN 30 DAYS OF COMPLETED PRE-CONSTRUCT. IF ALL COMPONENTS ARE NOT PRESENT THE RADIO WILL NOT BE INSTALLED

C-4009 CAMERA SYSTEM - ROSCO - 1 CAM

One (1) Rosco STSK4532 rear view mirror camera system shall be furnished utilizing a camera which provides a wide field of view and picture quality. A sealed camera enclosure shall be utilized along with electronic connections.

One (1) camera shall cover the rear of the apparatus, which will activate during back-up mode and during normal operations if needed.

C-3612 REAR RECEIVER - STANDARD - WINCH/ROPE/TRAILER

The rear of the chassis shall be equipped with one (1) square steel tube receiver assembly for trailer use and winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame assembly. The receiver shall be rated at approximately 10,000#.

The rear receiver assembly shall be equipped with two (2) heavy duty rear tow loops, one (1) each side.

C-3530 TRAILER PLUG - 12V - 7 PIN

Wiring shall be provided at the rear of the apparatus for the towing of an auxiliary trailer. A 12 volt seven (7) pin electrical connector shall be wired to the chassis stop, running, and turn lights.

C-4205.10 R200 - RSQ SQD, ALUM, 114" X 88", 60" CA

The body will be a custom fabricated severe service Rescue-Squad type, constructed of all aluminum. The body shall be 114" long by 88" wide, designed for a 60" cab to axle dimension.

FLAT-BED SUB-STRUCTURE
The body shall have 6" x 1.75" structural aluminum channel main frame rails. The body frame rails shall be isolated from the truck frame by .500" industrial isolators.

FLAT-BED CROSS-MEMBER SUB-STRUCTURE
The cross-members shall be 3" x 2 5/16"" structural aluminum I beams with cross-members on 12" centers.

FLAT-BED MOUNTING
The body shall be bolted to the chassis frame rails at the rear end of the frame. There shall be brackets installed at the middle of the body frame to prevent side to side movement. The body shall be spring mounted at the front of the body frame. The flexible mounting system shall allow for body/chassis flexing during extreme off road conditions.

SQUARE FRONT BODY CORNERS
The front corners of the body shall be square.

HEADACHE RACK
The front of the body shall have a 2" formed aluminum tube headache rack. The rack shall extend the full width of the body and be attached to the front body corners. The assembly shall extend above the chassis

cab and have mounting platform for installation of the light bar and other lights. Wiring for the lights will be placed inside the tubing for protection. The headache rack shall have four (4) vertical 2" tubes for extra strength.

SIDE BODY ACCESS STEP
There shall be a body access step assisting in access to top of the tool/hose trays from the side of the apparatus. It shall be a stirrup design, and be fabricated from 1" aluminum tubing. They shall be installed under the front of the body, one (1) each side.

FUEL FILLER
The fuel filler tube and cap shall be installed at the driver's side, rear of the body.

FENDER PANELS
The lower portion of the flat-bed body shall have fender panels over and aft of the rear wheel panel area. The panels shall be constructed of .125" aluminum smooth plate on all exterior surfaces. The wheel well openings will be cut out to conform to the wheels.

REAR BODY PANEL
A vertical body panel shall be installed at the rear of the body constructed of .190" smooth aluminum. The panel shall house the running lights, taillights, back-up lights, and emergency lights. The body panel shall be angled to allow for a 30 degree angle of departure.

SIDE BODY COMPARTMENTS, FRONT BODY -- DRIVER'S AND PASSENGER'S SIDES
Two (2) body equipment storage compartments shall be installed at the front of the body just behind the headache rack, one (1) each side of the apparatus. The dimensions shall be approximately: 30" wide, 43.5" high, and 14" deep. The compartments shall be constructed of .125" aluminum smooth plate on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with a single latch installed. The doors shall be equipped with gas operated door opening assistant cylinders.

The compartments shall be hinged at the rear.

TRANSVERSE COMPARTMENT
The upper portion of the front vertical compartments shall be transverse. The dimensions shall be 18" wide x 21.5" high x 88" deep.

There shall be a lift up door accessing the transverse compartment. It shall be approximately 50" long x 18" wide.

SIDE UPPER BODY COMPARTMENTS
There shall be two (2) side upper body compartments, one (1) each side. The dimensions shall be approximately: 48" wide, 21.5" high, and 14" deep. The compartments shall be constructed of .125" aluminum smooth plate on all exterior surfaces. Each compartment shall be equipped with a horizontally hinged drop down door with a latch installed. The doors shall be equipped with retaining straps. The hinge shall be at the bottom edge of the compartment.

SIDE BODY COMPARTMENTS, REAR BODY -- DRIVER'S AND PASSENGER'S SIDES
Two (2) body equipment storage compartments shall be installed at the rear of the body just behind the side upper body compartments, one (1) each side of the apparatus. The dimensions shall be approximately: 32" wide, 43.5" high, and 14" deep. The compartments shall be constructed of .125" aluminum smooth plate on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with a single latch installed. The doors shall be equipped with gas operated door opening assistant cylinders. Each vertical compartment shall have one (1) fixed shelf. The compartment floors shall be lined with ventilated vinyl floor liner.

The compartments shall be hinged at the rear.

The compartments shall be equipped with:
-a swing door with latch installed
-key type door locks.
-dual gas operated door opening assistant cylinders.
-a white LED strip light that is automatically controlled by a door activated switch.
-a louvered vent

Compartment Matting shall be installed in the compartment. It shall be black in color and lock together design.

The actual door openings shall be approximately 3" smaller in dimension.

COMPARTMENTATION TOPSIDE
There will be integral lift up door style compartments on the driver's

and passenger's side of the body upper body The compartments shall be 14" wide x 110" long, and 8" high.

The compartment shall be on the top of the vertical side surface, and have a lift up door with latch on the outside, on the vertical surface.

The same style of door handle as used on the side compartments will be used on this compartment.

The compartments shall be equipped with:
-a swing door with latch installed
-key type door locks.
-a white LED strip light that is automatically controlled by a door activated switch.
-a louvered vent

Compartment Matting shall be installed in the compartment. It shall be black in color and lock together design.

The actual door openings shall be approximately 3" smaller in dimension.

C-4692 DS VERTICAL DIVIDER
There shall be one (1) vertical divider installed in the upper body full length compartment.

The exact location shall be determined at pre-construction.

C-4280 PS VERTICAL DIVIDER
There shall be one (1) vertical divider installed in the upper body full length compartment.

The exact location shall be determined at pre-construction.

C-4276 PAINTED FINISH BODY AND COMPARTMENTS/TRAYS, HOUSINGS
The exterior surface of all body skins, compartments, and trays shall all be Painted.

The surface shall be sanded, acid washed, acid primed, primed, and top coat painted in accordance with the paint manufacturers specifications.

The interior of all compartments shall be coated in Zolatone textured coating.

All Exterior welds shall be ground down, and filled with body filler.

Aftermarket Paint Warranty covers defects in the applied paint for up to three years or 36,000 miles, whichever comes first.

C-3593 REAR CENTER UNDER BODY COMPT 108"
An under body equipment storage compartment shall be installed under the flatbed surface located in the center rear of the apparatus. The compartment shall be between the vertical body beams, upper floor surface, and an aluminum lower floor area. The compartment shall be equipped with a hinged drop down door with dual latches installed. The floor shall be constructed of aluminum.

The exterior dimensions shall be approximately: 108" Deep

C-4692 DS HOSE TRAY DIVIDER
There shall be one (1) full length hose tray divider installed in the hose tray. This option covers up to a 16"x10"x72" tray.

C-4280 PS HOSE TRAY DIVIDER
There shall be one (1) full length hose tray divider installed in the hose tray. This option covers up to a 16"x10"x72" tray.

C-4670 NO-- REAR FOLD DOWN STEP
There shall be no rear fold down step installed.

C-3614 REAR STEP, PULL OUT
There shall be a rear "Pull-Out-Fold-Down" step located at the rear of the apparatus, step shall be stowed in a pocket under the rear of the unit. Storage pocket shall be fabricated to allow easy access to deploying for operation.

C-4559 SLIDE OUT TRAY, 500LBS MAX, 16" X 82" TRANSVERSE
There shall be a 500 lbs max capacity slide out tray installed. Dimensions shall be 16" wide by 82" long.

The tray shall slide out both sides of the body.

Location: Front transverse compartment.

C-4209.2 ADJUSTABLE SHELF
There shall be 4 adjustable shelfs located in the *** Enter Location

Below*** compartment constructed of smooth aluminum. There shall be adjustable tracking mounted to the wall of the compartment to allow height adjustment of the shelf. The shelf shall be no larger than 4 feet wide by 2 feet deep. The tracking shall be as long as possible to allow for max adjustment range of shelf.

QTY: 4
LOCATION: TBD at the pre-construct meeting.

C-3797 NFPA COMPLIANCE

The fire apparatus shall be built to the purchaser's requirements stated in this specification in compliance with all state and federal highway safety requirements. The vehicle is designed to meet NFPA 1900.

Unless included in the specification, the customer will provide all the necessary equipment to comply with NFPA 1900.

C-3632.3 225 GALLONS, POLY

The water tank shall have a capacity of 225 gallons.

The water tank shall be constructed of black polypropylene, poly-welded and tested inside and out. The tank manufacturer shall define the floor, top, sides, ends, and baffles material thickness. The tank shall carry a lifetime warranty.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. The tank covers shall be welded on top and bottom, and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's data plate.

The water tank shall be rectangular in shape and engineered for a low center of gravity.

The water tank construction shall conform to applicable NFPA standards.

A 1.5" drain plug shall be installed in the bottom of the water tank under P/S wheel well for water tank draining and flush-out of debris.

The fill tower shall incorporate a vent and overflow system shall be designed into the water tank. The system shall include a 3" diameter pipe that functions both as an air vent while emptying the tank and as an overflow when filling the tank. The overflow shall discharge excess water below the frame rails of the vehicle.

The tank fill tower shall be located in the driver's side rear corner of the water tank.

The water tank shall be equipped with translucent water level sight gauge in the rear wall of the tank.

C-3660 WATER TANK GAUGE - REAR+CAB

One (1) Class 1 "Intelli-Tank" water tank level gauge shall be installed on pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 tank. A pressure transducer shall be mounted on the outside of the tank in an easily accessible area.

Cab Mounted -
One (1) Class 1 "Intelli-Tank" mini water tank level gauge shall be installed in the cab or center console. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/4 tank.

C-3890 AUX FIRE PUMP MTNG, REAR CENTER, BOLTED

The auxiliary fire pump shall be installed at the center rear of the body. The sub-structure shall have welded in mounting sub-plates between the structural members.

C-3700.2 PLUMBING ENCLOSURE, SMALL - PLUMBING

There shall be an insulated enclosure surrounding the fire pump plumbing. The enclosure shall be fabricated of aluminum. Hinged doors and access panels shall be installed for servicing of the engine.

If so equipped, the engine and pump control panel shall be provided at the rear of the vehicle. The following shall be located at the operator's position:

2.5" discharge pressure gauge
start/stop control
throttle control
low oil pressure warning light
tachometer (if so equipped)

The plumbing enclosure shall be mounted at the rear of the body.

C-4689.2 PUMP ENCLOSURE, LARGE - PUMP

The fire pump house shall be installed above the pump and engine. The enclosure shall be fabricated of aluminum and be removable for service.

There shall be a vinyl cover installed covering the rear opening, full length and height. It shall be fixed mounted to the pump cover on the top, and have velcro on the sides and bottom.

C-3699 PUMP PANEL - REAR DECK MOUNT

A pump panel enclosure shall be installed. The enclosure shall be fabricated of aluminum with a DA finish, bolted in place with a pump instrument panel installed.

An engine and pump control panel shall be installed in the pump panel enclosure. The following shall be on the pump panel:

2.5" discharge pressure gauge
start/stop control
throttle control

low oil pressure warning light

The pump control panel shall be installed at the passenger's side rear corner of the body.

C-4256 FLUSH PLUMBING

The plumbing at the rear of the bed shall not protrude beyond the perimeter of the deck surface.

C-3706 MANIFOLD, SS (STANDARD)

The auxiliary fire pump plumbing system shall be built mostly of stainless steel piping, fittings, and connections. Victaulic couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Tank connections and remote plumbing shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

This shall include valves and hose threads.

C-4732 VALVES, AKRON, BRASS, QUARTER TURN

All valves 1" and larger used in the plumbing installation shall be Akron quarter turn full flow type.

C-5247 NPSH HOSE THREADS
The hose threads shall be National Pipe Straight Hose thread (NPSH) on all base threads on the apparatus intakes and discharges, unless otherwise specified.

C-3715 TANK FILL AND COOLING LINE 1" WATER TANK
One (1) 1" fire pump to water tank refill and bypass cooler line shall be provided. The pump to tank valve shall be a 1" full flow quarter turn ball valve with local control handle. A 1" flex hose shall be installed to the water tank.

C-3708 DISCHARGE, 2.5", REAR, 2.5"FM X 1.5"M, 1
One (1) 2-1/2" discharge shall be installed at the rear pump area, controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NH male hose threads. The discharge shall be equipped with 2-1/2" female x 1-1/2" chrome plated brass reducer, 1-1/2" chrome cap and cable.

C-3710 DISCHARGE, 1.5", REAR, W/1.5" CAP
One (1) 1-1/2" discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have 1-1/2" NPT x 1-1/2" NH male hose threads and cap.

C-5044 NO 3/4" DISCHARGE
NO --3/4" Discharge

C-3858 DISCHARGE, 1.5",PRE-CONNECT
One (1) pre-connect 1.5" discharge shall be installed at the front of the top full length compartment on driver side. The discharge shall be equipped with a 1.5" diameter quarter turn ball valve at the pump manifold. The outlet shall be equipped with a 1.5" NPT female chicksan swivel x 1-1/2" male NH hose thread.

The pre-connect fitting will be a chrome finish.

C-4016 HOSE REEL, HANNAY, CNTR MOUNT
One (1) Hannay aluminum hose reel shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 12 volt rewind and manual crank rewind provisions.

The reel shall be mounted above the water pump and plumbing, center of the rear flat-bed body. There shall be a custom aluminum platform to support it.

One (1) 1" discharge shall be piped from the fire pump to each hose reel with flexible high pressure hose. The quarter turn ball valve shall be on manifold.

The hose reel shall be provided with a Hannay top mounted stainless steel roller assembly.

C-3727 100 FOOT REEL CAPACITY

Each hose reel shall have a capacity of 100 feet of hose.

C-3855 HOSE, WATER, 300#, 3/4" X 100'

One (1) 100' foot length of 3/4" water hose shall be installed on the hose reel. The hose shall be equipped with chrome plated pin lug couplings and have a 300 PSI working pressure.

C-3695 FOAM SYSTEM, FOAMPRO 1601, CLASS A

A FoamPro part number S106-1600/2.0 electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flow meter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flow meter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

1. Activate the foam proportioning system
2. Select the proportioning rates from 0.1% to 1.0%
3. See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM at

200 PSI with a maximum operating pressure of 400 PSI. The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 horsepower electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

1. Operator control module
2. Paddlewheel flow meter
3. Pump and electric motor/motor driver
4. Wiring harnesses
5. Low level tank switch
6. Foam tank
7. Foam injection check valve
8. Main waterway check valve
9. Flowmeter and tee with NPT threads.

The foam system shall be installed and calibrated to manufacturer's requirements. In addition the system shall be tested and certified by the apparatus manufacturer to applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance with SAE standards. An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

The FoamPro 1600 Series foam system shall be provided with a six (6) foot control cable from the controller to the foam pump assembly. The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head. The Foam Pro shall have a secondary On / Off push button control located in cab.

A FoamPro part number 2660-0032 brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 15 GPM and 520 GPM and be capable of operation between 5 GPM to 625 GPM. The tee shall have NPT and Victaulic inlet and outlets connections.

A FoamPro part number 6032-0018 instruction and system rating label shall be provided. The label shall display information for a FoamPro 1600 Series foam system and shall meet applicable sections of the NFPA standards. A FoamPro foam system schematic label shall be installed on the pump panel near foam controls. The label shall be a diagram of the FoamPro 1600 foam system layout and shall meet applicable sections of the NFPA standards.

A 1" fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

C-3661 FOAM TANK CAPACITY, 10 GALLONS, CLASS A,

The Class A foam tank shall have a capacity of 10 gallons.

The foam concentrate tank shall be provided with a fill pipe having a volume of not less than 2 percent of the total tank volume. The filler opening shall be capped with a sealed air-tight threaded cover. The fill opening shall be designed to incorporate a removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped into the tank.

The foam tank filler shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color-coded label or visible permanent marking that reads "CLASS A -- FOAM TANK FILL" shall be placed at or near the foam concentrate tank fill opening. An additional label shall be placed at or near any foam concentrate tank fill opening stating the type of foam concentrate the system is designed to use.

Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, along with a warning message that states "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

A 3/4" fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

A 3/4" diameter connection, piping, and valve shall be installed for the

foam tank for draining purposes.

C-5495 ELECTRIC FOAM FILL SYSTEM

There shall be a truck mounted FRC electric foam fill system capable of re-filling the Class B foam tank from a 5 gallon container sitting of the ground next to the apparatus. It shall consist of a fill pump (permanently installed on the apparatus), fill hose, and pipe (for insertion into the container). The inlet of the foam tank shall be 1.5".

C-3764 STOP/TAIL/TURN LIGHTS, WHELEN M6BTT/M6FC

Two (2) Whelen M6 Series Model M6BTT 4-5/16" x 6-3/4" brake, turn, tail lights with M6FC chrome flanges shall be provided. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthead configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lightheads shall be surface mountable via two screws.

The lightheads shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination. The lighthead shall include 164 flash patterns including: a variety of CA Title 13 compliant, sinkable, left/right, top/bottom, in/out, and steady burn. The lightheads shall have the Whelen exclusive NERM (Non-Emergency Recognition Mode) feature.

The lens/reflector assembly shall be wet sealed and resistant to: water, moisture, dust, and other environmental conditions. The outer lens shall have a hard coating applied to increase strength and ensure longevity. The light engine shall be installed at the rear of the unit and be completely sealed. The pc board shall be conformal coated for additional protection.

The lights shall be furnished with five 6" wire pigtails, a Santoprene rubber gasket and the #M6FC chrome flanges shall be included for installation.

C-3765 BACK UP LIGHTS, WHELEN M6 SERIES, LED,

Two (2) Whelen M-Series, 4" x 6" rear LED back-up lights shall be installed.

C-3876 SIREN, ELECTRONIC, WHELEN, 295SLSA6

Whelen Model #295SLSA6, self-contained electronic siren amplifier shall be provided. The heavy duty 100/200 watt, six (6) function siren shall have the following features: hands-free operation, public address, park kill, push to talk, and radio re-broadcast. The siren shall have the following tones: wail, yelp. piercer, and air horn.

The unit shall have solid-state over/under voltage shutdown and output short circuit protection. The siren shall have the "SI Test" self-diagnostic feature for silent speaker inspection. The siren shall have a face plate with green LED backlighting for easy control selection and visibility. The siren shall have a hard wired unidirectional microphone with a 17" extendable coil cord.

The unit shall be installed in the center console.

C-3747 SIREN SPEAKER (1)

One (1) Whelen Model #SA315P Projector Series siren speaker shall be provided with bracket. The 100 watt siren speaker shall be designed in a black nylon composite housing with 123 decibel rating.

Location shall be: Behind the front grille.

C-5427.2 WHELEN, LIBERTY II WITH OPTICOM

There shall be a Whelen Liberty II Duo lightbar with opticom installed on the apparatus. The 54" lightbar shall be designed to meet the minimum clearing requirements for Zone A Upper. The internal components of the lightbar shall be housed within a two piece extruded aluminum base/top. The outer shell shall be clear optic polycarbonate lenses designed to maximize light output and shield against environmental elements.

There shall be a built-in Opticom emitter installed in the center of the lightbar.

The lightbar will include the following:

One (1) red flashing LED module in the driver's side fourth rear facing position.
One (1) red flashing LED module in the driver's side third rear facing position.
Open in the driver's side second rear facing position.
One (1) red flashing LED module in the driver's side first rear facing position.
One (1) red flashing LED module in the driver's side rear corner position.
Open in the driver's side end position.
One (1) red flashing LED module in the driver's side front corner position.
Open in the driver's side first front position.
One (1) red flashing LED module in the driver's side second front

position.
Open in the driver's side third front position.
One (1) red flashing LED module in the driver's side fourth front position.
One (1) 795 LED traffic light controller set to national standard high priority in the center positions.
One (1) red flashing LED module in the passenger's side fourth front position.
Open in the passenger's side third front position.
One (1) red flashing LED module in the passenger's side second front position.
Open in the passenger's side first front position.
One (1) red flashing LED module in the passenger's side front corner position.
Open in the passenger's side end position.
One (1) red flashing LED module in the passenger's side rear corner position.
One (1) red flashing LED module in the passenger's side first rear facing position.
Open in the passenger's side second rear facing position.
One (1) red flashing LED module in the passenger's side third rear facing position.
One (1) red flashing LED module in the passenger's side fourth rear facing position.
There will be clear lenses included on the lightbar.

The following switches may be installed in the cab on the switch panel to control the lightbar: a switch to control the flashing LED modules. the traffic light controller will be activated by a cab switch with emergency master control, and there will be no momentary activation switch.
The red flashing LED modules in the front and rear positions may be load managed when the parking brake is applied.

C-4563 LIGHTBAR MOUNT CAB ROOF, NO GUARD

The lightbar shall be mounted on the cab roof. The light bar shall be properly sealed and watertight.

C-0000 WARNING, REAR UPPER BEACONS

There will be two (2) Whelen, Model L31H*F, 4.00" high x 7.18" in

Diameter LED warning beacons provided at the rear of the truck.

- The driver side beacon will be red.
- The passenger side beacon will be blue.
- The lens will be clear.

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

C-0000 COMMAND LIGHT

The apparatus will be equipped with a Whelen,Model L31HAF, amber LED beacon. The light will be installed on the rear driver's side of headache rack.

The light will be used for FAA amber requirement for airport operation and may not be operated off airport grounds.

The light will be activated by a separate switch labeled "AIRPORT LIGHT"

C-3750.2 WARNING LIGHTS, WHELEN, M-6 SERIES (12)

ZONE A -- LOWER FRONT WARNING LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed in the lower front area of the cab. The warning lights shall incorporate Linear-Super LED and Smart LED technology. Each lighthead shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread. Each lighthead assembly shall have internal flasher, eleven (11) Scan-Lock flash patterns, including steady burn and synchronize power functions. The lightheads shall have a conformal coated circuit board for moisture protection. The lights shall be mounted in a chrome plastic flange bezel assembly.

COLOR: RED LED/CLEAR LENS

ZONE B AND D -- INTERSECTION LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed. The warning lights shall be installed in cab fenders, one (1) each side, as far forward as possible. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lighthead shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread. The lighthead assembly shall have internal flasher, eleven (11) Scan-Lock flash patterns, including steady burn and synchronize power functions.

COLOR: RED LED/CLEAR LENS

ZONE B AND D -- LOWER REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed. The warning lights shall be located one (1) each side lower rearmost side body area as space permits. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series Model #M6R 4" x 6" warning lights and a chrome flange shall be upper horizontal compartment door. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

ZONE C -- UPPER REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series Model #M6R 4" x 6" warning lights and a chrome flange shall be installed in the upper rear body panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

ZONE C -- LOWER REAR WARNING LIGHTS
Two (2) Whelen M-6RC Series 4" x 6" warning lights shall be installed. The warning lights shall be located one (1) each side, rover the wheel wells. The warning lights shall incorporate Linear-Super LED and Smart LED technology. The lightheads shall have six (6) RED Super-LEDs with a clear non-optic polycarbonate lens for maximum light spread.

COLOR: RED LED/CLEAR LENS

C-4070 GROUND LIGHTS - CHASSIS - LED STRIPS - 4DOOR

Four (4) LED ground strip lights shall be installed under the cab step area in compliance with NFPA standards, two (2) on each side of the apparatus, wired to the Cencom, and the chassis interior lights.

SP-0000 CAB SPOTLIGHTS

There will be two (2) Unity, Model 335CL, white 12 volt DC LED spotlights with
chrome housing provided on each side of the cab.
These lights may be load managed when the parking brake is applied.

C-3528 KUSSMAUL 1000 - WITH AUTO-EJECT

A Kussmaul Autocharge 1000, Model 091-215-12, high output automatic battery charger shall be provided. The battery charger shall be wired to the 12 volt battery system. The unit shall be mounted in a clean, dry area accessible for service and/or maintenance. It shall be wired to the specified shore power receptacle.

It shall include a compatible Digital Status Display Center.

It shall also include 15 amp "auto-eject" shore power receptacle with hinged weatherproof cover and an enclosure for protection from dirt and damage. The shore power plug shall be "ejected" when the chassis' engine starter is engaged and the receptacle shall be wired to any 120 volt A/C equipment requiring shore power.

Location shall be: Rear body panel, d/s

Color of Digital Status Display Center and Auto Eject: Yellow

C-3598 DOOR AJAR LIGHT, LED

A "door ajar" warning light shall be installed on the center console. The light shall be flashing red LED light with a clear lens.

The door ajar light shall be activated by door ajar switches installed on every compartment door.

C-3777 STRIPE, REFLECTIVE, 3M DIAMOND GRADE, FRONT CHEVRON,

There shall be alternating chevron striping installed across the front bumper where permitted. The chevron striping shall consist of 6" diamond grade in the following colors:

Colors to be determined at preconstruction meeting.

C-3779 STRIPE, REFLECTIVE, 3M DIAMOND GRADE, REAR CHEVRON,

There shall be alternating chevron striping installed on the rear vertical body panel. The chevron striping shall consist of 6" diamond grade in the following colors:

Colors to be determined at preconstruction meeting.

C-3769 CUSTOM DOOR GRAPHICS

The apparatus shall be provided with FOUR (4) custom designed sign gold graphics, emblems, or seals. The installation shall be designed primarily with letters and numbers as specified. The purchaser shall approve of the design graphics prior to installation.

C-3766 LETTERING, CAB, 3" REFLECTIVE

The cab lettering shall be Scotchlite reflective material, shaded in black. A quantity of up to fifty (50) three inch (3") letters shall be installed as directed by Fire Department.

SKEETER BRUSH TRUCKS DOES NOT ORDER OR PROVIDE SIGN GOLD LETTERING OR LOGOS

C-3771 STRIPE, CAB/BODY, SINGLE REFLECTIVE, 4"

The cab and body shall have a straight Scotchlite reflective stripe applied horizontally. The stripe shall be a 4'' minimum in width and be applied horizontally around the cab and body in accordance with NFPA standards. The purchaser shall specify the color and location of the stripe.

C-3525 BATTERY SWITCH, MASTER DISCONNECT, CH, R

A rotary type master disconnect switch shall be provided in the cab within easy reach of the driver. The switch shall have a switch plate with Off/On label.

There shall be a GREEN indicator light in the center console indicating the power is "ON".

C-3759 FUSE BOX

An electric enclosure for the 12 volt wiring shall be installed in the the apparatus. It shall have a removable panel or door to be able to access the components inside for maintenance purposes. It will be mounted in a location predetermined by the factory, accessible to the end user. Size shall be pre-determined by the factory.

C-3758 BACK UP ALARM
One (1) back up alarm shall be installed.

C-3763 LICENSE PLATE, MOUNTING
There shall be mounting provisions for the front and rear license plates.

An LED license plate light shall be installed on the rear vertical wall of the body for the rear license plate.

C-3762 CLEARANCE LIGHTS, LED, DOT
All LED identification lights shall be installed on the vehicle as required by applicable highway regulations.

C-4429 MUD FLAPS, REAR WHEELS, SEV LOGO
The chassis shall be supplied with mud flaps with the manufacturer's logo. The mud flaps shall be installed behind the rear wheels.

C-3570 EMBLEMS, SKEETER
Three (3) Skeeter emblems will be affixed to the cab and body.

C-4022 DRAWINGS
There shall be design drawings submitted to the customer prior to the pre-construct conference. The CAD drawings shall include all sides of the apparatus. The customer shall agree to the drawings reflecting the correct apparatus design and layout prior to construction.

C-3760 ELECTRICAL HARNESS & WIRING
The following describes the low voltage electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest Federal DOT standards, current automotive electrical system standards and the applicable requirements of the NFPA.

Wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops shall not exceed 10 percent in all wiring from the power source to the using device. The wiring, wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with

GXL temperature properties. Exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. Wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

All wiring connections and terminations shall provide positive mechanical and electrical connections and be installed in accordance with the device manufacturer's instructions. When wiring passes through metal panels, electrical connections shall be secured with mechanical type fasteners and rubber grommets

Wiring between cab and body shall be split using connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. 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 the system.

Electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. When required, automatic reset breakers and relays shall be housed in the main body junction panel.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage.

Low voltage overcurrent protective devices shall be provided for the electrical circuits. The devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. Overcurrent protection devices shall be automatic reset type suitable for electrical equipment and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. Electro-magnetic interference suppression shall be provided in the system as required in applicable SAE standards.

The electrical system shall include the following:

Electrical terminals in weather exposed areas shall have a non-

conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.
All electrical wiring shall be placed in a protective loom or be harnessed.
Exposed connections shall be protected by heat shrink material and sealed connectors.
Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall be caulked with silicone.
Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.
A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
All lights in a weather exposed area that have their sockets shall have corrosion preventative compound added to the socket terminal area.

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

C-3780 CAPACITIES PLACARD, REFLECTIVE

The apparatus shall have a reflective placard that provides the following information:

Water Tank Capacity
Pump Capacities
NWCG Typing
Skeeter Contact Information

C-3474 CHASSIS PREP

The chassis cab shall be "prepped" for fire apparatus production as follows:
a) Wash and clean chassis
b) Weigh chassis for NFPA reports
c) Quality control check in.

C-3630 FINAL ASSEMBLY

The apparatus shall be assembled in a high quality and controlled environment. The fit, form, and finish of the body shall be to the

highest level fire apparatus manufacturing standards. Upon completion, the apparatus shall be ready for final inspection and road testing as required herein.

C-3795 OPERATIONAL PUMP TEST

The fire pump shall have an operational pump test performed by a Skeeter Emergency Vehicles technician with a run time of one (1) hour to confirm proper operations of all pump related components.

*** NOTE: ALL TESTING SHALL BE DONE AND PERFORMANCE OBSERVED BETWEEN SEA LEVEL AND 1000' ELEVATION.

*** HIGH ALTITUDE PERFORMANCE MAY NOT REPRESENT TESTING RESULTS SHOWN.

C-3796 12V ELECTRICAL LOAD

A 12 volt electrical load analysis shall be performed in order to test response and stationary modes of electrical amp load.

C-3799 ROAD TEST, 10 MILES

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise.

C-3800 5-YEAR PARTS & LABOR/10-YEAR BODY INTEGR

A five (5) year parts and labor warranty on items manufactured by Skeeter Emergency Vehicles and a ten (10) year warranty on the structural integrity of the body. For warranty issues please contact your local dealer or Skeeter Emergency Vehicle service center and request warranty from the service advisor at that location.

C-3761 WIRING HARNESS, BODY ELECTRICAL

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

C-4522 FULL 1900 APPARATUS NFPA AND SAFETY LABELING

Per NFPA a permanent label shall be mounted in the cab showing the following information:
A permanent label in the driving compartment shall specify the quantity and type of the following fluids used in the vehicle and tire information:
1. (1)
Engine oil
2. (2)
Engine coolant
3. (3)
Chassis transmission fluid
4. (4)
Pump transmission lubrication fluid
5. (5)
Pump priming system fluid, if applicable
6. (6)
Drive axle(s) lubrication fluid
7. (7)
Air-conditioning refrigerant
8. (8)
Air-conditioning lubrication oil
9. (9)
Power steering fluid
10. (10)
Cab tilt mechanism fluid
11. (11)
Transfer case fluid
12. (12)
Equipment rack fluid
13. (13)
CAFS air compressor system lubricant
14. (14)
Generator system lubricant
15. (15)*
Front tire cold pressure
16. (16)*
Rear tire cold pressure
17. (17)
Maximum tire speed ratings

The following FAMA Labels shall be installed, further described below.
FAMA Labels: 07,06,43,10,20,22,23,24,25,28,44,45,41,42,17

There shall be a label identifying the number of seat belted locations on the unit.

A final stage manufacturer shall install "hearing loss" potential warning labels on the vehicle in any areas or fixed equipment that produces excessive noise levels. (exhaust outlet, sirens and air horns shall not be required for such equipment.)

A warning label stating: "NO RIDING ON REAR OF APPARATUS" shall be installed on rear of the apparatus. The label shall be applied to the vehicle at the rear step area. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion, is prohibited.

The below listed labels shall be installed on/in the apparatus. All label shall comply with NFPA 1900 Edition standards on location and design set in each standard.

(1) Fluid Data Label
(2) Safety Sign FAMA07, Seat Belt Use
(3) Safety Sign FAMA43, No Helmets Vehicle in Motion
(4) Pump Test Label

The following shall be installed or provided on the apparatus in accordance with NFPA 1900:

One (1) placard indicating fluid type and capacity shall be installed on the apparatus
One (1) Label indicating height and weight of the apparatus shall be installed in a location visible to the driver.
One (1) Safety Sign, FAMA 06, which warns of the need to use a seatbelt while the vehicle is in motion.
One (1) Safety Sign, FAMA 10, which warns of the need secure all loose items in the cab while the vehicle is in motion.
One (1) Safety Sign, FAMA 24, which warns against riding on the vehicle while it is in motion.
One (1) Safety sign, FAMA 23, which warns of the proper climbing method, shall be visible to personnel entering the cab and at each designated climbing location on the body.
One (1) Safety sign, FAMA 25, which warns of the need for training prior to operating the apparatus, shall be located on the pump

operator's panel.
One (1) Safety Sign, FAMA 43, warning not to wear helmets while vehicle is in motion shall be visible from each seat.
One (1) Indicator installed in the cab of the apparatus that when illuminated will indicate "Pump Engaged" and "OK to Pump" if the apparatus is designed to pump and roll the indicator shall be labeled "OK" to Pump and Roll"

There shall be handrails at each entrance to driving or crew compartment and each position where there are steps or ladders for climbing.

There shall be a set of tire pressure indicators installed on the valve stems of the wheels. The indicators shall show if the tire is at the correct pressure by showing a "Green" indicator on the valve stem. The indicator shall show "Red" when the pressure is incorrect.

There shall be a low voltage electrical monitoring system, audible and visual alarm when voltage becomes low.

Two (2) solid bottom wheel chocks shall be included with the apparatus.

All materials used for exterior surfaces designated as stepping, standing, and walking areas and all interior steps shall have a minimum slip resistance in any orientation of 0.68 when tested wet using the English XL tester in accordance with the manufacturer's instructions or 0.52 when tested wet using the Brungraber Mark II tester in accordance with the manufacturer's instructions.

Rollover stability test results are available upon request.

The following equipment shall be furnished by the contractor:

(1) Two solid bottom wheel chocks, mounted in readily accessible locations, each
designed to hold the apparatus, when loaded to its GVWR, on a 15 percent grade
with the transmission in neutral and the parking brake released

(2) One set of tire tools, including a jack and a lug wrench, if a spare tire is carried on
the apparatus

The following additional equipment shall be carried on the apparatus:

(1) One of the following traffic warning devices:
(a) Five fluorescent orange traffic cones not less than 28 in. (711 mm) in height,
each equipped with a 6" (152 mm) retroreflective white band no more than 4" (102
mm) from the top of the cone, and an additional 4 in. (102 mm) retroreflective
white band 2 in. (51 mm) below the 6 in. (152 mm) band
(b) One reflective triangle kit
(2) Five illuminated warning devices such as highway flares,
unless the traffic cones or reflective triangles specified in 5.7.2(1) have

illuminating capabilities
(3) One traffic vest for each seating position, each vest to comply with ANSI/ISEA 207,
Standard for High-
Visibility Public Safety Vests, and to have a five-point breakaway feature that
includes two at the shoulders, two at the sides, and one at the front
(4) One approved, dry chemical portable fire extinguisher with a minimum capacity in
accordance with the following:
(a) For a GVWR below 33,000 lb (15,000 kg), a 2A-10-B:C extinguisher
(b) For a GVWR 33,000 lb (15,000 kg) and above, a 3A-40-B:C extinguisher
(5) One first-aid kit

C-3883 PUMP, DARLEY 2.5 AGH HYDRAULIC PUMP (Pierce System)

There shall be a Darley model number 2.5AGEH single stage, centrifugal hydraulic driven pump shall be provided. The hydraulically driven gear operated pump shall meet the following performance requirements:

250 gpm (946 L/M) @ 150 psi (10.3 bar)
175 gpm (662 L/M) @ 200 psi (13.8 bar)
125 gpm (473 L/M) @ 250 psi (17.2 bar)

The pump shall have one (1) 2.5" NPT inlet. A 2.5" NPT flanged discharge shall be supplied. The pump shall be capable of operation in either direction of rotation.

The pump shall be constructed with the following features:

The pump casing shall be aluminum alloy, vertically split for greater resistance against leakage, with a minimum tensile strength of 30,000 psi.

Cast solid bronze renewable double labyrinth impeller seal rings.

A balanced bronze alloy impeller with stainless steel shaft, splined to the pump shaft for a precision fit.

The impeller shall have a double seal ring designed to eliminate end thrust.

Oversized deep groove radial ball bearings shall be utilized for longer life.

All openings shall be protected from road dirt and water with oil seals and water slinger.

The precision ground, corrosion resistant stainless steel splined pump shaft shall be designed to resist wear, vibration, corrosion and withstand the effects of torque.

Heat treated, alloy steel gears shall be utilized to drive the pump.

The mechanical seal shall use silicon carbide mechanical seals with welded springs. The stationary face of our mechanical seals is made from silicon carbide, an extremely hard and heat dissipative material, which resists wear and dry running damage much better than conventional Ni-resist and Tungsten Carbide materials.

Pump will have a 13T 16/32 involute spline and SAE " B " drive adapter

The unit shall have dimensions of 12"L x 9"W x 14"H high and weight of 45 pounds.

HYDRAULIC PUMP DRIVE SYSTEM **(Pierce System)**
The drive system for the Fire Pump shall be a hydraulic PTO drive system. It shall consist of a hydraulic pump, hydraulic motor, fluid

reservoir, heat exchanger, and hydraulic manifold.

PRESSURE GOVERNOR(S)
There shall be two (2) pressure governor/pump throttle control units. One (1) in the chassis cab, and one (1) on the rear pump panel.

SP-1010 BUMPER TURRET LIGHTS
Two (2) Whelen, Model PSBS12, 4" LED spotlights will be mounted on the bumper turret. Both spotlights will be controlled by a single switch in the cab.

SP-1012 PUMP COMPARTMENT HEATER
One (1) hot water heater rated for 33,000 BTU, will be installed in the pump compartment. It will be mounted low facing the back of the pump panel.

Controls for the heater will be located at the pump operator's panel. An On/Off master switch will be provided for the hot water heater on the cab instrument panel.

The pump compartment will be enclosed at the top to retain the heat generated by the heater inside the pump compartment.

Both the supply and the return lines will have shutoff valves.

SP-1009 LOW WATER LEVEL
A light will be provided in the center console to indicate when the water level in the water tank is at 100 gallons.

This is used to reduce the water on the apparatus to enter the parking garage.

C-5428 PRE-CONSTRUCT CONFERENCE VIA TEAMS.
The preconstruction meeting shall be held virtual through Microsoft Team. It shall be attended by the purchasing department, the apparatus sales dealer along with a representative from Skeeter Emergency Vehicles.

SP-OOOO MID INSPECTION AT FACTORY
Three (3) Representatives from the purchaser and the dealer shall be present at Skeeter's manufacturing facility in Hillsboro, Tx for the mid review inspection

of the apparatus. A factory representative will assist the purchaser with review of the specifications to confirm they match the apparatus.

C-4269 FINAL INSPECTION AT FACTORY

Three (3) Representatives from the purchaser and the dealer shall be present at Skeeter's manufacturing facility in Hillsboro, Tx for the final inspection

of the apparatus. A factory representative will assist the purchaser with review of the specifications to confirm they match the apparatus.

Cost of transportation to and from the facility shall be the responsibility of the purchaser.

*** NOTE, UNLESS PRIOR APPROVAL BY SKEETER BRUSH TRUCKS, FINAL INSPECTION AT THE PLANT IS MANDATORY ***

C-3790 TRAINING, FACTORY SUPPLIED, FACTORY LOCA

The bidder shall demonstrate and familiarize the purchaser regarding the vehicle's operation. This shall include operation of chassis, major components, review of delivery information and documentation. This demonstration shall be completed at Skeeter Brush Trucks factory location in Hillsboro, Texas.

C-4340 DELIVERY, DEALER PROVIDED

Delivery of the apparatus from the manufacture's plant to the customer shall be provided by the dealer.

*It is the dealer's responsibility to deliver all loose equipment not physically mounted to the apparatus

WARD NO SMOKE

No Smoke direct source diesel exhaust filtration system shall be provided and installed at customer location.

RADIO SYSTEM COMPONENTS (Harris, icom and Setcom)

One (1) L3 Harris XL-200M Multiband VHF/800 MHz Mobile Radio
One (1) L3Harris XL-185M 800 MHz Mobile Radio
Two (2) L3Harris XL-CH6H Vehicular Chargers
One (1) Icom IC-A220 Aviation Transceiver with MB-53 Mobile Mount Kit, External Speaker & Antenna
Five (5) Console Mounting Brackets
One (1) SetCom System 1300 3 Position Headset/Intercom System, all positions have radio transmit, receive and Intercom. The system will have a radio select switch for the L3Harris radios

LOOSE EQUIPMENT (includes mounting)

Quantity	Item	Description
1	iPad Pro 12.9" (latest generation)	best buy
1	GDS Locking Vehicle Dock for Apple iPad Pro 12.9” 3rd- 5th Gen (RAM-GDS-DOCKL-V2-AP24CPU) OR latest model to match iPad	Ram Mounts
1	RAM Double Socket Swivel & Ratchet Arm – C-Size	Ram Mounts
1	RAM-HOL-ROTO1U Rotoview mount (99-125447)	Ram Mounts
2	RAM Round Plate with Ball – C-Size	RAM Mounts
1	DGS Hardwire USB Type-C Power Delivery Charger (RAM-GDS-CHARGE-V3FC-1U)	Ram Mounts
2	Stinger flashlights (Streamlight Stinger DS LED HL)	Streamlight
2	mounted Stinger flashlight chargers	Streamlight
2	Traffic vests – Vizguard Spiewak yellow/red – Denver Fire – Lg. adjustable	Spiewak
2	Binoculars - Vortex Optics Diamondback HD 10 x 50	Scheels
1	Set of elevator keys	Elevatorkeys.com - Universal Flex Shaft Hoistway Door Key Set (10 pc.)
1	Tire pressure gauge	Grainger 33W452
1	Vulcan 180 LED Lantern - (Streamlight)	With truck mounted charger Streamlight
1	TIC in wall mounted charger – Bullard NXT Pro (NFPA compliant)	XT Wireless truck mount charger. LN Curtis
2	Seek FirePRO 300 Handheld Thermal Imagers	the fire store
1	FDC Key	Knoxbox.com - Knox FDC Wrench
1	Statpacks G3+ Backup EMS Bag - RED	https://statpacks.com/product/g3-backup/
3	Statpacks Universal Cells	https://statpacks.com/product/g3-universal-cell/
1	Statpacks G3+ Tidal Volume - GREEN	https://statpacks.com/product/g3-tidal-volume/?srsltid=AfmBOorfzlXzn9N_YD6_pbr1geXubX7Xau1tdVAF7J-yD_-uKYPS3V-Z
1	Statpacks G3+ Perfusion - BLUE	https://statpacks.com/product/g3-perfusion/?srsltid=AfmBOoqlxDjNwB_JoQRW1HhB9Buzy1XmciluKG25lZ83SflZvlxxTxcR
1	RAD57 Pulse CO-Oximeter	https://professional.masimo.com/products/continuous/rad57/
1	AED	Lifepak CR2 Defibrillator
1	Spare portable O2 bottle	D Size priced as that is the most common
1	SKED – Tactical version	SK-215C-GR. 6530-01-659-4527
2	MCI bags MES - Rush Moab 10 Blk. 019 #56964.	Contents each:
10	10 – Black SOF Tactical Tourniquets	on line
1	1 pr – Raptor Rescue Shears	on line
1	1 – RT Sling-Link Technical Duty (MEN1-31Lx5x2)	online
1	1 – Triage Tape Kit	Grainger 38F343
	* https://thevestguy.com/collections/triage-packs/products/triage-pack-only (Lime green)	the vest guy pack only
	* Custom name tag (please inquire)	the vest guy
	* North American Rescue Triage Tape (Set of 4)	North American Rescue
1	Set of small wheel chocks - 18” rubber wheel chocks reflective strip	https://www.trafficsafetywarehouse.com/Airplane-Wheel-Chock-18W-x-5-1_2H-x-6D/productinfo/AC-18//
1	Telescoping ladder – USTEPS Rescue ladder – 11.5 ft Firefighters	amazon
2	Extrication Helmets	Team Wendy Exfil SAR Backcountry Helmet TW-82N-LG - Lime Yellow
2	Lights for Extrication Helmets	Princeton Tec EOS II Tactical MPLS (Light) PTT-EOS-II-MPLSBK-Black Grainger
1	CMC Pro Rope Bag - Medium ORANGE	Item 431201
2	Rope logs	https://www.allhandsfire.com/Rope-Log?utm_source=google&utm_medium=cpc&utm_campaign=20033500534&utm_term=&gad_source=1&gclid=Cj0KCQjwsoe5BhDiARIsAOXVoUuu3wQjg9v4e5n_oIJ6OS8-zQ9rVshfn9rgis0vhaw1X7G16rU5i58aAi4AEALw_wcB

1	150’ of 1/2" static kernmantle rope - Orange	https://www.riggingwarehouse.com/503-p130070046-sterling-1-2-orange-htp-climbing-rigging-rope-150.html
1	150’ of 1/2" static kernmantle rope - Lime Green	https://www.riggingwarehouse.com/503-p130190046-sterling-1-2-neon-green-htp-climbing-rigging-rope-150.html
1	Stokes Litter Harness	https://www.cmcpro.com/equipment/rescue-litter-harness/
1	16,000 lbs single sheave prusik minding pulley	https://cmigearusa.com/collections/frontpage-rescue-pulleys/products/rp129nfpa
2	20,000 lbs single sheave pullies	https://cmigearusa.com/collections/frontpage-heavy-duty-pulleys/products/rp123nfpa
6	16000 lbs. (72kN) locking carabiners	Screw-lock gold https://rescuegear.com/products/cmc-steel-locking-d-carabiners?variant=29408939986
2	8 mm prusiks, 75” length	1 Red Prusik by the foot; 1 Blue Prusik by the foot; https://www.rocknrescue.com/product/rnr-8-mm-prusik-cord/?srsltid=AfmBOortzVTGoxxFT-Z61wVIiBUvT3L4ZMvraCfUuFJnTbPT1Yb6dG1e
1	30' 1/2" static kernmantle rope - Orange	By the foot - https://www.rope.com/products/km-iii-static-rope?variant=39350322561058&ab_version=A&utm_campaign=SHOPPINGSmart_AllProducts&gad_source=1&gclid=Cj0KCQjw3vO3BhCqARIsAEWblcC7H6wpIbj5cFU2qBCKctOj_8VjAXKAJgLj1k3XcRUcEMjMTZNo-6waApFAEALw_wcB
1	Neon green rope bag	RNR Grand Rope Bag - Neon Green, Small - https://www.rocknrescue.com/product/rnr-grand-rope-bags/
1	Orange rope bag	RNR Grand Rope Bag - Orange, Small - https://www.rocknrescue.com/product/rnr-grand-rope-bags/
1	100' small dia. tag-line	By the foot yellow 3/8" Rigging rope - https://www.riggingwarehouse.com/502-806024100000-samson-3-8-yellow-stable-braid-rigging-rope-per-foot-coated.html
2	15' red 1" tubular webbing	https://www.rocknrescue.com/product/1-inch-nylon-tubular-webbing/?srsltid=AfmBOopFSWMQVL2mx2RMz8q9nLV2no5cpxxIIruBSnclS53_0l6jhXv0
1	20' green 1" tubluar webbing	https://www.rocknrescue.com/product/1-inch-nylon-tubular-webbing/?srsltid=AfmBOopFSWMQVL2mx2RMz8q9nLV2no5cpxxIIruBSnclS53_0l6jhXv0
1	17 inch - 18 pocket open top tool bag	https://www.homedepot.com/pep/Husky-17-in-18-Pocket-Open-Top-Tool-Bag-HD70017-TH/312387487
1	5 gas meter – Safeware MSA A-ALT5X-DLK0110C00 with sensors: PID, O2, CO, LEL, H2S	online
1	5 gas meter – Safeware MSA A-ALT5X-DLK0110C00 with sensors: CO, LEL, H2S, O2, CO2, HCN	online
1	Combustible Gas Detector	https://www.sensit-direct.com/product/sensit-tkx-combustible-gas-leak-detector
1	Rad meter	https://www.mirion.com/products/technologies/defense-security-systems/defense-cbrne-instruments/defense-survey-handheld-instruments/ultraradiac-plus-personal-radiation-monitor
1	Raytek temp. gun	RAYMT6U
1	TNT tool – TN635 6.5lb head, 35" length, 11.5 lbs.	Leatherheads
1	Flat head axe - 8-pound w/fiberglass handle	Fire Hooks LFA-8
1	8-Pound, 36" Pick Head Axe w/Fiberglass Handle	Fire hHooks LPA-8

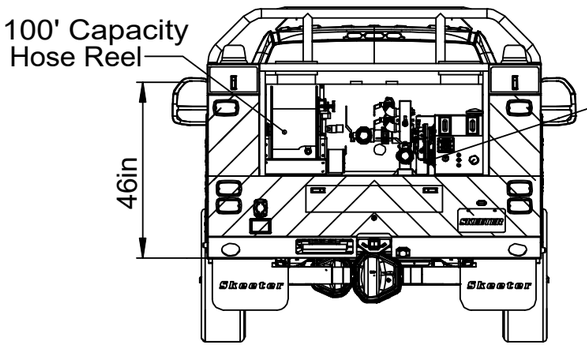
1	Pry bar – 1” x 40”	Amazon Hexagonal Bar (1000M)
1	Rabbit tool - Hydra Ram II – 6” max spread	Fire Hooks HR-2
1	Halligan – Pro Bar 30” 1pc Drop Forged	Fire Hooks PB-36
1	Large bolt cutter – 36” length	Fire Hooks BC-36
1	Small bolt cutter – 18” length	Fire Hooks BC-18
1	Crowbar – 36” length	Fire Hooks GNPB-36
1	Lockout Kit 18-piece	Steck Manufacturing - LT1000
1	Lockout Rod Kit	Steck Manufacturing - STC32955
1	yellow caution tape	Home Depot 3" x 1000'
1	Hose reel crank	On Line Generic
1	Paratech Titan Crash Axe	LN Cvurtis
1	K tool kit with keys	Fire Hooks
1	25’ section of 3” hose	#FC30X25CR25NLEZ, AAH 3x25' CPLD 2.5NH White Conquest Poly DJ Hose. Each section will have the following markings: A 1" thick solid line at midpoint of hose around the circumference, sequential hose numbering at both ends of the hose, to be numbered 18" from the coupling on the hose in block lettering 2" high. The same number will be stamped on both couplings of the hose. INQUIRE FOR HOSE NUMBERING SEQUENCE.
1	Double male	Elkhart M-327A 2-1/2" double male adaptor (M-327-A 2.5 MNH x 2.5 MNH rocker lug Elk-O-Lite Adapters - Double Male, Hose to Hose)
1	Double female	Elkhart F-327A 2-1/2" double female adaptor (Adapter Double female Elk-O-Lite 2.5F x 2.5F rocker lug)
1	2 ½” to 1 ¾” plate reducer	Elkhart A-327A Plate Reducer (A-327-A ELKHART Adapters A-327-A 2.5 FNH x 1.5 MNH rocker lug Elk-O-Lite Adapters - Female to Male, Hose to Hose must be NPSH threads on 1.5in Male)
1	Hydrant wrench w/ 2 spanner kit	Red Head 148-3
1	Pre-connect – 150’ of 1 ¾” hose. The Tracer stripe cant be specified, it will be what Key is using at the time. Price includes stamped couplings	KEY FIRE HOSE #DP17-TRU, 1.75“ TRU ID POLYESTER DOUBLE JACKET FIRE HOSE, RUBBER LINED WITH 1.5” ALUMINUM COUPLINGS NPSH, 50‘ LENGTH COLOR - White with ½” red TRACER stripe down the middle of one side of the hose KEY FIRE HOSE DOES NOT PROVIDE A 1” thick line at midpoint of hose around the circumference of the hose. Sequential hose numbering marked at both ends of the hose, male and female, to be numbered up 18 inches from the coupling on the hose in block lettering approximately 1” high. Key Hose Coupling Stamping on BOTH COUPLINGS; Numbering: INQUIRE FOR HOSE NUMBERING SEQUENCE
4	1 3/4" Shutoff	Nozzle Shutoff: Elkhart 1.5” XD Shutoff – 1.5” NPSH female inlet w/ 1 ½” NPSH male threads on outlet – water way 1 3/8” – Specify: “Laser Etch DFD Scramble” Bale Insert "Black"
2	1 3/4" Fog Nozzle Tip	Tip: Elkhart Chief XD Fixed Flow FOG 1.5” 175 GPM @ 50psi – Specify: 1.5” NPSH Inlet Threads - bumper color and bale insert to be “Orange” – Specify: Spinning metal teeth
1	Foam Tube	Elkhart - Mid Range XD Foam Tube
1	Rescue42 TeleCrib Junior struts w/mounting bracket	To be mounted in transverse sliding tray
2	Rescue42 TeleCrib Struts - 4-foot, 2-pin - 15000 lbs.	To be mounted in transverse sliding tray
2	Rescue42 Hook Clusters	CTC-505
2	Rescue42 Chain Sets	CTC-521 This all comes in Truck Kit CTC6002
2	Rescue42 Ratchet Straps	CTC-504
2	Rescue42 Cinch Rings	CTC-506

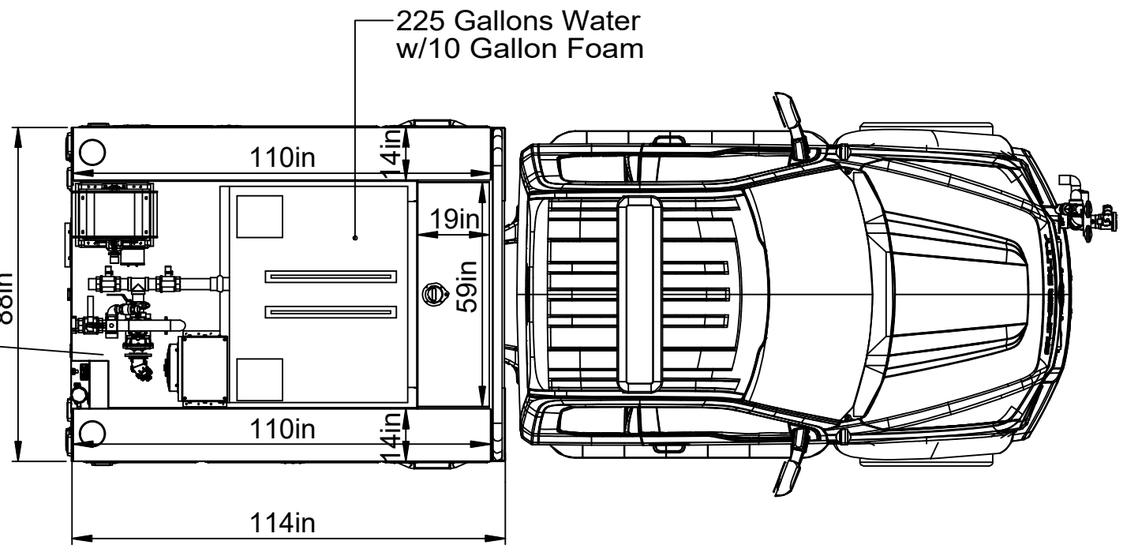
1	Rescue42 large acessory bag	CTC-512
1	51-inch forestry shovel	https://www.nationalfirefighter.com/store/p/4162-Council-USFS-Firefighting-Shovel.aspx
1	forestry shovel sheath	https://www.nationalfirefighter.com/fire-shovel-sheath.aspx
1	JR Fire Tools McLeod 48	https://www.nationalfirefighter.com/j-r-fire-tools-mcleod-48.aspx
1	McLeod tool sheath	https://www.nationalfirefighter.com/mcleod-tool-sheath.aspx?srsltid=AfmBOopzJU44YNjhaQ8FNyiV9K6ojYn8yIWjr0DxNe5g6o4BkyUzIUpO
1	36.5 in. Classic Fiberglass Handle with Round Point Heavy-Duty Steel Shovel and Cushion Grip	https://www.homedepot.com/p/Nupla-36-5-in-Classic-Fiberglass-Handle-with-Round-Point-Heavy-Duty-Steel-Shovel-and-Cushion-Grip-75-69-248/317167868
1	47 in. Fiberglass Handle Steel Blade Transfer Shovel with Comfort Step	https://www.homedepot.com/p/Ames-47-in-Fiberglass-Handle-Steel-Blade-Transfer-Shovel-with-Comfort-Step-25337100/204476047
1	Leak kit blue bag	WORKPRO 18-inch Close Top Wide Mouth Storage Tool Bag with Adjustable Shoulder Strap, Sturdy Bottom AMAZON
1	1 - 55-gallon drum bung wrench	Haz Mat Resource Straight handle
1	1 - Set of 3 dome clamps w/canvas storage bag	Lid-Loc-3 HazMat Resource
2	2 – Wax toilet bowl rings	Home Depot
1	1 – Roll of Gorilla tape	https://www.homedepot.com/p/Gorilla-25-yds-All-Weather-Tape-6009002/310661119
2	2 – Containers of gas tank puddy - 4 lbs.	https://hazmatresource.com/product/spill-kit-and-leak-control/premix-containers/
1	1 – Bag of assorted wooden plugs (various sizes)	https://marinecityhardware.com/products/marine-city-boat-tapered-conical-soft-wood-plugs-set-of-10-7-different-sizes?_pos=1&_sid=0a3e195bd&_ss=r
1	1 – 20 oz Rubber Mallet	Ebay, Vaughn New
2	2 - Fix-Stix Emergency Epoxy	https://hazmatresource.com/product/spill-kit-and-leak-control/fix-stix-emergency-epoxy-putty/
1	1 – F4 tape	https://www.amazon.com/Bond-Self-Fusing-Electrical-Insulation-Waterproof/dp/B001HETINI?th=1
2	50’ section of 2” hose - High rise packs	PLEASE INQUIRE FOR HOSE SPEC AND NUMBER SEQUENCE (KEY Big 10 mwb)
1	2 ½” to 1 ½” bell reducer	2 ½” NH Female to 1 ½” NPSH male reducer (Elkhart 102A Aluminum Swivel Bell Reducer)
2	High rise Smoothbore tip 1"	Tip: Elkhart 187 XD (Short Barrel) 1” Smooth Bore Tip for 1.5” Nozzles w/ 1.5” NPSH Inlet Threads specify: “Green Bumper”
6	Fire hose straps for 2-inch hose	Turning out Solutions - Brian Jenkinson
1	DeWalt Cordless tool bag – 20V 6-tool combo kit DCK661D1M1	Home Deopt
1	1 – Drill - DCD771 20V MAX* 1/2 in. Cordless drill/driver	Home Depot
1	1 – Impact drill - DCF885 20V MAX* 1/4 in. Cordless impact driver	Home Depot
1	1 – Circular saw - DCS393 20V MAX* 6-1/2 in. Cordless circular saw	Home Depot
1	1 – Angle grinder - DCG412 20V MAX* 4-1/2 in. Cordless grinder	Home Depot
1	1 – Reciprocating saw - DCS381 20V MAX* Cordless reciprocating saw	Home Depot
1	1 – Oscillating tool - DCS356 20V MAX* XR® Brushless cordless 3-speed oscillating multi-tool	Home Depot
1	1 - DCB 203 20V Max Li-ion 2.0Ah battery	Home Depot
1	1 – DCB204 20V Max Li-ion 4.0Ah battery	Home Deopot
1	1 – DCB112 Charger	Home Depot
1	Dewalt FlexVolt battery - 20V/60V Max FlexVolt 9AH (2pk)	Home Depot DCB609-2
1	DCB112 Charger	Mounted in rig

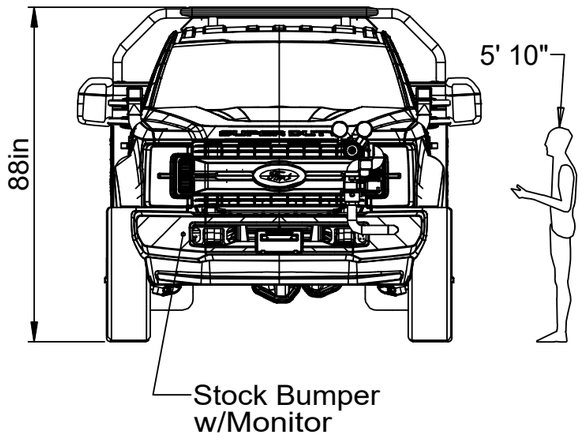
1	DeWalt 18-inch Large heavy Duty Contractor Tool Bag	https://www.amazon.com/Dewalt-Large-Heavy-Contractor-Packaging/dp/B009L33NA6/ref=asc_df_B009L33NA6/?tag=hyprod-20&linkCode=df0&hvadid=692875362841&hvpos=&hvnetw=g&hvrand=15144718764748407400&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9028806&hvtargid=pla-2281435180938&mcid=eb2b1a0d5a7a3d42bf5add12dcb7233a&hvocijid=15144718764748407400-B009L33NA6-&hvexpln=73&th=1
1	drill index	https://www.homedepot.com/p/DEWALT-Titanium-Nitride-Coated-Speed-Tip-Drill-Bit-Set-21-Pieces-DW1342/203317083
1	1/4" Impact driver set	https://www.zoro.com/dewalt-flextorqr-impact-readyr-screwdriving-bit-sets-with-toughcaser-system-dwa2t35ir/i/G7637971/?utm_source=google&utm_medium=surfaces&utm_campaign=shopping%20feed&utm_content=free%20google%20shopping%20clicks&campaignid=21407295990&productid=G7637971&v=&gad_source=1&gclid=Cj0KCQjwm5e5BhCWARIsANwm06hRshrWfklLrU9jv9MRSxHiCqOM6by6EFOxfnS0a9Qf8avjE-RiZRwaAstgEALw_wcB&gclsrc=aw.ds
1	Drill Screwdriver Set	https://www.homedepot.com/p/DEWALT-Screwdriving-Set-with-Tough-Case-37-Piece-DW2176/203312102
1	reciprocating saw blades	Diablo - 25 Pack 9 inch 14/18 TPI Diablo Steel Demon Bi-Metal Auto Dismantling Reciprocating Saw Blades for 1/16-5/16 Medium Metals AMAZON
1	10-pack 1-1/4" AMPED™ Demo Demon™ Universal Fit Carbide Teeth Oscillating Blades for General Purpose Cuts	https://www.diablotools.com/products/DOU125CGP10
2	6-1/2" x 24-Teeth Demo Demon™ Ultra-Thin Framing/Demolition Saw Blade for Wood	https://www.diablotools.com/products/D0624DA
2	6-1/2" x 48-Teeth Steel Demon™ Cermet II Saw Blade for Medium Metal	https://www.diablotools.com/products/D0648CFA
2	4-1/2" Type 27 Metal Dual Cut and Grind Disc	https://www.diablotools.com/products/DBD045125X01F
2	4-1/2" Diamond Metal Cut-Off Disc	https://www.diablotools.com/products/DDD045DIA101F
1	Halotron extinguisher w/bracket	Amerex Model 398 2A:10B:C Grainger
1	2.5 gallon water extinguisher w/bracket	Amerex Model 240 2A 2.5-gallon with bracket 810 grainger
1	CO2 extinguisher w/bracket	Amerex Model 330 10B:C Grainger
1	Dry-chemical extinguisher w/bracket	Buckeye Model 20S ABC, Item 12120, 20A:120B:C Granger
1	Set of jumper cables	Forney 52875 12 foot Amazon
1	Tow rope	Amazon Kinetic Recovery 30' x 54,000 pounds
1	Hurst spreader/cutter – (Hurst SC 258 E3 Connect)	https://www.jawsoflife.com/rescue-products/e3-connect/combi-tools/sc-258-e3-connect-combi
2	Hurst E3 batteries	LN Curtis
2	Hurst E3 battery chargers	1 mounted in rig on shoreline power; 1 loose ship AC power
1	Confined space cutter (mounted) – Holmatro Mini Cutter CCU10	Craig Fire and Safety COMES WITH 2 BATTERIES
2	Batteries – (18V 2Ah batteries CBPA 182)	Craig Fire and Safety
1	In-Rig Mounted charger – (CBCH2 (AC-US))	Craig Fire and Safety
1	Bracket for CCU10 Mini Cutter	Craig Fire and Safety
2	50-caliber metal ammo cans	Amazon New
1	Hurst SC 358 Chain set with adapters	LN Curtis
1	Lastest Edition Emergency Response Guidebook	Grainger 33W452
1	Latest Edition of NIOSH Pocket Guide	Various Online Sources
2	Vortex Optics - Diamondback HD 10 x 50	Scheels
1	Glass master - GMM-2	Glas-Master

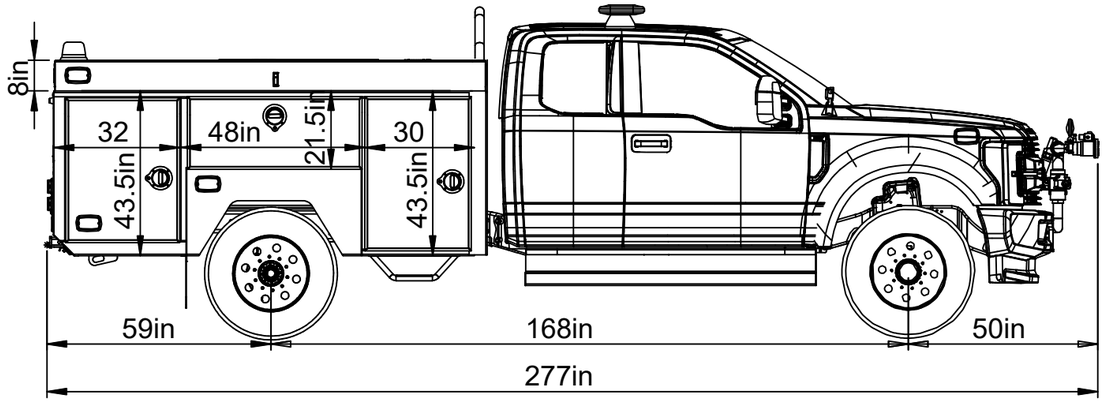
1	First Responders Field Guide to Hazmat and Terrorism Response 2023	https://www.firebelleproductions.com/product/hazmat-terrorism-emergency-response/

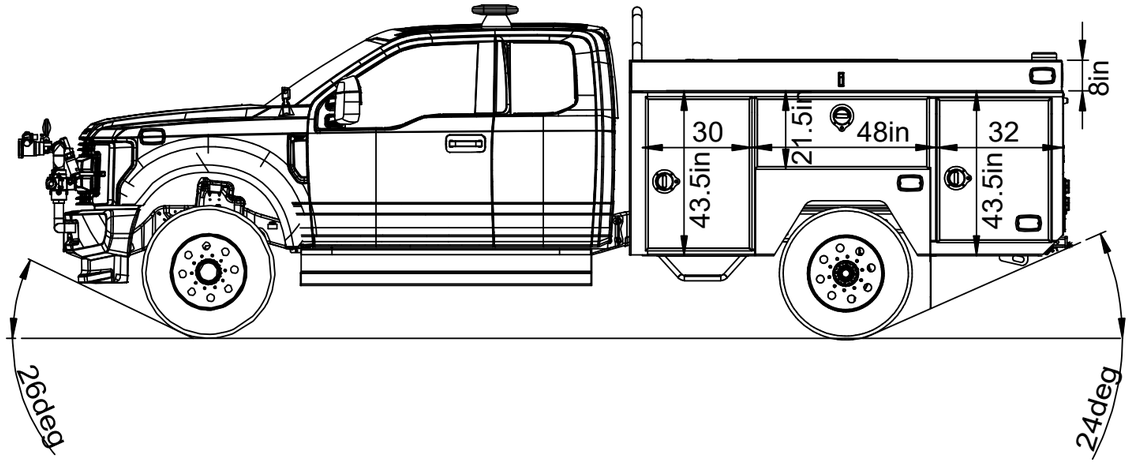
DENVER INTERNATIONAL AIRPORT'S
NWCG TYPE 6 CUSTOM RESCUE SQUAD WILDLAND ENGINE
SKEETER EMERGENCY VEHICLES











PROPERTY OF
SKEETER EMERGENCY VEHICLES

NOT FOR PRODUCTION. FEATURES AND DIMENSIONS ARE SUBJECT TO CHANGE

NOTE: FEATURES AND DIMENSIONS SHOWN ARE PRELIMINARY AND ARE SUBJECT TO CHANGE. MINOR DETAILS NOT SHOWN	PREPARED FOR: DENVER INTERNATIONAL AIRPORT	DRAWN BY: ALONDRA P. SPEC DATE: 12/27/2024	TITLE: PRELIMINARY OVERVIEW	SPEC # 1273 SHEET 1 OF 1

CONTRACT PRICING WORKSHEET
For MOTOR VEHICLES Only

Contract No.:	FS12-23	Date Prepared:	03/05/25

This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents MUST be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly.

Buying Agency:	City and County of Denver	Contractor:	Front Range Fire Appratus
Contact Person:	Leann Rush	Prepared By:	Duane Doucette
Phone:	303-342-2298	Phone:	303-304-6118
Fax:		Fax:	
Email:	leann.rush@flydenver.com	Email:	duaned@frontrangefire.com

Product Code:	BBB03	Description:	Ford F550 4x4 Lifter Body

A. Product Item Base Unit Price Per Contractor's H-GAC Contract: $205,501.00

B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.
(Note: Published Options are options which were submitted and priced in Contractor's bid.)

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	$278,582.75
		Subtotal B:	$278,582.75

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

Description	Cost	Description	Cost
		Subtotal From Additional Sheet(s):	$114,885.75
		Subtotal C:	$114,885.75

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B). **For this transaction the percentage is:** 23.73%

D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)

Quantity Ordered:	2	X Subtotal of A + B + C:	598969.499	=	Subtotal D:	$1,197,939.00

E. H-GAC Order Processing Charge (Amount Per Current Policy)	Fee included	Subtotal E:	$1,000.00

F. Trade-Ins / Other Allowances / Special Discounts / Freight / Installation

Description	Cost	Description	Cost
Multi Vehicle Discount	-$20,000.00		
		Subtotal F:	-$20,000.00

Delivery Date:	22 to 24 months	G. Total Purchase Price (D+E+F):	$1,178,939.00

Option Number	Qty	Description	Published Options	Unpublished Options
4136	1	60" Cab to Axle	$116.44	
3994	1	Lift - 2in Lift Kit - Ford 4x4	$3,443.33	
4342	1	Rear Receiver - Large - Winch/Rope/Trailer	$4,693.67	
4323	1	Tires and Wheels, Super Single 335/80	$13,142.78	
4274	1	Cab Repaint - Solid - One Custom Color	$12,577.64	
3822	1	Cab Poly - SCBA and EMS Cabinets - Full 2nd Row	$3,157.90	
3522	1	Cab Poly - EMS Cabinet - Half 2nd Row	$3,522.75	
3871	1	Radio Install - 3 Radios (Customer Provided)	$2,392.72	
3536	1	Intercom - FireCom - Wireless - 2 Position	$12,333.88	
4003	3	Install Radio Antennas (Antennas Only)	$1,899.67	
4818	1	Console Electronics Upgrade	$4,312.50	
4551	2	Power Outlets, 12V, Dual 4.8A USB, Cab	$557.59	
3902	1	Front Bumper - Stock Bumper	$143.75	
3497	1	Skid Plate - Front Bumper - 1/4in Aluminum	$627.72	
3499	1	Skid Plate - Transfer Case - 1/4in Aluminum	$1,172.77	
4656	1	R300 - Rsq Sqd, Alum, 138" x 96", 84" CA	$58,202.78	
4466	1	RSQ SQUAD BODY PAINT	$15,691.69	
4829	1	Increase Body Height 6"	$1,449.00	
3575	1	Transverse Compartment (Rescue) 18"W	$1,195.89	
4965	1	Graphics Upgrade "B"	$9,343.75	
4522	1	Full 1906 Apparatus NFPA and Safety Labeling	$2,300.00	
4016	1	Hose Reel, Hannay, Cntr Mount	$5,196.74	
3695	1	Foam System, FoamPro 1601, Class A	$10,869.13	
4680	1	TFT EF-1 Front Bumper Monitor	$12,457.64	
		Upgrade to Pierce Husky 3 System	$0.00	$4,651.23
4009	1	Camera System - Rosco - 1 Cam	$1,270.04	
733	1	Rescue Tools - Power Unit, (2) Rams, Cutter, Spreader, Hoses	$69,911.00	
763	1	Battery powered hand tools and saws	$14,000.00	
		Harris Radios	$0.00	$21,339.73
		Icom Radio	$0.00	$2,490.00
		Ward No Smoke	$0.00	$13,315.79
		Loose Equipment	$0.00	$73,089.00
685	60	Labor Rate, per hour	$12,600.00	
		Base Bid	$205,501.00	
		Published Options	$278,582.75	
		Total Published Options	$484,083.75	
		Unpublished Options	$114,885.75	23.73%
		Total Options w/o HGAC Fee	$598,969.50	

EXHIBIT E

CITY PO EXHIBIT
City and County of Denver
Fleet Management
Vendor Supplied Information Data

City Unit(s) # (City Use Only)

ENTER CITY PURCHASE ORDER NUMBER: PO- _ _ _ _ _ _ _ _ _ _
Example:PO-00003584

The following underlined forms and information are REQUIRED for new vehicle deliveries:

☐ Copy of entire Purchase Order (all pages)

☐ Original MSO (Manufacturers Statement of Origin) – is required for all vehicles except off-road and construction equipment. May receive one for some off road equipment if manufacturer issues one.

Name of purchaser: **City and County of Denver**
Address: **201 W. Colfax Ave. Dept. 304**
Denver, CO 80202

☐ Secured Dealer Bill of Sale (DR2407) – IN STATE ONLY – Required for on the road vehicles Such as cars, pickup[s, vans and any vehicle under 16,000 GVWR. Not needed if odometer Section is filled out and signed on MSO. Not required on vehicles over 16,000GVWR LBS.

☐ Application for Title and Registration (DR2395) – Required for all on-road vehicles and trailers.

☐ Verification of Vehicle Identification Number (DR2698) – Required for all Vehicles coming from an out of state dealer, incomplete vehicle. I.E. Cab and Chassis.

☐ Statement of Fact (DR2444) - Required on all vehicles with modifications to the cab and chassis. Such as a body crane, auxiliary engine, etc. The statement of fact must include the modifications made and include VIN numbers of chassis and equipment.

☐ Special Mobile Machinery Form (DR2689) - Required on all off road and Construction equipment. I.E. Front end loaders, tractors, skid steer loaders, Mowers, air compressors, motor graders, etc.

☐ Weight slip required - (on all incomplete vehicles that are made into a complete vehicle) – and all off-road equipment and construction type equipment. (Front end loaders, sweepers, graders, air compressors, rollers, etc.).

☐ Temporary License Plate – Required for all on-road vehicles. Not required for off road Equipment.

☐ **Original** Dealer Invoice – Required for all vehicles on and off the Road.

☐ Receipt or Contract for Optional Warranty – Only if spec or called out on P.O.

☐ Shop and Parts manuals (as required) (CD or electronic form preferred) – Only if spec or show as a line item of P.O.

☐ Standard Sales Tax Receipt for Vehicle Sales (DR0024)-IN STATE ONLY- Required for purchases to disclose the purchase amount to the state.

Dealer Signature:_____Date:_____