



CITY COUNCIL WORK SESSION
Public Safety Building—Training Room, 825 41st Ave NE
Monday, January 04, 2021
7:00 PM

Mayor
Amáda Márquez Simula
Councilmembers
John Murzyn, Jr.
Connie Buesgens
Nick Novitsky
Kt Jacobs
City Manager
Kelli Bourgeois

AMENDED AGENDA

NOTICE THAT THIS MEETING MAY BE CONDUCTED BY A COMBINATION OF IN-PERSON AND ELECTRONIC MEANS

Following a determination by City Manager Kelli Bourgeois, and emergencies declared by the United States, The State of Minnesota, and the Columbia Heights Mayor & City Council, this meeting may, pursuant to Minn. Stat. § 13D.021, occur by a combination of in-person and electronic means. In all meeting formats, members of the public who wish to attend may do so by attending in-person, by calling **1-312-626-6799** and entering **meeting ID 891 4134 4862**, or by Zoom at <https://us02web.zoom.us/j/89141344862> at the scheduled meeting time. For questions regarding this notice, please contact the City Clerk at (763) 706-3611.

Agenda amended 1/4/21 prior to Work Session to add items in red.

CALL TO ORDER

WORK SESSION ITEMS

- 1.** Discussion to Purchase Fire Truck/Loose Equipment
- 2.** Hilltop Police Contract
- 3.** Winter Parking
- 4.** Review and Comparison of Tobacco Sales and Indoor Smoking Regulations
- 5.** Meeting Dates for City Council Orientation
- 6.** City Council Liaison and Council President Appointments for 2021
- 7.** Discuss Appointments to Columbia Heights Volunteer Firefighters Relief Association Board of Trustees for 2021
- 8.** Board & Commission 2021 Appointment Process, Application & Interview Questions
- 9.** Mayor's Monarch Pledge
- 10.** Board of Appeal and Equalization Meeting Date and Location
- 11.** City Expo Cancellation

ADJOURNMENT

Auxiliary aids or other accommodations for individuals with disabilities are available upon request when the request is made at least 72 hours in advance. Please contact Administration at 763-706-3610 to make arrangements.



TO: Columbia Heights City Council

FROM: Charles Thompson, Fire Chief

SUBJECT: Discussion to purchase fire truck/loose equipment

INTRODUCTION:

During the October 5th City Council work-session, the Fire Chief gave a presentation on the capital purchase of a new fire engine in 2021. During this presentation he provided specific details about purchasing custom-chassis fire engines versus commercial chassis fire engine. During the January 4th City Council work session, Chief Thompson will present a summary of the prior presentation, offer additional information on the purchase, and answer any additional questions or listen to comments regarding the purchase. With this presentation he will also submit a finalized cost for the engine purchase.

DISCUSSION:

The Fire Chief will propose the purchase of a new engine through the (HGAC), Huston Galveston Area Purchasing Consortium. The purchasing consortium has become extremely popular in Minnesota due to the ease of enrollment and the financial advantages offered. The legacy process used for purchasing apparatus involved researching, writing, and formalizing the apparatus specifications, advertising the specifications for bid, reviewing bids for compliance, and awarding the bids to a manufacturer. The HGAC procurement process, a simpler process, complies will all requirements of Minnesota State Statue. Volume purchasing power, discounts, broad area product sales, distribution and service, end labor savings, expedited procurement procedures, and the specialized support staff HGAC are all benefits of this process. Membership in the HGAC is free. Members are charged a flat rate of \$2,000.00 for each purchase. The Fire Department has previously purchased several vehicles through the HGAC with great success.

RECOMMENDATION:

Review the information presented by the Fire Chief and Assistant Fire Chief at the January 4th work session.



Item 1.

PUMPER BODY
Medium Aluminum 2nd Gen Pumper

CHASSIS
Impel Chassis

CHASSIS AXLE, FRONT, CUSTOM
19,500 Lb TAK-4 Axle

AXLE, REAR
24,000 Lb Meritor Axle

ENGINE
450 HP Cummins L9 Engine

TRANSMISSION
Allison 5th Gen, 3000 EVS P

BUMPER
19" Extended Stainless Steel

CAB
7010 Impel FR Cab

BODY WATER TANK
500 Gallon Poly Water Tank

COMPT, PUMPER, REAR
30.75" FF RollUp Rear Compt

COMPT, PUMPER, LEFT SIDE
152" RollUp Full Height & Depth Front & Rear

COMPT, PUMPER, RIGHT SIDE
152" RollUp Full Height Front & Rear FDLER

FIRE SUPPRESSION PUMPHOUSE
45" Control Zone Side Mount

PUMP
1500 GPM Waterous CSU

CROSSLAYS, 1.50"
1.50" Crosslays Not Required

CROSSLAYS, 2.50"
2.50" Crosslay Not Required

SPEEDLAYS
(2) 1.50" W/Tray Std. Capacity

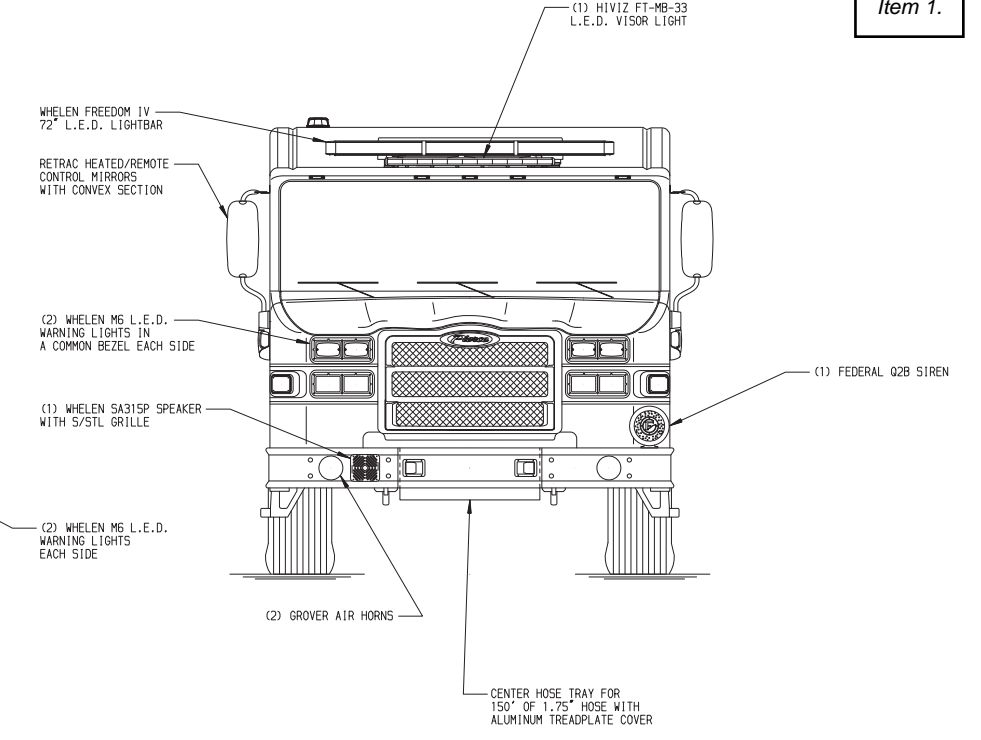
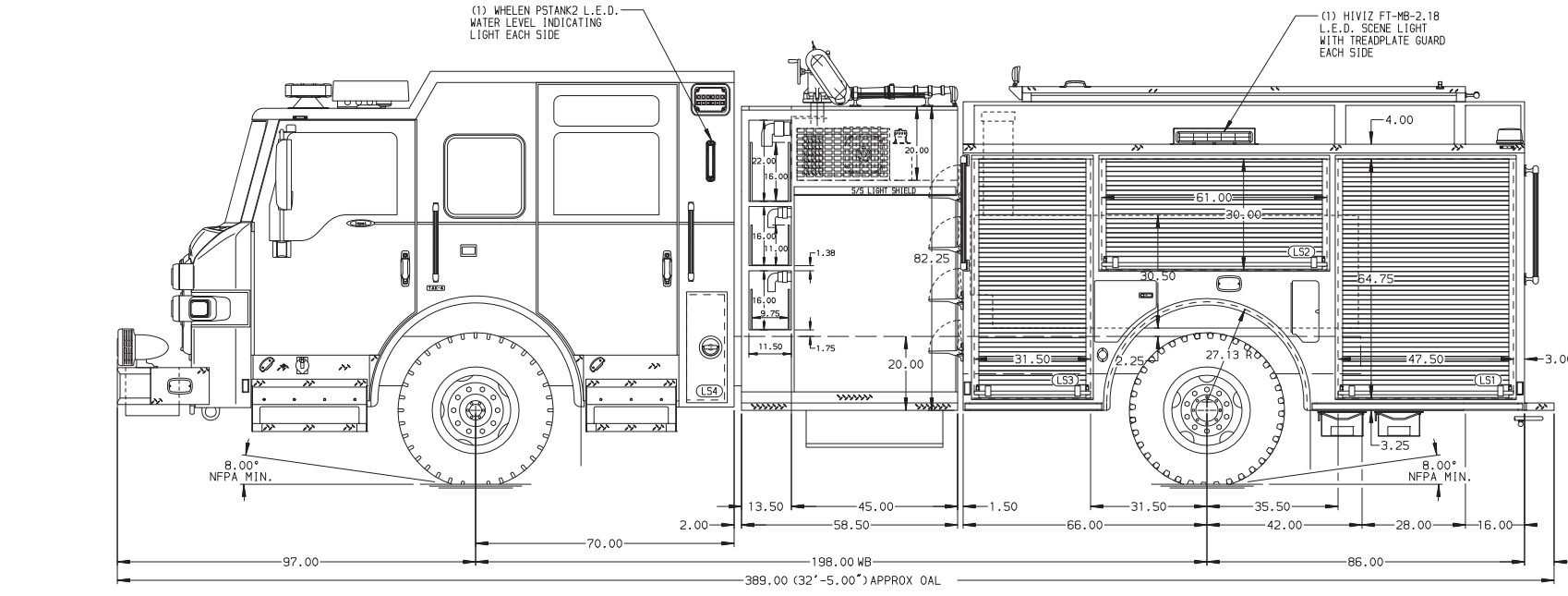
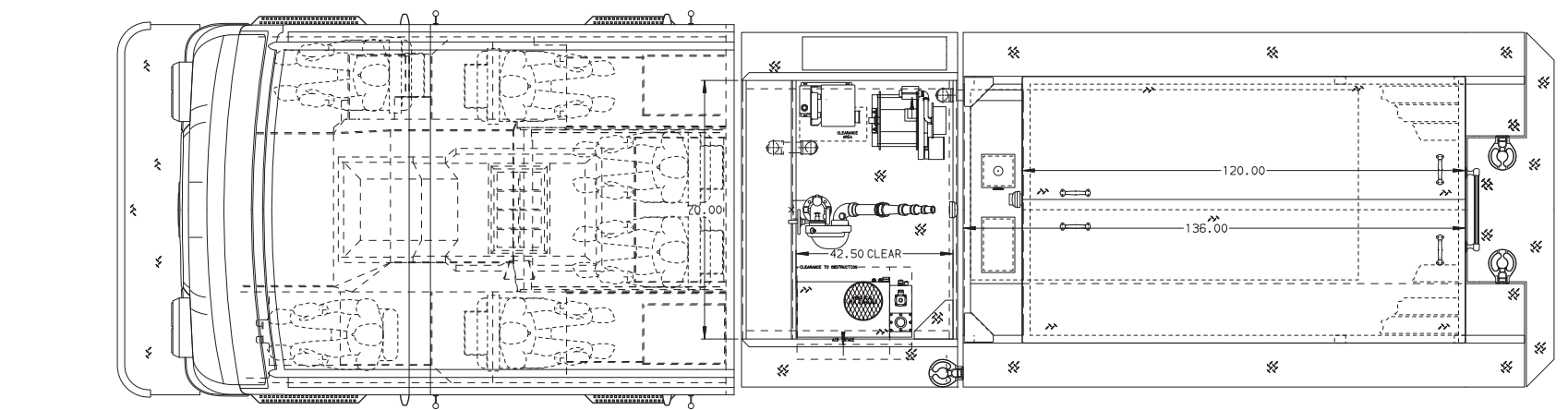
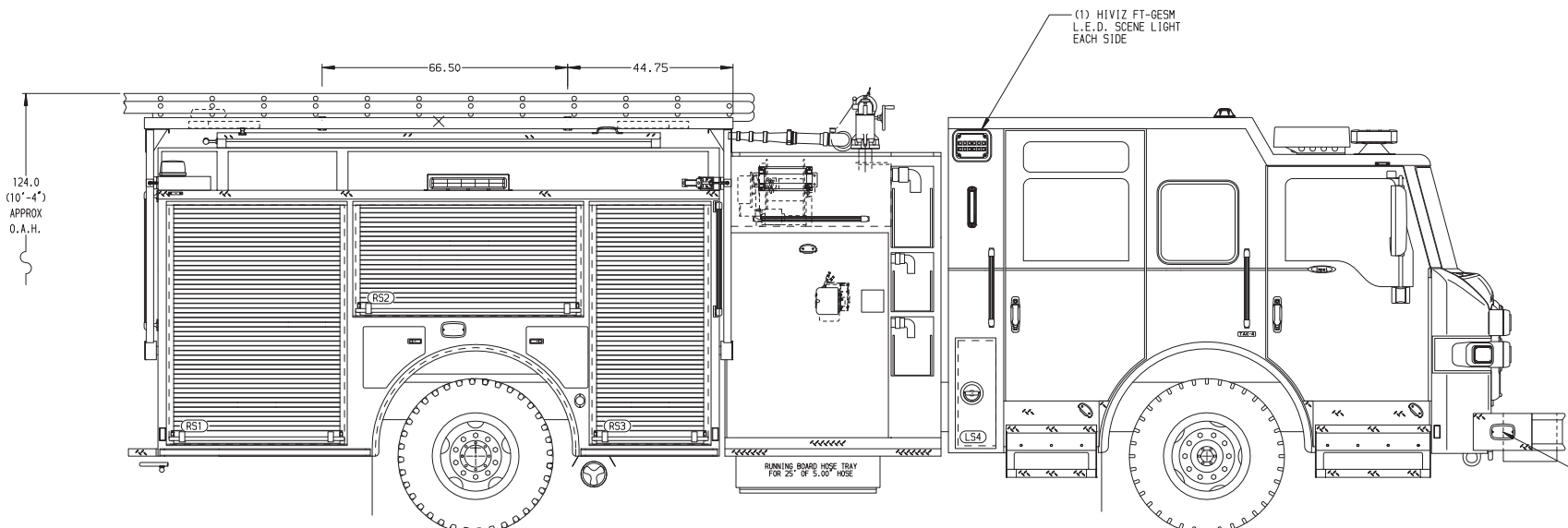
GENERATOR
Harrison 6kW MSV Hydraulic Generator

Foam System
Husky 3 Single Agent Foam System

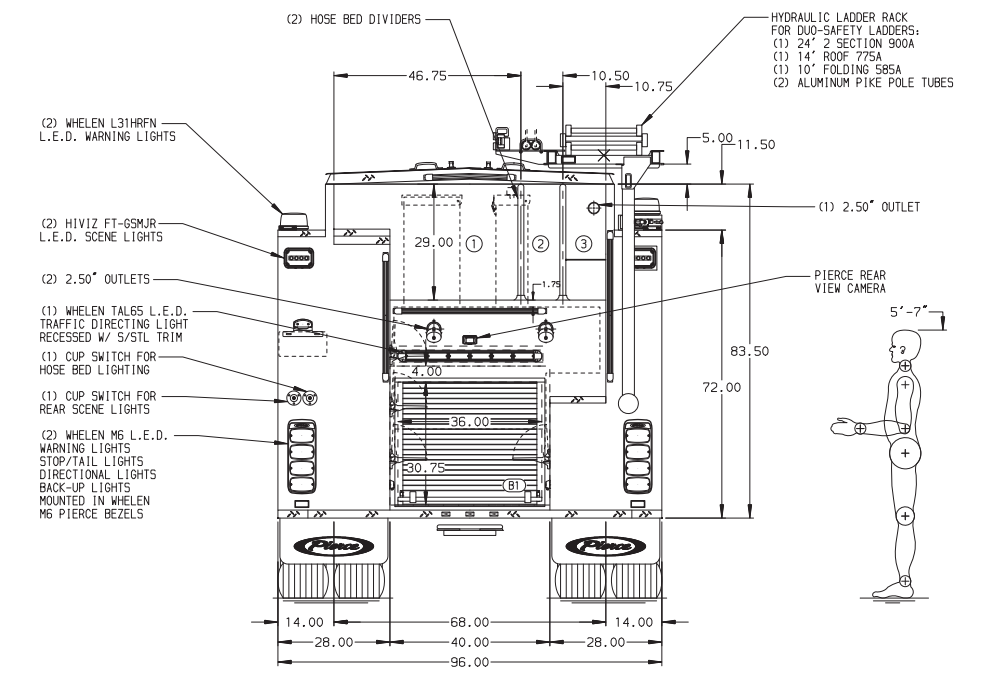
Foam Cell
20 Gallon Foam Cell, Not Reduced Water

Side Roll and Frontal Impact Protection

NOTE
DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS AS MAY OCCUR OR BE NECESSARY IN CONSTRUCTION. MINOR DETAILS NOT SHOWN.



HOSEBED CAPACITY	
BED 1	00' OF 5.00" D.J. POLY HOSE
BED 2	500' OF 2.50" D.J. POLY HOSE
BED 3	200' OF 2.50" D.J. POLY HOSE



CUSTOMER APPROVAL			
APPROVED BY:			
DATE:			
REV	DATE	BY	CH
	06NOV20	COL	-
			IMPEL

		MANUFACTURING INC.		JOB NO.	PRELIM
TITLE		Pierce Pumper Approval Drawing		SCALE	DATE
MAKE		-		1:24	
FOR		Columbia Heights Fire Department		DRAWN BY	05NOV20
MODEL		-		CHECKED BY	
DWG NO.		04-8162		MMF	
				SHEET SIZE	3
				D	OF 1

- ONE 1.50 OUTLET WITH 2.00 PIPING AND SWIVEL LOCATED IN CENTER BUMPER TRAY
- SHORELINE RECEPTACLE LOCATED IN THE DRIVER SIDE STEPWELL
- AIR INLET WITH DISCONNECT COUPLING IN THE DRIVER SIDE STEPWELL
- BATTERY CHARGER LOCATED BEHIND DRIVER'S SEAT
- BATTERY CHARGE INDICATOR LOCATED ON DRIVER SIDE OF CAB
- SIX ADJUSTABLE SHELVES LOCATED PER SHOP ORDER
- TWO FLOOR MOUNTED SLIDE-OUT TRAYS LOCATED PER SHOP ORDER
- ONE TILTING/SLIDE-OUT TRAY FOR SCBA BRACKETS LOCATED PER SHOP ORDER
- THREE SLIDE-OUT TOOLBOARDS LOCATED PER SHOP ORDER
- SIX ZICO SCBA BRACKETS LOCATED PER SHOP ORDER
- CTECH FOUR DRAWER ASSEMBLY LOCATED PER SHOP ORDER
- CIRCUIT BREAKER PANEL LOCATED PER SHOP ORDER
- TWO 120V 6-PLACE RECEPTACLE STRIPS LOCATED PER SHOP ORDER
- ONE 120V 4-PLACE RECEPTACLE LOCATED PER SHOP ORDER
- HANNAY CORD REEL MODEL 1618-17-18 LOCATED IN CARGO AREA WITH 200' OF 10/3 CABLE

Proposal for **Columbia Heights Fire Department**

Prepared by **MacQueen Emergency Group**

11/10/2020



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AMP DRAW REPORT 121

MacQueen Emergency is pleased to submit a proposal to Columbia Heights Fire Dept for a **Pierce® triple combination pumper** per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

PIERCE MANUFACTURING was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

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

In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

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

GENERAL DESIGN AND CONSTRUCTION

To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.

QUALITY AND WORKMANSHIP

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

and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

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

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

To demonstrate the quality of our products and services, a list of at least ten (10) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

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

MANUAL AND SERVICE INFORMATION

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

SAFETY VIDEO

At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT

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

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

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

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

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

LIABILITY

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

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

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

Each Occurrence\$1,000,000

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

Personal and Advertising Injury\$1,000,000

General Aggregate\$2,000,000

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

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Aggregate:\$3,000,000

Each Occurrence:\$3,000,000

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

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

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

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

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

INSURANCE PROVIDED BY MANUFACTURER**PRODUCT LIABILITY INSURANCE**

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

Each Occurrence\$1,000,000

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Each Occurrence:\$25,000,000

Aggregate:\$25,000,000

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

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

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

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

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

SINGLE SOURCE MANUFACTURER

Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2016 STANDARDS

This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are

shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

NFPA COMPLIANCY

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

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, will be third-party, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification will include: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

PUMP TEST

Underwriters Laboratory (UL) will test, approve, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, Underwriters Laboratory (UL) will test, approve, and certify the generator. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

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

BID BOND NOT REQUESTED

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

All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury

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

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

PERFORMANCE BOND NOT REQUESTED

A performance bond will not be included. If requested at a later date, one will be provided to you for an additional cost and the following will apply:

The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Bumper to Bumper warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed three (3) years from the date of such satisfactory acceptance and delivery, or the actual Bumper to Bumper warranty period, whichever is shorter.

APPROVAL DRAWING

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

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

ELECTRICAL WIRING DIAGRAMS

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

IMPEL CHASSIS

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

WHEELBASE

The wheelbase of the vehicle will be 198.

GVW RATING

The gross vehicle weight rating will be 46,500.

FRAME

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

FRONT NON DRIVE AXLE

The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 19,500 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be 0 degrees for optimum tire life.

The ball joint bearing will be of low friction design and be maintenance free.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.

FRONT SUSPENSION

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 19,500 lb.

The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension.

The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

FRONT SHOCK ABSORBERS

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

FRONT OIL SEALS

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

FRONT TIRES

Front tires will be Goodyear® 315/80R22.50 radials, 20 ply G289 WHA tread, rated for 20,400 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 9.00" polished aluminum disc wheels with a ten (10) stud, 11.25" bolt circle.

REAR AXLE

The rear axle will be a Meritor™, Model RS-24-160, with a capacity of 24,000 lb.

TOP SPEED OF VEHICLE

A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph.

REAR SUSPENSION

The rear suspension will be Standens, semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 24,000 lb. The spring hangers will be castings.

The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye will be a berlin eye that will place the front spring pin in the horizontal plane within the main leaf.

A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.

REAR OIL SEALS

Oil seals will be provided on the rear axle(s).

REAR TIRES

Rear tires will be four (4) Goodyear® 12R22.50 radials, 16 ply all season G622 RSD tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE

All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.

TIRE PRESSURE MANAGEMENT

There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

FRONT HUB COVERS

Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.

CHROME LUG NUT COVERS

Chrome lug nut covers will be supplied on front and rear wheels.

MUD FLAPS

Mud flaps with a Pierce logo will be installed behind the front and rear wheels.

WHEEL CHOCKS

There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.

Wheel Chock Brackets

There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted below the left side rear compartment.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with a Meritor WABCO 4S4M, anti-lock braking system. The ABS will provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

BRAKES

The service brake system will be full air type.

The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.

The rear brakes will be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields will be provided.

BRAKE SYSTEM AIR COMPRESSOR

The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

BRAKE SYSTEM

The brake system will include:

- Bendix® dual brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 4,362 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi

- A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)
- 1/4 turn drain valve on each air tank

The air tank will be primed and painted to meet a minimum 750 hour salt spray test.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

BRAKE SYSTEM AIR DRYER

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

BRAKE LINES

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

AIR INLET

One (1) air inlet with 3D series male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located forward in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female fitting will also be provided with the loose equipment.

ENGINE

The chassis will be powered by an electronically controlled engine as described below:

Make:	Cummins
Model:	L9
Power:	450 hp at 2100 rpm
Torque:	1250 lb-ft at 1400 rpm
Governed Speed:	2200 rpm
Emissions Level:	EPA 2021
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	543 cubic inches (8.9L)
Starter:	Delco 39MT™
Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.

The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

HIGH IDLE

A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

ENGINE BRAKE

A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

CLUTCH FAN

A Horton fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.

A momentary switch will be provided in the cab instrument panel to disengage the engine fan clutch when the fire pump is engaged. The purpose is to help increase the engine coolant temperature during cold weather operations. When a rocker switch is used, it will be red in color with a red indicator light in it that is illuminated when the fan clutch is disengaged by the switch. When a membrane switch is used, it will be illuminated in red when the fan clutch is disengaged by the switch. The switch will be labeled "Fan Clutch Disengaged". The fan clutch will return to its normal mode of operation when the pump is disengaged or by using the switch. The fan clutch will cycle automatically to keep the engine coolant from exceeding the engine manufacturer's recommendations during all operating conditions regardless of the switch position.

ENGINE AIR INTAKE

An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) will be mounted at the front of the apparatus, on the passenger side of the engine. The ember separator will be mounted in the air intake with flame retardant, roto-molded polyethylene housing. It will be easily accessible by the hinged access panel at the front of the vehicle.

EXHAUST SYSTEM

The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device, and will be 4.00" in diameter. The exhaust system will include a single module aftertreatment device to meet

current EPA standards. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device . The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

RADIATOR

The radiator and the complete cooling system will meet or exceed NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The core will be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes will be brazed to aluminum headers. The radiator core will have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy will be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator will be compatible with commercial antifreeze solutions.

There will be a full steel frame around the entire radiator core assembly. The radiator core assembly will be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator will be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly will be isolated from the chassis frame rails with rubber isolators.

The radiator assembly will include an integral deaeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

A heavy-duty fan will draw in fresh, cool air through the radiator. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES

Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.

Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

FUEL TANK

A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

A 0.75" drain plug will be located in a low point of the tank for drainage.

A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."

A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet.

The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.

All fuel lines will be provided as recommended by the engine manufacturer.

DIESEL EXHAUST FLUID TANK

A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, polished stainless steel door on the driver side of the vehicle.

The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.

The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

FUEL SHUTOFF

A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter.

TRANSMISSION

An Allison 5th generation, Model EVS 3000P, electronic torque converting automatic transmission will be provided.

The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due.

Two (2) PTO openings will be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear.

A transmission temperature gauge with red light and audible alarm will be installed on the cab dash.

TRANSMISSION SHIFTER

A five (5)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be:

1st	3.49 to 1.00
2nd	1.86 to 1.00
3rd	1.41 to 1.00
4th	1.00 to 1.00
5th	0.75 to 1.00
R	5.03 to 1.00

TRANSMISSION COOLER

A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.

TRANSMISSION DIPSTICK CAP

The transmission dipstick cap will be engraved with "ALLISON TES-295 APPROVED SYNTHETIC TRANS FLUID ONLY".

DOWNSHIFT MODE (W/ENGINE BRAKE)

The transmission will be provided with an aggressive downshift mode.

This will provided earlier transmission downshifts to 2nd gear, resulting in improved engine braking performance.

TRANSMISSION FLUID

The transmission will be provided with TranSynd, or other Allison approved TES-295 heavy duty synthetic transmission fluid.

DRIVELINE

Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1710 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.

STEERING

Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL

The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a four (4)-spoke design.

There will be a switch pod provided on each side of the steering wheel between the spokes. The switch pods will be an integral part of the steering wheel. Each switch pod will contain four (4) switches. The following switches will be provided:

Air horn

Emergency lighting

Area lighting

Front dome light

Rear dome light

Q2B siren activate

Q2B siren brake

Wiper mist

Full floating horn pad

LOGO AND CUSTOMER DESIGNATION ON DASH

The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text will be: Columbia

The second row of text will be: Heights

The third row of text will be: Fire Dept

BUMPER

A one (1) piece, ten (1) gauge, 304-2B type polished stainless steel bumper, a minimum of 10.00" high, will be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength.

The bumper will be extended 19.00" from front face of cab.

Gravel Pan

A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.

CENTER HOSE TRAY

A hose tray, constructed of aluminum, will be placed in the center of the bumper extension.

The tray will have a capacity of 150' of 1.75" double jacket cotton-polyester hose.

Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.

Center Hose Tray Cover

A bright aluminum treadplate cover will be provided over the center hose tray.

The cover will be attached with a stainless steel hinge.

One (1) D-ring latch will secure the cover in the closed position and a pneumatic stay arm will hold the cover in the open position.

LIFT AND TOW MOUNTS

Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems.

The lift and tow mounts with eyes will be painted the same color as the frame.

TOW HOOKS

No tow hooks are to be provided. This truck will be equipped with a lift and tow package with integral tow eyes.

HINGED CENTER SECTION

The center section of the bumper will be hinged at the bottom. Two (2) paddle latches will hold the section in the closed position.

CAB

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

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

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

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

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

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

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

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

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

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

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 62.95" in the center position and 68.75" in the outboard positions.

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

INTERIOR CAB INSULATION

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling.

FENDER LINERS

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

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers; the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the

aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather.

The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

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

ENGINE TUNNEL

To provide structural strength, the engine tunnel sidewalls will be constructed of 0.50" aluminum plate that is welded to both the 0.25" firewall and 0.38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered.

The back of the engine tunnel will be no higher than 16.25" off the crew cab floor.

The engine tunnel will be insulated on both sides for thermal and acoustic absorption. The underside of the tunnel will be covered with 1.00" thick polyether foam that is reinforced with an aluminized face. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of the NFPA 1901 standards.

CAB REAR WALL EXTERIOR COVERING

The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

CAB LIFT

A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure.

The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For

enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2.00' (coiled) to 6.00' (extended).

The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab.

The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position.

For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.

Cab Lift Interlock

The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

GRILLE

A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.

DOOR JAMB SCUFFPLATES

All cab door jambs will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.

FRONT CAB TRIM

A band of 22 gauge polished stainless steel trim will be installed across the front of the cab, from door hinge to door hinge. The trim band will be centered on the head lights and applied with two (2)-sided tape. A 0.625" self adhesive trim strip will be applied around the perimeter of the trim band.

There will be polished stainless steel corner covers provided over the painted cab corner where the cab turn signals are located.

SIDE OF CAB MOLDING

Chrome molding will be provided on both sides of cab.

MIRRORS

A Retraco, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

CAB DOORS

The forward cab and crew cab doors will be the half-height style door. To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 64.71" high. The crew cab doors will measure a minimum of 37.87" wide x 73.75" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum.

The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands. Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

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

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

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

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

The cab steps at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.

Door Panels

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

RECESSED POCKET WITH ELASTIC COVER

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

ELECTRIC WINDOW CONTROLS

Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each

switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

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

DUAL STEPS

A dual step will be provided below each cab and crew cab door. The steps will be designed with a grip pattern punched into bright aluminum treadplate material providing support, slip resistance, and drainage. The steps will be a bolt-on design and provide a 24.00" wide x 9.00" deep stepping surface. The step design raises the middle step higher and closer to the cab floor, resulting in a 12.00" distance from the step to cab floor in the cab and a 13.50" distance from the step to cab floor in the crew cab. Stepping distances from the ground to first step will be 16.50" and from first step to middle step will be 12.00".

The first step will be lit by a white 12 volt DC LED light provided on the step.

CAB EXTERIOR HANDRAILS

A 1.25" diameter slip-resistant, knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.

STEP LIGHTS

For reduced overall maintenance costs compared to incandescent lighting, there will be four (4) white LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

The lights will be activated when the adjacent door is opened.

FENDER CROWNS

Stainless steel fender crowns will be installed at the cab wheel openings.

CREW CAB WINDOWS

One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 20.00" wide x 20.50" high.

STORAGE COMPARTMENTS

Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment.

The compartments will be approximately 10.71" wide x 30.00" high x 14.00" deep.

There will be two (2) double pan doors painted to match the cab exterior with a non-locking D-Ring latch, one (1) on each side of the cab. A rubber bumper for each exterior door will be used as a door stop.

The compartment interior will be painted spatter gray.

Compartment Light

There will be two (2) white LED strip lights provided, one (1) each hinged side of compartment door openings. The lights will be controlled by an automatic door switch.

CAB INTERIOR

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

The center console will be a high impact ABS polymer and will be easily removable for access to the defroster. The center console will include louvers strategically located for optimal air flow and defrost capability to the windshield.

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

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

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

To provide a deluxe automotive interior, the engine tunnel will be covered by leather grain vinyl that is resistant to oil, grease, and mildew. For durability and ease of maintenance, the cab interior side walls will be painted aluminum. The rear wall will be painted aluminum.

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

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

CAB INTERIOR UPHOLSTERY

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

CAB INTERIOR PAINT

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

- Modesty panel in front of driver
- Vertical surface of dash in front of the officer (not applicable for recessed dash)
- Glove box in front of the officer (if applicable)
- Power distribution in front of the officer
- Rear heater vent panels

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

CAB FLOOR

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

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

DEFROST/AIR CONDITIONING SYSTEM

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

Cab Defroster

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

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

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

Cab/Crew Auxiliary Heater

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

Air Conditioning

A 19.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover and mounting legs to be painted white as provided by the A/C manufacturer.

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

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

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

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

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

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

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

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

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

Climate Control

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

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

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

Gravity Drain Tubes

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

SUN VISORS

Two (2) smoked Lexan™ sun visors provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be no retention bracket provided to help secure each sun visor in the stowed position.

GRAB HANDLE

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

A long rubber grab handle will be mounted on the dash board in front of the officer.

ENGINE COMPARTMENT LIGHTS

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

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

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 20.00" wide x 8.25" high and be flush with the wall of the engine tunnel.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush latch will be provided on the access door.

CAB SAFETY SYSTEM

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

- A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.
- A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.
- A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.
- A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.

- A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.
- Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.
- Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.
- Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

FRONTAL IMPACT PROTECTION

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

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

- Driver side front air bag
- Passenger side knee bolster air bag
- Air curtains mounted in the outboard bolster of outboard seat backs
- Suspension seats will be retracted to the lowest travel position
- Seat belts will be pre-tensioned to firmly hold the occupant in place

SIDE ROLL PROTECTION

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

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

- Air curtains mounted in the outboard bolster of outboard seat backs
- Suspension seats will be retracted to the lowest travel position
- Seat belts will be pre-tensioned to firmly hold the occupant in place

SEATING CAPACITY

The seating capacity in the cab will be six (6).

DRIVER SEAT

A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type with air suspension. For increased convenience, the seat will include electric controls to adjust the rake

(15 degrees), height (1.75" travel) and horizontal (7.00" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. Providing for maximum comfort, the seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. The lumbar adjustment lever will be easily located at the lower outboard position of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position.

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

OFFICER SEAT

A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a cam action type, with air suspension. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple passenger configurations, the seat will have a reclining back adjustable from 20 degrees back to 0 degrees forward. The seat back will be a high back style with manual lumbar adjustment lever, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A suspension seat safety system will be included. When activated this system will pretension the seat belt and retract the seat to its lowest travel position.

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

RADIO COMPARTMENT

A compartment for the radio amplifier will be located on the floor of the cab behind the front passenger's seat. A lift-up door with a chrome plated lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

REAR FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) rear facing, Pierce PS6® seat provided at the driver side outboard position in the crew cab. The seat back will be a high back style with 7.50 degree fixed recline angle, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC. (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

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

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) rear facing, Pierce PS6® seat provided at the passenger side outboard position in the crew cab. The seat back will be a high back style with 7.5 degree fixed recline angle, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

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

FORWARD FACING LEFT SIDE CABINET

A forward facing cabinet will be provided in the crew cab located at the left side outboard position.

The cabinet will be 21.00" wide x 51.00" high x 14.00" deep. The interior door will be web netting. The netting will be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the inboard side of the cabinet and have spring clip and hook fasteners on the opposite side to secure it. The clear door opening of the cabinet will be 18.50" wide x 48.00" high.

The cabinet will include two (2) infinitely adjustable shelves with a 1.25" up-turned lipped to match the cab interior.

The cabinet will include no louvers.

The cabinet will be constructed of smooth aluminum and painted to match the cab interior.

CABINET LIGHT

There will be one (1) white LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.

FORWARD FACING CENTER SEATS

There will be two (2) forward facing, Pierce PS6® seats provided at the center position in the crew cab. The seat backs will be a high back style with 7.50 degree fixed recline angle, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seats will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.

The seats will include the following feature incorporated into the side roll protection system:

- A seat safety system will be included. When activated, this system will pretension the seat belts around the occupants to firmly hold them in place in the event of a side roll.

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

FORWARD FACING RIGHT SIDE CABINET

A forward facing cabinet will be provided in the crew cab located at the right side outboard position.

The cabinet will be 21.00" wide x 51.00" high x 14.00" deep. The interior door will be web netting. The netting will be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the inboard side of the cabinet and have spring clip and hook fasteners on the opposite side to secure it. The clear door opening of the cabinet will be 18.50" wide x 48.00" high.

The cabinet will include three (3) infinitely adjustable shelves with a 0.75" up-turned lip painted to match the cab interior.

The cabinet will include no louvers.

The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.

Cabinet Light

There will be one (1) white LED strip light installed on the right side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.

SEAT UPHOLSTERY

All seat upholstery will be leather grain 36 oz dark silver gray vinyl resistant to oil, grease and mildew. The cab will have six (6) seating positions.

SEAT BELTS

All seating positions in the cab, crew cab and tiller cab (if applicable) will have red seat belts.

To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

Any flip up seats will include a 3-point shoulder type belts only.

SHOULDER HARNESS HEIGHT ADJUSTMENT

All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter.

A total of six (6) seating positions will have the adjustable shoulder harness.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB DOME LIGHTS

There will be four (4) dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the door switches and the lens switch.

The color LED's will be controlled by the lens switch.

In order to ensure exceptional illumination, each white LED dome light will provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.

PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.

The hand lights are not on the apparatus as manufactured. The fire department will provide and mount these hand lights.

CAB INSTRUMENTATION

The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of

the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership.

Gauges

The gauge panel will include the following ten (10) black gauges with black bezels to monitor vehicle performance:

- Voltmeter gauge (Volts)
 - Low volts (11.8 VDC)
 - Amber indicator on gauge assembly with alarm
 - High volts (15 VDC)
 - Amber indicator on gauge assembly with alarm
 - Very low volts (11.3 VDC)
 - Amber indicator on gauge assembly with alarm
 - Very high volts (16 VDC)
 - Amber indicator on gauge assembly with alarm
- Tachometer (RPM)
- Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)
- Fuel level gauge (Empty - Full in fractions)
 - Low fuel (1/8 full)
 - Amber indicator on gauge assembly with alarm
 - Very low fuel (1/32) fuel
 - Amber indicator on gauge assembly with alarm
- Engine oil pressure gauge (PSI)
 - Low oil pressure to activate engine warning lights and alarms
 - Red indicator on gauge assembly with alarm
- Front air pressure gauge (PSI)
 - Low air pressure to activate warning lights and alarm
 - Red indicator on gauge assembly with alarm
- Rear air pressure gauge (PSI)
 - Low air pressure to activate warning lights and alarm
 - Red indicator on gauge assembly with alarm
- Transmission oil temperature gauge (Fahrenheit)
 - High transmission oil temperature activates warning lights and alarm
 - Amber indicator on gauge assembly with alarm
- Engine coolant temperature gauge (Fahrenheit)
 - High engine temperature activates an engine warning light and alarm
 - Red indicator on gauge assembly with alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
 - Low fluid (1/8 full)
 - Amber indicator on gauge assembly with alarm

All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance.

Indicator Lamps

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

The following amber telltale lamps will be present:

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

The following red telltale lamps will be present:

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

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:

- High beam

Alarms

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

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

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

Indicator Lamp and Alarm Prove-Out

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

Control Switches

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

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

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

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

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

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

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

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

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition.

The third momentary position will disable the Command Zone audible alarm if held for three (3) to five (5) seconds. A green indicator lamp will be activated with vehicle ignition.

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

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

Heater, defroster, and optional air conditioning control panel: A control panel with membrane switches will be provided to control heater/defroster temperature and heater, defroster, and air conditioning fan speeds. A green LED status bar will indicate the relative temperature and fan speed settings.

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

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

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

Custom Switch Panels

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

Diagnostic Panel

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

- Engine diagnostic port
- Transmission diagnostic port
- ABS diagnostic port
- SRS diagnostic port (where applicable)
- Command Zone USB diagnostic port
- ABS diagnostic switch (blink codes flashed on ABS telltale indicator)
- Diesel particulate filter regeneration switch (where applicable)
- Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature. The upper right section will display odometer, trip mileage, PTO hours, fuel consumption, engine hours, and other configuration specific information. The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

AIR RESTRICTION INDICATOR

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

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

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

DO NOT MOVE TRUCK MESSAGES

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

The following messages will be displayed (where applicable):

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

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

SWITCH PANELS

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

Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout.

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

WIPER CONTROL

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

SPARE CIRCUIT

There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power
- The negative wire will be connected to ground
- Wires will be protected to 15 amps at 12 volts DC
- Power and ground will terminate officer side dash area
- Termination will be with heat shrinkable butt splicing
- Wires will be sized to 125 percent of the protection

The circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

There will be one (1) dual USB fast charge socket mounts installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery switched power.
- The negative wire will be connected to ground.
- Wires will be protected to 4.8 amps at 12 volts DC.
- The USB socket mount will be LS rear engine tunnel.
- Termination will be a Blue Sea Systems part number 1045 dual USB charger socket.
- Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is applied.

SPARE CIRCUIT

There will be one (1) dual USB fast charge socket mounts installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 4.8 amps at 12 volts DC.
- The USB socket mount will be officer side lower panel.
- Termination will be a Blue Sea Systems part number 1045 dual USB charger socket.
- Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is applied.

INFORMATION CENTER

An LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.

ADDITIONAL INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing and will be located on the in view of the driver per the instrument panel layout diagram.

The information center will have the following specifications:

- Operate in temperatures from -40 to 185 degrees Fahrenheit
- An Optical Gel will be placed between the LCD and protective lens
- Five weather resistant user interface switches
- Grey with black accents
- Sunlight Readable
- Linux operating system
- Minimum of 1000nits rated display
- Display can be changed to an available foreign language.
- Programmed to read US Customary

GENERAL SCREEN DESIGN

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

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

HOME/TRANSIT SCREEN

This screen will display the following:

- Vehicle Mitigation (if equipped)
- Water Level (if equipped)
- Foam Level (if equipped)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

ON SCENE SCREEN

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

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

VIRTUAL BUTTONS

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

PAGE SCREEN

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

- Diagnostics
 - Faults
 - Listed by order of occurrence
 - Allows to sort by system
 - Interlock
 - Throttle Interlocks
 - Pump Interlocks (if equipped)
 - Aerial Interlocks (if equipped)
 - PTO Interlocks (if equipped)
 - Load Manager
 - A list of items to be load managed will be provided. The list will provide a description of the load.
 - The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.
 - The screen will indicate if a load has been shed (disabled) or not shed.
 - "At a glance" color features are utilized on this screen.
 - Systems
 - Command Zone
 - Module type and ID number
 - Module Version
 - Input or output number
 - Circuit number connected to that input or output
 - Status of the input or output
 - Power and Constant Current module diagnostic information
 - Foam (if equipped)
 - Pressure Controller (if equipped)
 - Generator Frequency (if equipped)
 - Live Data
 - General Truck Data
- Maintenance
 - Engine oil and filter
 - Transmission oil and filter
 - Water pump oil (if equipped)
 - Foam (if equipped)
 - Aerial (if equipped)
- Setup

- Clock Setup
- Date & Time
 - 12 or 24 hour format
 - Set time and date
- Backlight
 - Daytime
 - Night time
 - Sensitivity
- Unit Selection
- Home Screen
- Virtual Button Setup
- On Scene Screen Setup
- Configure Video Mode
 - Set Video Contrast
 - Set Video Color
 - Set Video Tint
- Do Not Move
 - The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicate
 - Driver Side Cab Door
 - Passenger's Side Cab Door
 - Driver Side Crew Cab Door
 - Passenger's Side Crew Cab Door
 - Driver Side Body Doors
 - Passenger's Side Body Doors
 - Rear Body Door(s)
 - Ladder Rack (if applicable)
 - Deck Gun (if applicable)
 - Light Tower (if applicable)
 - Hatch Door (if applicable)
 - Stabilizers (if applicable)
 - Steps (if applicable)
- Notifications
 - View Active Alarms
 - Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
 - Silence Alarms - All alarms are silenced
- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)
- Ascendant Set Up Information (if equipped)

Button functions and button labels may change with each screen.

COLLISION MITIGATION

There will be a HAAS Alert®, Model HA5 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA5 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degree C to 85 degree C.

The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.

While responding with emergency lights on, the HA5 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.

While on scene with emergency lights on, the HA5 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.

The HA5 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.

Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.

VEHICLE DATA RECORDER

There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm

The seat belt monitoring screen will become active on the Command Zone color display when:

- The home screen is active:
 - and there is any occupant seated but not buckled or any belt buckled with an occupant.
 - and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated.

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

TWO-WAY RADIO CABLE INSTALLATION

There will be one (1) customer supplied two-way radio remote head cable(s) sent to the apparatus manufacturers preferred radio installer for installation. The cable will be run tbd.

Specific shipping requirements will be followed.

TWO WAY RADIO SPEAKER INSTALLATION

There will be one (1) customer supplied two way radio speakers sent to the apparatus manufacturers preferred third party installer to be installed tbd.

Specific shipping requirements will be followed.

TWO WAY RADIO INSTALLATION

There will be one (1) customer supplied two way radio(s) sent to the apparatus manufacturers preferred radio installer to be installed tbd per the shipping document.

No antenna mount or whip will be included in this option.

Specific radio shipping requirements will be followed.

RADIO ANTENNA MOUNT

There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed Right Side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the officer seat. A weatherproof cap will be installed on the mount.

VEHICLE CAMERA SYSTEM

There will be a color vehicle camera system provided with the following:

- One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse

The camera images will be displayed on the driver's vehicle information center display. Audio from the microphone on the active camera will be not provided.

The following components will be included:

- One (1) SV-CW134639CAI, camera
- One (1) amplified speaker (if applicable)
- All necessary cables

ELECTRICAL POWER CONTROL SYSTEM

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

SOLID-STATE CONTROL SYSTEM

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

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

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

- Green LED indicator light for module power

- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field re programmable to accommodate changes to the vehicle's operating parameters
- Complete operating and troubleshooting manuals
- USB connection to the main control module for advanced troubleshooting

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g

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

Operating voltage from eight (8) volts to 16 volts DC

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

CIRCUIT PROTECTION AND CONTROL DIAGRAM

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

ON-BOARD ADVANCED/VISUAL ELECTRICAL SYSTEM DIAGNOSTICS

The on-board information center will include the following diagnostic information:

- Text description of active warning or caution alarms
- Simplified warning indicators
- Amber caution indication with intermittent alarm
- Red warning indication with steady tone alarm

All control system modules, with the exception of the main control module, will contain on-board visual diagnostic LEDs that assist in troubleshooting. The LEDs will be enclosed within the sealed, transparent module housing near the face of the module. One LED for each input or output will be provided and will illuminate whenever the respective input or output is active. Color-coded labels within

the modules will encompass the LEDs for ease of identification. The LED indicator lights will provide point of use information for reduced troubleshooting time without the need for an additional computer.

TECH MODULE WITH WIFI

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will provide an external antenna connection allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

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

A USB connection will be provided on the Tech Module. It will provide a means to download data logger information and update software in the device.

PROGNOSTICS

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

The system will send automatic indications to the Command Zone, color display and/or wireless enabled device to proactively alert of upcoming service intervals.

Prognostics will include:

- Engine oil and filter
- Transmission oil and filter
- Pump oil (if equipped)
- Foam oil (if equipped)
- Aerial oil and filter (if equipped)

ADVANCED DIAGNOSTICS

An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with a Windows-based computer or wireless enabled device.

The service and maintenance software will be easy to understand and use and have the ability to view system input/output (I/O) information.

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM

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

VOLTAGE MONITOR SYSTEM

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

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

DEDICATED RADIO EQUIPMENT CONNECTION POINTS

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

- The studs will consist of the following:
- 12-volt 40-amp battery switched power
- 12-volt 60-amp ignition switched power
- 12-volt 60-amp direct battery power

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

ENHANCED SOFTWARE

The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released.

Cab and crew cab dome lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

Cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

EMI/RFI PROTECTION

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

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing

conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements.

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

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

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

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

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

BATTERY SYSTEM

There will be four (4) 12 volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

BATTERY SYSTEM

There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH

There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

BATTERY COMPARTMENTS

The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.

BATTERY CHARGER/ AIR COMPRESSOR

There will be a Kussmaul™ Pump Plus 1200, Model # 52-21-1100, single output battery charger/air compressor system will be provided. A display bar graph indicating the state of charge will be included.

The automatic charger will maintain one (1) set of batteries with a maximum output current of 40 amps.

The 12-volt air compressor will be installed to maintain the air system pressure when the vehicle is not in use.

There will be an auto pump timer installed between the pressure switch and the pump that will allow the pump to run for one hour than shut down for one hour.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

Battery charger/compressor will be located behind the driver's seat.

The battery charger indicator will be located behind the driver's door on the outside of the cab.

SHORELINE

There will be a 20 amp 120 volt AC straight blade shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus without the use of the generator.

The shoreline inlet will include a red flip up cover.

The shoreline(s) will be connected to battery charger.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

The shoreline receptacle will be located in the driver side lower step well of cab.

GENERATOR TO SHORELINE TRANSFER SWITCH

There will be an automatic transfer switch between the onboard generator and the shoreline inlet. The loads connected to the transfer switch will be power from the onboard generator when the generator is running.

ALTERNATOR

A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and

automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

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

The system will include the following features:

- System voltage monitoring.
- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.
- Sixteen available electronic load shedding levels.
- Priority levels can be set for individual outputs.
- High Idle to activate before any electric loads are shed and deactivate with the service brake.
 - If enabled:
 - "Load Man Hi-Idle On" will display on the information center.
 - Hi-Idle will not activate until 30 seconds after engine start up.
- Individual switch "on" indicator to flash when the particular load has been shed.
- The information center indicates system voltage.

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

- Load managed items list, with priority levels and item condition.
- Individual load managed item condition:
 - ON = not shed
 - SHED = shed

SEQUENCER

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

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

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

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

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

- Cab Heater and Air Conditioning
- Crew Cab Heater (if applicable)
- Crew Cab Air Conditioning (if applicable)
- Exhaust Fans (if applicable)
- Third Evaporator (if applicable)

HEADLIGHTS

There will be a HiViz part number FT-4X6-4KIT, that includes four (4) 4.00" high x 6.00" long rectangular LED lights with parking lamp illumination around the outside of the lamps mounted in the front quad style, chrome housing on each side of the cab grille:

- the outside lamp on each side will contain a part number FT-4X6-HL with low beam LEDs
- the inside lamp on each side will contain a part number FT-4X6-H with high beam LEDs
- the lights will be controlled through the headlight switch

DIRECTIONAL LIGHTS

There will be two (2) Whelen 600® series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be clear.

INTERMEDIATE LIGHT

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

CAB CLEARANCE/MARKER/ID LIGHTS

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

- Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.
- Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.
- Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.

REAR CLEARANCE/MARKER/ID LIGHTING

There will be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There will be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There will be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

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

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

Per FMVSS 108 and CMVSS 108 requirements.

REAR FMVSS LIGHTING

The rear stop/tail and directional LED lighting will consist of the following:

- Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
- Two (2) Whelen, Model M6T, amber LED arrow turn lights

The lights will be provided with clear lenses.

The lights will be mounted in a polished combination housing.

There will be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.

LICENSE PLATE BRACKET

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

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

LIGHTING BEZEL

There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There will be four (4) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.

If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the Amdor light will be installed.

The lights will be controlled by the same means as the body perimeter lights.

BODY PERIMETER SCENE LIGHTS

There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens, 20.00" long, white LED's, 12 volt DC lights provided at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights will be activated when the parking brake is applied.

STEP LIGHTS

There will be four (4) white LED, step lights provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

These step lights will be actuated when the ignition switch is on and the parking brake is set.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

LIGHT GUARD

There will be two (2) aluminum treadplate guard(s), provided to protect the HiViz light bar(s), LS and RS catwalks .

12 VOLT LIGHTING

There will be one (1) HiViz Model FT-MB-33-**-*, 2.56" high x 42.44" long x 2.45" deep 12,210 effective lumens 12 volt DC LED light(s) with a combination of flood and spot optics provided on the front visor, centered.

The painted parts of the light housing and brackets to be white.

The light(s) will be controlled by a switch at the driver's side switch panel.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be one (1) HiViz®, Model FT-GESM, 12,290 effective lumens 8.65" high x 10.61" wide x 2.78" deep light(s) with white LEDs installed on the cab high and aft LS crew door. The light(s) to include white bezel and chrome optic holder.

The light(s) will be activated by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be one (1) HiViz®, Model FT-GESM, 12,290 effective lumens 8.65" high x 10.61" wide x 2.78" deep light(s) with white LEDs installed on the cab high and aft RS crew door. The light(s) to include white bezel and chrome optic holder.

The light(s) will be activated by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will one (1) HiViz Model FT-MB-2.18-**-*, 11,386 effective lumens 2.75" high x 20.60" long x 3.31" deep light(s) with white LEDs and a combination of flood and spot optics located, catwalk above RS2.

The painted parts of the light housing and brackets to be white.

The light(s) will be controlled by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will one (1) HiViz Model FT-MB-2.18-**-*, 11,386 effective lumens 2.75" high x 20.60" long x 3.31" deep light(s) with white LEDs and a combination of flood and spot optics located, catwalk above LS2.

The painted parts of the light housing and brackets to be white.

The light(s) will be controlled by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

HOSE BED LIGHTS

There will be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the hose bed area. Hose Bed lights will meet the photometric levels listed in NFPA 1901 for Hose Bed lighting requirements.

- Light strip(s) will be installed along the upper edge of the left side of the hose bed.
- Light strip(s) will be installed along the upper edge of the right side of the hose bed.

The lights will be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.

REAR SCENE LIGHT(S)

There will be two (2) HiViz item FT-GSMJR-*, 5.04" high x 7.40" wide x 1.54" deep 5,000 raw lumens light(s) with white LEDs chrome trim and chrome optic holder(s) surface mounted at the rear of the apparatus, LS and RS Rear bulkhead .

The light(s) will be controlled by a switch at the driver's side switch panel, by a switch at the driver's side pump panel and by a cup switch at the driver's side rear bulkhead.

The light(s) may be load managed when the parking brake is applied.

WALKING SURFACE LIGHT

There will be Model FRP, 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light(s) will be activated when the body step lights are on.

WATER TANK

Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.

Tank joints and seams will be nitrogen welded inside and out.

Tank will be baffled in accordance with NFPA Bulletin 1901 requirements.

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

Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions will interlock and will be welded to the tank bottom and sides.

Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.

Tank top will be sufficiently supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank.

Sump will include a drain plug and the tank outlet.

Tank will be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing.

Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system will be approved by the tank manufacturer.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

SLEEVE, PLUMBING, THROUGH TANK

Two (2) sleeves will be provided in the water tank for a 3.00" pipe to the rear.

HOSE BED

The hose bed will be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength.

Upper and rear edges of side panels will have a double break for rigidity.

The upper inside area of the beavertails will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.

Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.

Hose bed will accommodate HB#1 800' 5", HB#2 500' 2.5", HB#3 200' 2.5" pre-connected BlitzFire.

HOSE BED DIVIDER

Two (2) adjustable hosebed dividers will be furnished for separating hose.

Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge.

Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.

Divider will be held in place by tightening bolts, at each end.

Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

MONITOR STORAGE IN HOSEBED

A storage compartment, constructed from aluminum treadplate will be furnished in the hosebed for storage of a Blitzfire XXC-32 portable monitor. The compartment dimensions will be 10"x10"x32". The front of the compartment will be beveled at 45 degrees. A strap will be furnished at the rear to keep the monitor in the stored position.

The compartment will be located in Hosebed #3.

A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.

HOSE BED COVER

A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down.

The cover will be reinforced so that it can support the weight of a man walking on the cover.

The cover is designed with the left cover opening first.

If access to the water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that the tank may be filled without raising cover doors.

Chrome grab handles and four (4) gas filled cylinders will be provided to assist in opening and closing the cover. A handrail is to be provided at the rear, in the center of the support, to assist in opening the cover.

HOSEBED END FLAP

A pair of black vinyl flaps will be installed on the rear, one (1) for each of the aluminum treadplate hose bed covers.

Each vinyl flap will have three (3) nylon tie down straps, with quick release thumb spring buckles. Fasnep model 207668 stainless steel buckles will be attached to the flaps. These vinyl end skirts will be installed directly to the hosebed frame.

Rubber coated hooks and stainless steel footman loops will secure the end skirts/bed covers to the main body.

RUNNING BOARDS

Running boards will be fabricated of .125" bright aluminum treadplate.

Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure.

Running boards will be 12.75" deep and spaced .50" away from the pump panel.

A splash guard will be provided above the running board treadplate.

TAILBOARD

The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.

The tailboard area will be 24.00" deep in the center area and 8.00" deep to the rear of the side compartments. The tailboard will be T-shaped. The outboard sides of the tailboard will be angled at 45 degrees beginning at the point where the body meets the tailboard at the outboard edge angling rearward to the rear edge of the tailboard.

The exterior side will be flanged down and in for increased rigidity of tailboard structure.

REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL

The rear facing surfaces of the center rear wall will be smooth aluminum.

The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body.

Any inboard facing surfaces below the height of the hosebed will be aluminum diamondplate.

TOW BAR

A tow bar will be installed under the tailboard at center of truck.

Tow bar will be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

Tow bar assembly will be constructed of .38" structural angle. When force is applied to the bar, it will be transmitted to the frame rail.

Tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.

Tow bar design will have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

RUNNING BOARD HOSE RESTRAINT

A pair of 2.00" wide black nylon straps with Velcro fasteners will be provided for each hose tray to secure the hose during travel. There will be One (1) hose tray located in the right side running board.

HOSE TRAY

One (1) hose tray will be recessed in the right side running board.

Capacity of the tray will be 25' of 5.00" hose.

Rubber matting will be installed on the floor of the tray to provide proper ventilation.

COMPARTMENTATION

Body and compartments will be fabricated of .125", 5052-H32 aluminum.

Side compartments will be an integral assembly with the rear fenders.

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

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

The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.

Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.

The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers will have the corners welded.

Side compartment covers will be separate from the compartment tops.

Front facing compartment walls will be covered with bright aluminum treadplate.

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

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

The support system will include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles will be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame will be mounted on the top of these supports to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

Isolators will have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

AGGRESSIVE WALKING SURFACE

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

LOUVERS

Louvers will be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they will be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN

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

Body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
- Driving the vehicle at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

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

LEFT SIDE COMPARTMENTATION

The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 65.13" high x 25.88" deep. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 31.38" high x 25.88" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 66.13" high x 25.88" deep. The clear door opening will be a minimum of 44.75" wide x 57.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

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

RIGHT SIDE COMPARTMENTATION

The right side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

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

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be six (6) compartment doors installed on the side compartments. The doors will be double faced aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Doors will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

REAR COMPARTMENTATION

A roll-up door compartment above the rear tailboard will be provided.

The interior dimensions of this compartment will be 40.00" wide x 33.63" high x 25.88" deep. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment will be calculated with the compartment door closed.

A louvered, removable access panel will be furnished on the back wall of the compartment.

The rear compartment will be open into the rear side compartments.

The clear door opening of this compartment will be a minimum of 33.25" wide x 23.88" high.

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

ROLLUP REAR COMPARTMENT DOOR

There will be a rear rollup door. The door will be double faced aluminum construction, an anodized satin finish and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Door will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surface will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

DOOR GUARD

There will be seven (7) compartment doors that will include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed left side rearward compartment, left side over the wheel compartment, left side forward compartment, right side rearward compartment, right side over the wheel compartment, right side forward compartment and rear compartment.

COMPARTMENT LIGHTING

There will be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment(s).

Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.

Opening the compartment door will automatically turn the compartment lighting on.

MOUNTING TRACKS

There will be seven (7) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS2, RS3 and B1. These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be painted to match the compartment interior.

ADJUSTABLE SHELVES

There will be six (6) shelves with a capacity of 500 lb provided.

The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides.

Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location(s) will be determined at a later date.

SLIDE-OUT/TILT-DOWN TRAY FOR SCBA PACKS

Slide-out/tilt-down SCBA tray assemblies will be provided. One assembly will consist of a partition and two trays. A quantity of one (1) will be provided. A partition will be installed in the center of the compartment. A tilt-down tray will be installed on each side of the partition. Each pair of trays will be designed for the installation of a total of 4 (four) SCBA packs.

The bottom of each tray will be constructed of 0.188" thick aluminum while painted spatter gray special aluminum extrusions will be utilized for the tray sides, ends, and tracks. The corners will be welded to form a rigid unit.

A spring loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip down from horizontal to an easily reachable height. The tray will be equipped with ball bearing rollers for smooth operation.

Rubber padded stops will be provided for the tray in the extended position.

The capacity rating of the tray will be a minimum of 215 lb in the extended position.

The vertical position of the tray within the compartment will be adjustable.

Shelf track will be installed in the bottom of the tray to allow installation of an air bottle bracket.

The tray(s) will be located LS2.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be two (2) floor mounted slide-out tray(s) provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray will be constructed of aluminum painted spatter gray

There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

The location(s) will be RS1 and B1.

SLIDE-OUT TOOLBOARD

There will be three (3) slide-out toolboard(s) provided.

The toolboard will be a minimum of 0.188" thick with .203" diameter holes in a pegboard pattern with 1.00" centers between holes.

A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The board will be mounted on an under-mount roller bearing type slide rated at 250 lb with a factor of safety of 2.

To ensure years of dependable service the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50 pound force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

The slide will be mounted on adjustable tracks side to side within the compartment.

The board will have positive lock in the stowed and extended position.

The toolboard(s) will be spatter gray painted and installed in LS1, 18.00" from the forward door frame, in LS1, 28.00" from the forward door frame and in LS1, 8.00" from the forward door frame.

DRAWER ASSEMBLY

A slideout drawer assembly will be installed LS3.

The clear dimensions starting at the top of the cabinet with the first drawer will be 3.00" with a face plate that is 4.00" high x 21.00" deep. The clear dimensions of the second drawer will be 4.75" with a face plate that is 5.00" high x 21.00" deep. The clear dimensions of the third drawer will be 5.75" with a face plate that is 6.00" high x 21.00" deep. The clear dimensions of the fourth drawer will be 9.75" with a face plate that is 10.00" high x 21.00" deep. Each drawer will be the same width and not exceed 36.00".

The drawers will have a capacity of 250 pounds.

The drawers will be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing will be 24.00" deep, and completely enclose the drawer.

A full-length aluminum extruded rail will be provided at the top edge of each drawer. This rail will act as the latching mechanism as well as the handle for each drawer.

There will be a total of one (1) provided.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown and the fender sheet metal to prevent corrosion.

The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown.

BODY FENDER LINER

A painted fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.

HARD SUCTION HOSE

Hard suction hose will not be required.

HANDRAILS

The handrails will be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

Handrails will be provided to meet NFPA 1901 section 15.8 requirements. The handrails will be installed as noted on the sales drawing.

HANDRAILS

One (1) vertical handrail will be located on each rear beavertail.

HANDRAIL

One (1) full width horizontal handrail will be provided below the hose bed at the rear of the apparatus.

EXTINGUISHER/AIR BOTTLE/ STORAGE (TRIANGULAR)

A total of one (1) extinguisher/air bottle/storage compartments will be provided RS rear. The triangular shaped compartment will be sized to fit a 8.00" diameter extinguisher in the lower area and a 8.00" diameter extinguisher in the upper area. The compartment will be approximately 25.50" deep. A partition will be provided to separate the compartment. Also inside the compartment, black rubber matting will be provided. The compartment will be furnished with a drain hole. A polished stainless steel, triangular shaped door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottles. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

AIR BOTTLE COMPARTMENT STRAP

A strap will be provided in the air bottle compartment(s) to help contain the bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.

AIR BOTTLE STORAGE (TRIPLE)

A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided on the left side forward of the rear wheels and on the right side forward of the rear wheels. A polished stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

AIR BOTTLE COMPARTMENT STRAP

A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.

AIR BOTTLE HOLDERS

Six (6) brackets will be provided for mounting air bottles. Each bracket will be a Ziamatic, model UH-5-30-3-SF. Install (4) on trays in LS2 (2) on frwd tank wall of RS2.

EXTENSION LADDER

There will be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.

ROOF LADDER

There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.

HYDRAULIC LADDER RACK

Ground ladders will be mounted above the right side of the hose body in a specially designed swing-down cradle. This cradle will be electric/hydraulic operated. The system design will have been life cycle tested for at least 14 years of dependable service.

An independent hydraulic pump powered by a 12-volt electric motor will operate the hydraulics. The hydraulic pump and reservoir will be accessible from the ground through a stainless steel inspection door.

The ladder rack will incorporate two hydraulic rotary actuators, one each located inside the front compartment and the rear compartment. The actuators will be completely enclosed within each compartment to eliminate any pinch points while operating the ladder rack. Lifting arms will be attached outside the compartment body to the front and rear actuator.

The rack can be designed in certain situations to provide lifting capabilities up to 500 lb.

The maximum height of the rack from the ground in the lowered position will be no more than 47.00".

The electric control panel will have a master switch on/off switch, an actuation switch, an operation indicator light and operation instructions. The electric controls will be located in such a manner to allow the operator full view of the area into which the ladders will be lowered.

Two (2) air operated safety locks will be furnished to securely maintain the ladder bracket assembly in the travel position. These air operated safety locks will be controlled from the ladder rack control panel.

A polished stainless steel enclosure shall be provided over the hydraulic ladder rack lock at the rear on the right side to cover the ladder rack lock (1) and provide mounting for any rear warning lights.

Ladders will be secured to the brackets with two (2) locks retaining the roof ladder and the extension ladder. The locks will be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place.

LADDER RACK INTERLOCK AND NOT STOWED INDICATOR LIGHT

An interlock will be provided to prevent operation of the ladder rack unless the apparatus parking brake has been activated.

A steady red indicator light will be located on the cab instrument panel and illuminated when the hydraulic ladder rack is not in the stowed position. The light will be labeled "Ladder Rack". In addition, the "Do Not Move Apparatus" light located in the cab will be activated when the hydraulic ladder rack is not in the stowed position.

HYDRAULIC LADDER RACK DEPLOYED LIGHTS

There will be two (2) Truck-Lite catalog number 15***, 1.20" high x 2.49" wide x 0.94" deep lights with chrome trim, amber flashing LEDs and, provided per the following:

- One (1) light installed on the front of the hydraulic ladder rack
- One (1) light installed on the rear of the hydraulic ladder rack
- The warning light lens color(s) to be clear

The lights will be activated when the battery switch is on and the hydraulic ladder rack is not in the stowed position.

FOLDING LADDER

One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed on the inboard side of the hydraulic ladder rack .

HYDRAULIC LADDER RACK PUMP LOCATION

The hydraulic pump for the ladder rack will be located RS pump panel. An access door will be provided to fill the pump.

PIKE POLE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) 8 ft or longer pike pole mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike pole.

The pike pole(s) will be a Duo-Safety 10' pike pole.

6' PIKE POLE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) 6' pike pole or plaster hook mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike pole.

The pike pole(s) will be a Duo-Safety 6' pike pole.

PIKE POLE STORAGE

Aluminum tubing will be used for the storage of two (2) pike poles and will be located on hydraulic ladder rack. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.

FOLDING STEPS FRONT OF BODY

Folding steps will be provided full height on the left side body compartments to provide access to the cargo bed. Steps will be spaced evenly on the sales drawing. Actual quantity may vary due to pump panel interferences but will meet the NFPA required maximum stepping height.

The Trident steps will be bright finished, non-skid with a black coating.

The step will incorporate an LED light to illuminate the stepping surface.

The steps can be used as a hand hold with two openings wide enough for a gloved hand.

REAR FOLDING STEPS

Bright finished, non-skid folding steps with a black coating will be provided at the rear. Each step will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.

There will be one (1) bright aluminum treadplate cover/step/s provided and installed LS rear within the cargo area over the pump. The step will be reinforced for walking.

PUMP

Pump will be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type.

Pump will be the class "A" type.

Pump will deliver the percentage of rated discharge at pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure.
- 70% of rated capacity at 200 psi net pump pressure.
- 50% of rated capacity at 250 psi net pump pressure.

Pump body will be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings).

Pump will be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping.

Pump case halves will be bolted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges will be used.

Discharge manifold of the pump will be cast as an integral part of the pump body assembly and will provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency.

The three (3) 3.50" openings will be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold.

Impeller shaft will be stainless steel, accurately ground to size. It will be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller will have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply.

Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.

Pump will be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.

The mechanical seal will consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring will press against a highly polished stainless steel stationary ring that is sealed within the pump body.

In addition, a throttling ring will be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance will not deteriorate, nor will the pump lose prime, while drafting if the seal fails during pump operation.

Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.

PUMP TRANSMISSION

The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By the use of a chain rather than gears, 50% of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work.

Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.

PUMPING MODE

An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.

AIR PUMP SHIFT

Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel.

Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump".

The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

The pump shift control in the cab will be illuminated to meet NFPA requirements.

TRANSMISSION LOCK-UP

The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be cylindrical type and will be a separate unit. The heat exchanger will be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.

INTAKE RELIEF VALVE

One (1) Trident Air Max intake relief valve(s) will be installed on the suction side of the pump preset at 125 psig.

The relief valve will have a working range of 50 PSI to 350 PSI.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

One (1) adjustable air regulator and pressure indicating gauge will be located on a common bezel on the left side pump panel to control the intake valve(s).

PRESSURE CONTROLLER

A Pierce Pump Boss Model PBA300 pressure governor will be provided.

A pressure transducer will be installed in the water discharge manifold on the pump.

The display panel will be located at the pump operator's panel.

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control will open the priming valve and start the pump primer.

PUMP MANUALS

There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.

FOAM SYSTEM PLUMBING

All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.

MAIN PUMP INLETS

A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

INLET VALVES WITH INTAKE RELIEF VALVE

There will be Two (2) Task Force Tips (TFT) AB Series aluminum ball intake valve(s) provided at LS and RS MIV .

The inlet connection will be 1ST (5.0" Rigid Storz) with a cap and the outlet connection will be NX (6.0" Threaded Swivel) . There will be an eight-position adjustable 30 degree swiveling detent elbow on the inlet side of the ball intake valve.

The ball intake valve will be controlled with a(n) standard crank on the left side .

If ball intake valve is to be controlled with a manual handwheel, the handwheel will be controlled with a NFPA compliant slow-close hand wheel. A position indicator will be provided to allow for a quick visualization of the status of the valve in the open, closed or transition position.

If the ball intake valve is to be electrically controlled, the ball intake valve will be controlled by a remote panel-mounted push-button switch with LED lights for a quick visualization of the status of the valve in

the open, closed or transition position. The push button switch will be mounted on the pump operator's panel.

The ball intake valve will be equipped with a standard adjustable pressure relief valve preset at. The relief valve will have a working range of 90 PSI to 300 PSI.

A 3/4" TFT bleeder/drain valve will be provided on the ball intake valve to exhaust excess air or water from the valve.

For corrosion protection the aluminum casting will have a hard coat anodized finish, with a powder coated internal and external finish. All the components facing the wet side of the valve will be constructed from stainless steel.

SHORT SUCTION TUBE(S)

The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.

VALVES

All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a **ten (10) year** warranty.

LEFT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

The location of the valve for the one (1) inlet will be recessed behind the pump panel.

ANODE, INLET

A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.

INLET CONTROL

The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

INLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with stainless steel piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

There will be one (1) 2.50" combination tank refill and pump recirculation line provided. The tank refill will incorporate a quarter-turn ball valve with the control located at the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS

There will be One (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE DISCHARGE OUTLETS

There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

LARGE DIAMETER DISCHARGE OUTLET

There will be a 4.00" discharge outlet with a 4.00" Akron valve installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread adapter. This discharge outlet will be actuated with a handwheel control at the pump operator's control panel.

An indicator will be provided to show when the valve is in the closed position.

FRONT DISCHARGE OUTLET

There will be one (1) 1.50" discharge outlet piped to the front of the apparatus and located in the center bumper tray.

Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 1.50" NST with 90 degree stainless steel swivel.

There will be automatic drains provided at all low points of the piping.

REAR DISCHARGE OUTLET

There will be Two (2) discharge outlets piped to the rear of the hose bed, one (1) each side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.

FRONT OF HOSE BED DISCHARGE OUTLET

There will be One (1) discharge outlet discharge(s) piped to the front of the hose bed and located RS hose bed . Plumbing will consist of 2.50" piping with a 2.50" full-flow ball valve controlled at the pump

operator's panel. The discharge(s) will terminate with a 2.50" (M) National Standard hose thread adapter.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with chain will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.

Chrome plated, rocker lug, plugs with chain will be furnished for all auxiliary inlets 1.00" thru 3.00" in size.

The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

REAR OUTLET ELBOWS

The 2.50" discharge outlets located at the rear of the apparatus will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

LARGE DIAMETER OUTLET ELBOWS

The 4.00" outlet(s) will be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.

DISCHARGE OUTLET CONTROLS

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.

DELUGE RISER

A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping will be rigidly braced and installed securely so no movement develops when the line is charged. The riser will be gated and controlled at the pump operator's panel. The outlet will include an Akron valve with a handwheel control.

MONITOR

An Akron Model 3431 Apollo Hi-Riser monitor will be properly installed on the deluge riser.

Included will be a fixed mounting base.

The monitor will be painted to match the body .

NOZZLE, DELUGE

An Akron Akromatic model 5160 1250 GPM Master Stream Nozzle with 2.50" swivel will be provided. The nozzle will have a range of 250 to 1250 GPM and have a built in stream shaper.

The deluge riser will have male National Pipe Threads for mounting the monitor.

SPEEDLAYS WITH ALUM TRAYS

Ahead of the pump enclosure will be two (2) 1.75" and one (1) 2.50" speedlay hose beds. Two (2) speedlay compartments will have a 2.00" preconnect line with a 2.00" quarter turn ball valve and terminate with a 1.50" National Standard hose thread 90 degree swivel. One (1) speedlay compartment will have a 2.50" preconnect with a 2.50" quarter turn ball valve and terminate with a 2.50" National Standard hose thread 90 degree swivel.

Individual controls for the speedlays will be at the pump operator's panel.

Each compartment will be capable of carrying 200 feet of double jacketed hose with the one (1) compartment located above the other. The lower compartments will carry 1.75" hose and the upper compartment will carry 2.50" hose.

A removable tray will be provided for each speedlay hosebed. The speedlay trays will be constructed of 0.19 brushed finished aluminum with two (2) hand holes for easy removal from the compartment.

The bottom of the speedlay compartments will be lined with stainless steel. Nylon runners will be used on the bottom of the trays to allow for a skid resistant surface. The floor of the trays will be perforated brushed aluminum to allow for drainage and hose drying. Scuffplates will be provided on both sides, at the sides and bottom of each opening.

SPEEDLAY HOSE RESTRAINT

A 2.00" black nylon webbing design restraint will be provided across the ends of speedlay(s) to secure the hose during travel. The webbing assembly is to be attached at the bottom of the speedlay(s) with footman loops as a permanent attachment and is attached at the top with 2.00" cam buckle fastener(s).

HUSKY 3 FOAM PROPORTIONER

A Pierce Husky® 3 foam proportioning system will be provided. The Husky 3 is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically proportion foam solution at rates from .1 percent to 3 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

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

System Capacity

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

100 gpm @ 3 percent

300 gpm @ 1 percent

600 gpm @ 0.5 percent

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

Control System

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

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

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

The indications will be:

- Solid Green - System On
- Solid Red - Valve Position Error
- Solid Yellow - Priming System
- Flashing Green - Injecting Foam
- Flashing Red - Low Tank Level
- Flashing Yellow - Refilling Tank

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

Hydraulic Drive System

The foam concentrate pump will be powered by an electric over hydraulic drive system. The hydraulic system and motor will be integrated into one (1) unit.

Foam Concentrate Pump

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

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

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

External Foam Concentrate Connection

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

Panel Mounted External Pick-Up Connection / Valve

A bronze three (3)-way valve will be provided. The unit will be mounted to the pump panel. The valve unit will function as the foam system tank to pump valve and external suction valve. The external foam pick-up will be one (1) 0.75" male connection GHT (garden hose thread) with a cap.

Pick-Up Hose

A 0.75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a 0.75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose.

Discharges

The foam system will be plumbed to the center of front bumper, left rear outlet, front crosslay and rear crosslay.

System Electrical Load

The maximum current draw of the electric motor and system will be no more than 55 amperes at 12 VDC.

SINGLE FOAM TANK REFILL

The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller will display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will shut the yellow LED off. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED will illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.

FOAM TANK

The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 20 gallons of foam with the intended use of Class A foam. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

FOAM TANK DRAIN

The foam tank drain will be a 1.00" quarter turn drain valve located inside the pump/plumbing compartment.

PUMP COMPARTMENT

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

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

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

PUMP MOUNTING

Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.

LEFT SIDE PUMP CONTROL PANELS

All pump controls and gauges will be located at the left side of the apparatus and properly identified.

Layout of the pump control panel will be ergonomically efficient and systematically organized.

The pump operator's control panel will be removable in two (2) main sections for ease of maintenance:

The upper section will contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels will be removable from the face of the pump panel for ease of maintenance. Below the sub panels will be located all valve controls and line pressure gauges.

The lower section of the panel will contain all inlets, outlets, and drains.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

IDENTIFICATION TAGS

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting will be removable from the face of the pump panel for ease of maintenance. The casting will be color coded to correspond with the discharge identification tag.

All remaining identification tags will be mounted on the pump panel in chrome plated bezels.

The pump panel on the right side will be removable with lift and turn type fasteners.

Trim rings will be installed around all inlets and outlets.

The trim rings for the side discharge outlets will be color coded and labeled to correspond with the discharge identification tag.

The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made for up One (01) Truck apparatus and/or similar Pierce job number.

PUMP OPERATOR'S PANEL DRAWING

A detailed drawing to scale of the pump operator's panel will be provided for the customer to review. The drawing will include all of the gauges, controls, switching, etc., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved pump operator's panel drawing will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.

COLOR CODED TAGS

A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents.

SPECIAL TEXT/VERBIAGE TAGS

A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.

PUMP PANEL CONFIGURATION

The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.

PUMP AND GAUGE PANEL

The pump and gauge panels will be constructed of aluminum with a black vinyl finish. A polished aluminum trim molding will be provided around each panel.

The right side pump panel will be removable and fastened with swell type fasteners.

PUMP COMPARTMENT LIGHT

There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the pump compartment.

There will be a switch accessible through a door on the pump panel included with this installation.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

Also provided at the pump panel will be the following:

- Master Pump Drain Control

THROTTLE READY GREEN INDICATOR LIGHT

There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.

OK TO PUMP INDICATOR LIGHT

There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.

ALUMINUM HEAT ENCLOSURE

A heat enclosure will be installed, trapping hot air radiated from the engine exhaust system, which will warm the fire pump. The enclosure will consist of an aluminum understructure, with easily removable aluminum panels. Also a covering above the pump will be provided, so warm air cannot escape freely.

ELECTRIC GAUGE HEATER

A 12v electric gauge heater will be provided for all water carrying gauges.

PUMP COMPARTMENT HEATER

A hot water heater shall be installed in the pump compartment.

Controls for the heater shall be located at the pump operator's panel.

RUBBER BOOT

The front and rear of the pump house will be enclosed to contain the heat. The rear will have openings for the plumbing only. A rubber boot will be supplied around the plumbing, at the front, sides and rear of the pump house, the boot will allow the plumbing to flex and keep cold air out.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in.

standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1© interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

WATER LEVEL GAUGE

There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

There will be a Hale part number 106877, 4-light driver module included with this installation to power additional water level gauges.

The system(s) will be energized when pump is in gear.

WATER LEVEL GAUGE

There will be two (2) additional water level indicator(s), Whelen®, Model PSTANK2, LED module with chrome trim, installed one (1) each side rearward of crew cab doors.

This light module(s) will include four (4) colored levels, and function similar to the water level indicator located at the operators panel:

- First green module indicates a full water level
- Second blue module indicates a water level above 3/4 full
- Third amber module indicates a water level above 1/2 full
- Last red module indicates a water level above 1/4 full and empty
 - Above 1/4 this light will be steady burning
 - At empty this light will be flashing

The flash rate will be determined by the main water level tank sensor.

This module will be activated when the pump is in gear.

FOAM LEVEL GAUGE

An electronic foam level gauge will be provided on the operator's panel that registers foam level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The foam level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level.

LIGHT SHIELD

There will be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel.

- There will be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for

the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.

- One (1) pump panel light will come on when the pump is in ok to pump mode.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

AIR HORN SYSTEM

There will be two (2) Grover air horns recessed in the front bumper. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.

Air Horn Location

The air horns will be located on each side of the bumper, towards the outside.

Air Horn Control

The air horns will be actuated by a chrome push button located on the officer's side of the engine tunnel and by the horn button in the steering wheel. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

ELECTRONIC SIREN

A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the driver side center switch panel.

SIREN CONTROL

The electronic siren will be controllable on the siren head and horn ring only. No foot switches will be required.

The driver will have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

The switch for the electronic siren will default to siren operation when the emergency master switch is activated.

SPEAKER

There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.

The speaker will be recessed in the right side of the front bumper, just outside of the frame rail.

AUXILIARY MECHANICAL SIREN

A Federal Q2B® siren will be furnished.

The control solenoid will be powered up after the emergency master switch is activated.

The mechanical siren will be mounted on the bumper deck plate. It will be mounted on the left side. A reinforcement plate will be furnished to support the siren.

The mechanical siren will be actuated by a foot switch on the officer's side and by a push button in the steering wheel.

A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.

FRONT ZONE UPPER WARNING LIGHTS

There will be one (1) 72.00" Whelen Freedom IV LED lightbar mounted on the cab roof.

The lightbar will include the following:

- One (1) red flashing LED module in the driver's side end position.
- One (1) red flashing LED module in the driver's side front corner position.
- One (1) red flashing LED module in the driver's side first front position.
- One (1) white flashing LED module in the driver's side second front position.
- One (1) blue flashing LED module in the driver's side third front position.
- One (1) red flashing LED module in the driver's side fourth front position.
- Open in the driver's side fifth front position.
- One (1) 795 LED traffic light controller sent to national standard high priority in the center positions.
- Open in the passenger's side fifth front position.
- One (1) red flashing LED module in the passenger's side fourth front position.
- One (1) blue flashing LED module in the passenger's side third front position.
- One (1) white flashing LED module in the passenger's side second front position.
- One (1) red flashing LED module in the passenger's side first front position.
- One (1) red flashing LED module in the passenger's side front corner position.
- One (1) red flashing LED module in the passenger's side end position.

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 no momentary switch to activate the traffic light controller.

The two (2) white flashing LED modules and the traffic light controller will be disabled when the parking brake is applied.

The two (2) red and two (2) blue flashing LED modules in the front positions may be load managed when the parking brake is applied.

CAB FACE WARNING LIGHTS

There will be four (4) Whelen®, Model M6*C, LED flashing warning lights installed on the cab face, above the headlights, mounted in a common bezel.

- The driver's side front outside warning light to be red
- The driver's side front inside warning light to be red
- The passenger's side front inside warning light to be red
- The passenger's side front outside warning light to be red

All four (4) lights will include a clear lens.

There will be a switch located in the cab, on the switch panel, to control the four (4) lights.

The inside lights may be load managed if colored or disabled if white, when the parking brake is set.

HEADLIGHT FLASHER

The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING

There will be four (4) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red.
- The lights will include a clear lenses.

There will be a switch in the cab on the switch panel to control the lights.

REAR ZONE LOWER LIGHTING

There will be two (2) Whelen®, Model M6*C, LED flashing warning lights located at the rear of the apparatus.

- The driver's side rear light to be red
- The passenger's side rear light to be red

Both lights will include a lens that is clear.

There will be a switch located in the cab on the switch panel to control the lights.

The rear warning light on the side of the hydraulic rack will be recessed into the rear bulkhead to allow the ladder rack arm to clear the light lens.

REAR/SIDE ZONE UPPER WARNING LIGHTS

There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons.

The color of the lights will be red LEDs with both domes clear.

The rear warning lights will be mounted on top of the compartmentation with all wiring totally enclosed. The rear deck lights will be mounted on the beavertails as high as possible.

TRAFFIC DIRECTING LIGHT

There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen, Model TACTL5, control head will be included with this installation.

The controller will be energized when the battery switch is on.

The auxiliary flash not activated.

This traffic directing light will be recessed with a stainless steel trim plate at the rear of the apparatus as high as practical.

The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.

ELECTRICAL SYSTEM GENERAL DESIGN FOR ALTERNATING CURRENT

The following guidelines will apply to the 120/240 VAC system installation:

General

Any fixed line voltage power source producing alternating current (ac) line voltage will produce electric power at 60 cycles plus or minus 3 cycles.

Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures will conform to NFPA 70, National Electrical Code (herein referred to as the NEC).

Line voltage electrical system equipment and materials included on the apparatus will be listed and installed in accordance with the manufacturer's instructions. All products will be used only in the manner for which they have been listed.

Grounding

Grounding will be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems will not be used. Only stranded or braided copper conductors will be used for grounding and bonding.

An equipment grounding means will be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.

The grounded current carrying conductor (neutral) will be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor will be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.

In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure will be bonded to the vehicle frame by a copper conductor. This conductor will have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements will be permitted to be used.

All power source system mechanical and electrical components will be sized to support the continuous duty nameplate rating of the power source.

Operation

Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, will be permanently attached to the apparatus at any point where such operations can take place.

Provisions will be made for quickly and easily placing the power source into operation. The control will be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train will be equipped with a means to prevent the unintentional movement of the control device from its set position.

A power source specification label will be permanently attached to the apparatus near the operator's control station. The label will provide the operator with the following information:

- Rated voltage(s) and type (ac or dc)
- Phase
- Rated frequency
- Rated amperage
- Continuous rated watts
- Power source engine speed

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

Overcurrent protection

The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device will not exceed 144.00" (3658 mm) in length.

For fixed power supplies, all conductors in the power supply assembly will be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit (90 degrees Celsius).

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

Wiring Methods

Fixed wiring systems will be limited to the following:

- Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius)
- or
- Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius)

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

- Separated by a minimum of 12.00" (305 mm), or properly shielded, from exhaust piping
- Separated from fuel lines by a minimum of 6.00" (152 mm) distance

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

Wiring Identification

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

Wet Locations

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

All receptacles located in a wet location will be not less than 24.00" (610 mm) from the ground. Receptacles on off-road vehicles will be a minimum of 30.00" (762 mm) from the ground.

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

Dry Locations

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

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

Listing

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

Electrical System Testing

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

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

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

Operational Test per Current NFPA 1901 Standard

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

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

The power source will be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current NFPA 1901 standard.

Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current NFPA 1901 standard will be applied to the low voltage electrical system during the operational test.

GENERATOR

The apparatus will be equipped with an alternating current (AC) electrical power system. The generator will be a Harrison, 6,000 watt (120/240 volts AC, 50/25 amps), Stinger, hydraulic driven unit. The generator will be driven by a transmission power take off unit, through a hydraulic pump and motor.

The hydraulic engagement supply will be operational at any time (no interlocks).

To properly monitor the generator performance, a digital voltage, frequency, hour meter will be provided.

GENERATOR LOCATION

The generator will be mounted in the in the area over the pump on the left side. The flooring in this area will be either reinforced or constructed in such a manner that it will handle the additional weight of the generator.

GENERATOR START

There will be a switch provided on the cab instrument panel to engage the generator.

GENERATOR REMOTE START

There will be one (1) remote start switch provided on the pump panel to engage the hydraulic generator PTO and field. A light at each switch location will be provided to indicate that the generator is running.

CIRCUIT BREAKER PANEL

The circuit breaker panel will be located high on the left wall of compartment LS3.

ELECTRIC CORD REEL

Furnished with the 120 volt AC electrical system will be a Hannay, Series 1600, cord reel. The reel will be provided with a 12-volt electric rewind switch, that is guarded to prevent accidental operation and labeled for its intended use. The switch will be protected with a fuse and installed at a height not to exceed 72.00" above the operators standing position.

The exterior finish of the reel(s) will be painted #269 gray from the reel manufacturer.

A captive roller assembly to be provided to aid in the payout and loading of the reel. A ball stop will be provided to prevent the cord from being wound on the reel.

A label will be provided in a readily visible location adjacent to the reel. The label will indicate current rating, current type, phase, voltage and total cable length.

A total of one (1) cord reel will be provided one (1) above the pump area, opposite side of the generator.

The cord reel will be configured with three (3) conductors.

CORD

Provided for electric distribution will be one (1) length installed on the reel of 200 feet of yellow 10/3 electrical cord, weather resistant 105 degree Celsius to -50 degree Celsius, 600 volt jacketed SOOW cord. No connector will be installed on the end of the cord.

PORTABLE JUNCTION BOX

There will be one (1) Akron EJBX electric junction box(es) provided.

There will be a cable strain relief and direct connection, no plug provided for each box.

Each box will be provided with the following:

- two (2) 15/20 amp 120 volt AC duplex straight blade receptacle with flip up covers
- two (2) 20 amp 120 volt AC twist lock single receptacles with flip up covers

- a 120 volt AC light inside the box

JUNCTION BOX HOLDER

There will be an aluminum junction box holder installed adjacent to the cord reel. A total of one (1) will be mounted at pick-up.

POWER OUTLET STRIP

There will be one (1) receptacle strip(s) with six (6) 15 amp 120 volt AC straight blade receptacles provided DS engine tunnel.

The strip(s) selected will be powered from the shoreline inlet through a receptacle located adjacent to the strip(s).

There will be a label installed near the strip(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

POWER OUTLET STRIP

There will be one (1) receptacle strip(s) with six (6) 20 amp 120 volt AC straight blade receptacles provided LS2 low forward bulkhead.

The strip(s) selected will be powered from the onboard generator to shoreline power transfer switch through a receptacle located adjacent to the strip(s).

There will be a label installed near the strip(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

120 VOLT RECEPTACLE

There will be one (1), 4-place receptacle box(es) with four (4) 15/20 amp 120 volt AC three (3) wire straight blade receptacles with an interior stainless steel wall plate installed RS1. The NEMA configuration for the receptacles will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

There will be a label installed near the receptacle(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 will be provided by the fire department.

- 800 ft (60 m) of 2.50" (65 mm) or larger fire hose.
- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.
- One (1) handline nozzle, 200 gpm (750 L/min) minimum.
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum.
- One (1) smoothbore or combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm.
- One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.
- One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).
- One (1) first aid kit.
- Four (4) combination spanner wrenches.
- Two (2) hydrant wrenches.
- One (1) double female 2.50" (65 mm) adapter with National Hose threads.
- One (1) double male 2.50" (65 mm) adapter with National Hose threads.
- One (1) rubber mallet, for use on suction hose connections.
- Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m).
- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.
- Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.
- One (1) automatic external defibrillator (AED).
- Four (4) ladder belts meeting the requirements of NFPA 1983, *Standard on Fire Service Life Safety Rope and System Components* (if equipped with an aerial device).
- If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus.
- If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one

side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6.

- If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.
- If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried.

Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT - BODY PAINTED TO MATCH CAB

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

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.
3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

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

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T. standard in

critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab and body will be two-tone, with the upper section painted 101 black along with a shield design on the cab face and lower section of the cab and body painted 90 red.

PAINT - ENVIRONMENTAL IMPACT

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

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

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

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails

Components that are included with the chassis frame assembly that will be painted not e-coated are:

- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment

- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Air tanks
- Steel fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

The E-coat process will meet the technical properties shown.

AXLE HUB PAINT

All axle hubs will be painted black #101.

PAINT HYDRAULIC LADDER RACK 2-TONE

The hydraulic ladder rack will be painted 101 black and 90 red color.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.

The reflective band provided on the cab face will be below the headlights on the fiberglass.

REAR CHEVRON STRIPING

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered.

The colors will be red and fluorescent yellow green diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

JOG IN REFLECTIVE STRIPE

There will be one (1) "Hockey Stick" style jog(s) in the reflective stripe located each side of the vehicle. Each stripe will be angled upward at approximately a 45 degree angle.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

LETTERING

The lettering will be totally encapsulated between two (2) layers of clear vinyl.

LETTERING

Sixty-one (61) to eighty (80) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

LETTERING

There will be genuine gold leaf lettering, 10.00" high, with outline and shade provided. There will be four (4) letters provided.

MALTESE CROSS INSTALLATION

There will be one (1) pair of maltese crosses, comprised of reflective material, provided and installed cab doors.

E-COATING OF STEEL COMPONENTS

The following components will be treated with an epoxy E-coat to provide resistance to corrosion and chemicals:

Cross members

TAK-4® weldments (side plates and side plate interconnecting structure members) (if applicable)

Torsion bar anchor weldments (if applicable)

Battery boxes

Bumper extension weldment

Frame extensions

Body mounting angles

Rear body support weldment

Under body support weldments (front and rear)

Pump house substructure (walkway if applicable)

The following components will not be e-coated:

Air tanks

Fuel tank

Castings

Individual piece parts used in chassis and body assembly

The e-coated parts will have a black top coat as well to provide an additional layer of protection and provide a consistent finish.

UNDERCOATING, CAB & BODY

The apparatus will be properly treated by an authorized Ziebart dealer.

The underside of the apparatus will be undercoated with an asphalt petroleum based material, dark in color.

The undercoating material utilized on the apparatus will be formulated to resist corrosion and deaden unwanted sound or road noise.

Coating texture will appear firm, flexible, and resistant to abrasion. Minimum dry film thickness will be in the range of 8.00 to 12.00 mils.

The material will be applied to the following areas:

Body and cab wheel well fender liners, on the back side only.

Underside of body and cab sheet metal, and structural components.

Underside and vertical sides of all sheet metal compartmentation, including support angles.

Structural support members under running boards, rear platforms, battery boxes, walkways, etc.

Inside surfaces of the pump heat enclosure, (when installed).

FIRE APPARATUS PARTS MANUAL

There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.

The manual(s) will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in alphabetical order
- Instructions on how to locate parts

Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

Service Parts Internet Site

The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

CHASSIS SERVICE MANUALS

There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit.

The manual will contain the following sections:

- Job number
- Table of contents

- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

CHASSIS OPERATION MANUAL

The chassis operation manual will be provided on one (1) USB flash drive.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.

ENGINE WARRANTY

A Cummins **five (5) year** limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

STEERING GEAR WARRANTY

A Sheppard **three (3) year** limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.

FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle 5 year limited warranty will be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY

A Pierce fifty four (54) month warranty will be provided for the camera system.

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A **six (6) year** limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included with this proposal.

PUMP WARRANTY

The Waterous pump will be provided with a Seven (7) year material and workmanship limited warranty.

A copy of the warranty certificate will be submitted with the bid package (no exception).

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

FOAM SYSTEM WARRANTY

The Husky 3 foam system limited warranty certificate, WA0231, is included with this proposal.

SIX (6) YEAR GENERATOR MATERIAL AND WORKMANSHIP WARRANTY

A Harrison Hydra-Gen limited warranty certificate, WA0285, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab integrity certification with this proposal. The certification will state that the cab has been tested and certified by an independent third-party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state-licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Roof Crush

The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of 10 metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lbs. This value exceeds the ECE 29 criteria by nearly 4.5 times.

Side Impact

The same cab will be subjected to dynamic preload where a 13,275 lb moving barrier slams into the side of the cab at 5.5 mph at a force of 13,000 ft-lbs. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lbs of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lbs of force using a moving barrier, (twice the force required by SAE J2420).

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION

Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

PERFORMANCE CERTIFICATIONS**Cab Air Conditioning**

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
 - The nameplate rating of the alternator.
 - The alternator rating under the conditions specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - The minimum continuous load of each component that is specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - Additional loads that, when added to the minimum continuous load, determine the total connected load.
 - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).



Proposal Option List

11/10 Item 1.

Customer: Columbia Heights Fire Department
Representative Corcoran, Dan
Organization: MacQueen Emergency Group
Requirements Manager:
Description: Columbia Heights Impel
Body: Pumper, Medium, Aluminum, 2nd Gen
Chassis: Impel Chassis, 2010

Bid Number: 941
Job Number:
Number of Units: 1
Bid Date: 12/23/2020
Stock Number:
Price Level: 39 (Current: 39)
Lane:

Line	Option	Type	Option Description	Qty
1	0766611		Boiler Plates, Pumper Fire Department/Customer - Columbia Heights Fire Dept Operating/In conjunction W-Service Center - Operating Miles - 25 Miles Number of Fire Dept/Municipalities - 10 Bidder/Sales Organization - MacQueen Emergency Delivery - Delivery representative Dealership/Sales Organization, Service - MacQueen Emergency	1
2	0661794		Single Source Compliance	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0764706	SP	BMP Truck- Pre-Approval at Bid - Approved Option Will be Required at Booking Fill in Blank -	1
7	0610784		Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	1
8	0533347		Pumper/Pumper with Aerial Device Fire Apparatus	1
9	0588611		Vehicle Certification, Pumper	1
10	0661778		Agency, Apparatus Certification, Pumper/Tanker, U.L.	1
11	0620362		Consortium, HGAC	1
12	0537375		Unit of Measure, US Gallons	1
13	0030006		Bid Bond Not Requested	1
14	0540326		Performance Bond, Not Requested	1
15	0000007		Approval Drawing	1
16	0002928		Electrical Diagrams	1
17	0597579		Impel Chassis, 2010	1
18	0000110		Wheelbase Wheelbase - 198	1
19	0000070		GVW Rating GVW rating - 46,500	1
20	0000203		Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	1
21	0020018		Frame Liner Not Req'd	1
22	0508848		Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Imp/Vel	1
23	0030264		Suspension, Front TAK-4, 19,500 lb, Qtm/AXT/Imp/Vel/Dash CF/Enf	1
24	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	1
25	0000322		Oil Seals, Front Axle	1
26	0582936		Tires, Front, Goodyear, G289 WHA, 315/80R22.50, 20 ply	1
27	0019575		Wheels, Front, Alcoa, 22.50" x 9.00", Aluminum, Hub Pilot	1
28	0530464		Axle, Rear, Meritor RS24-160, 24,000 lb, Imp/Vel/Dash CF	1
29	0544253		Top Speed of Vehicle, 68 MPH	1
30	0122076		Suspen, Rear, Standens, Spring, 24,000 lb, Imp/Vel/Dash CF	1
31	0000485		Oil Seals, Rear Axle	1
32	0587216		Tires, Rear, Goodyear, G622 RSD, 12R22.50, 16 ply, Single	1
33	0019625		Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	1
34	0568081		Tire Balancing, Counteract Beads	1
35	0620570		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle Qty, Tire Pressure Ind - 6	1
36	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
37	0057936		Covers, Lug Nut, Chrome	1
38	0002045		Mud Flap, Front and Rear, Pierce Logo	1
39	0544802		Chocks, Wheel, SAC-44-E, Folding Qty, Pair - 01	1

Line	Option	Type	Option Description	Qty
40	0544806		Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal Qty, Pair - 01 Location, Wheel Chocks - Left Side Rear Compt	1
41	0010670		ABS Wabco Brake System, Single rear axle	1
42	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
43	0000730		Brakes, Meritor, Cam, Rear, 16.50 x 7.00"	1
44	0020784		Air Compressor, Brake, Cummins/Wabco 18.7 CFM	1
45	0000785		Brake Reservoirs, Three	1
46	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
47	0000790		Brake Lines, Nylon	1
48	0000854		Air Inlet, w/Disconnect Coupling Location, Air Coupling(s) - a) DS Step Well, Forward Qty, Air Coupling (s) - 1	1
49	0736447		Engine, Cummins L9, 450 hp, 1250 lb-ft, W/OBD, EPA 2021, Imp/Vel	1
50	0001244		High Idle w/Electronic Engine, Custom	1
51	0687994		Engine Brake, Jacobs Compression Brake, Cummins Engine Switch, Engine Brake - e) ISC/ISM/ISL9/ISX Hi Med Lo	1
52	0595068		Clutch, Fan, Air, Horton, w/ "Fan Clutch Disengaged" Switch- MUX ONLY	1
53	0123135		Air Intake, w/Ember separator, Imp/Vel	1
54	0794761		Exhaust System, 4", 2017 L9 Engine, Horizontal, Right Side	1
55	0787999		Radiator, Impel/Velocity	1
56	0511425		Cooling Hoses, Rubber	1
57	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
58	0001129		Lines, Fuel	1
59	0582182		DEF Tank, 4.5 Gallon, DS Fill, Rear of Rear Axle, Common Door Door, Material & Finish, DEF Tank - Polished Stainless	1
60	0552793		Not Required, Fuel Priming Pump	1
61	0582243		Shutoff Valves, Fuel Line @ Primary Filter, Cummins	1
62	0699437		Cooler, Chassis Fuel, Not Req'd.	1
63	0690880		No Selection Required From This Category	1
64	0642572		Trans, Allison 5th Gen, 3000 EVS P, w/Prognostics, Imp/Vel/DCF/SFR/Enf	1
65	0625329		Transmission, Shifter, 5-Spd, Push Button, 3000 EVS	1
66	0684459		Transmission Oil Cooler, Modine, External	1
67	0682855		Engraving, Transmission Dipstick Cap, "Synthetic Trans Fluid Only"	1
68	0024895		Mode, Downshift, Aggressive downshift to 2nd, w/engine brake, 5 speed	1
69	0027843		Fluid, 3000 Series Trans, Allison Approved TES-295 Synthetic, IPOS, Custom	1
70	0001370		Driveline, Spicer 1710	1
71	0669988		Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	1
72	0001544		Not Required, Steering Assist Cylinder on Front Axle	1
73	0621840		Steering Wheel, 4 Spoke with Controls, Impel	1
74	0690274		Logo/Emblem, on Dash Text, Row (1) One - Columbia Text, Row (2) Two - Heights Text, Row (3) Three - Fire Dept	1
75	0123625		Bumper, 19" Extended, Imp/Vel	1
76	0616492		Tray, Hose, Center, 19" Bumper, Outside Air Horns, Imp/Vel Grating, Bumper extension - Grating, Rubber Capacity, Bumper Tray - 21) 150' of 1.75"	1
77	0630813		Cover, Aluminum Treadplate, One (1) D-Ring Latch, Hose Tray Stay arm, Tray Cover - b) Pneumatic Stay Arm	1
78	0510226		Lift & Tow Package, Imp/Vel, AXT, Dash CF	1
79	0522573		Tow Hooks Not Required, Due to Lift and Tow Package	1
80	0515419		Bumper, Center Section Hinged, w/ Paddle Latches	1
81	0668322		Cab, Impel FR, 7010 Raised Roof	1
82	0668309		Engine Tunnel, ISL and DD13, Impel/Velocity FR	1
83	0677478		Rear Wall, Exterior, Cab, Aluminum Treadplate	1
84	0122466		Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	1
85	0123176		Grille, Bright Finished, Front of Cab, Impel/Velocity	1
86	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab Material Trim/Scuffplate - c) S/S, Polished	1

Item 1.

Line	Option	Type	Option Description	Qty
87	0527034		Trim, S/S Band, Across Cab Face, Rect Lights, Impel Material Trim/Scuffplate - c) S/S, Polished Turnsignal Covers - Polished S/S Covers	1
88	0087357		Molding, Chrome on Side of Cab	1
89	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1
90	0667942		Door, Half-Height, Impel FR 4-Door Cab, Raised Roof Key Model, Cab Doors - 751	1
91	0655511		Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	1
92	0667905		Storage Pockets w/ Elastic Cover, Recessed, Impel/Velocity FR	1
93	0667902		Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	1
94	0606691		Steps, 4-Door Cab, Dual, 2" Larger Middle and Bottom Steps, Imp/Vel Light, Step, Additional - P25 LED	1
95	0770194		Handrail, Exterior, Knurled, Alum, 4-Door Cab	1
96	0509649		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	1
97	0002140		Fenders, S/S on Cab	1
98	0603144		Window, Side of C/C, Fixed, Impel	1
99	0552941		Not Required, Trim, Cab Side Windows, Impel	1
100	0012090		Not Required, Windows, Front/Side of raised roof	1
101	0509286		Not Required, Windows Rear of Crew Cab, Imp/Vel	1
102	0558334		Not Required, Trim, Cab Rear Windows, No Rear Windows	1
103	0764717		Compt, Storage, 10.71 W x 30 H x 14 D, (1) Ea Side C/C, Dbl Pan, Imp/Vel Light, Aux Cab Compartments - Pierce, Hinged Side Finish, Exterior Cab Compt - Spatter Gray Door, Cab Exterior Cabinet - Double Pan, (2), Non-Locking Door, Exterior Stop - 2-Bumper	1
104	0748680		Cab Interior, Vinyl, Painted Walls, Imp/Vel FR, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray Cab Interior Rear Wall Material - Painted Aluminum	1
105	0667943		Cab Interior, Paint Color, Impel/Velocity FR Color, Cab Interior Paint - i) fire smoke gray	1
106	0509532		Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	1
107	0741239		HVAC, Impel/Velocity FR, CARE Paint Color, A/C Condenser - Painted by OEM HVAC System, Filter Access - Removable Panel Auxiliary Cab Heater - Both	1
108	0639675		Sun Visor, Smoked Lexan, AXT, Dash CF, Imp/Vel, Saber FR/Enforcer Sun Visor Retention - No Retention	1
109	0543257		Grab Handles, Driver Door Post & Passenger Dash Panel, Imp/Vel	1
110	0583938		Lights, Engine Compt, Custom, Auto Sw, Wln 3SCOCDRCR, 3" LED, Trim Qty, - 01	1
111	0122516		Fluid Check Access, Imp/Vel	1
112	0583042		Side Roll and Frontal Impact Protection	1
113	0622617		Seating Capacity, 6 Seats	1
114	0697005		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety	1
115	0696996		Seat, Officer, Pierce PS6, Premium, Air Ride, High Back, Safety	1
116	0510038		Radio Compartment, Behind Officer Seat, Imp/Vel	1
117	0122182		Seat, Rear Facing C/C, DS Outboard, Pierce PS6, Premium, Hi-Back, Safety	1
118	0102783		Not Required, Seat, Rr Facing C/C, Center	1
119	0122185		Seat, Rear Facing C/C, PS Outboard, Pierce PS6, Premium, Hi-Back, Safety	1
120	0782584		Cabinet, Forward Facing, LS, 21 W x 51 H x 14 D, Web, Imp/Vel Type of fastener - spring clip and hook Restraint Location - Inboard Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (2) Shelves, Adjustable, 1.25" Up-Turned Lip Light, Tall Cabinet - Pierce, Interior, Left Side Louvers, Cabinet - 0-No Louvers	1
121	0122742		Seat, Forward Facing C/C, Center, (2) Pierce PS6, Premium, Hi-Back, Safety	1
122	0782151		Cabinet, Forward Facing, RS, 21 W x 51 H x 14 D, Web, Imp/Vel Type of fastener - spring clip and hook Restraint Location - Inboard Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (3) Shelves, Adjustable, 0.75" Up-Turned Lip Light, Tall Cabinet - Pierce, Interior, Right Side	1

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Line	Option	Type	Option Description	Qty
122			Louvers, Cabinet - 0-No Louvers	
123	0766467		Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray Qty, - 06	6
124	0511471		No SCBA Brackets Required In Cab Seats, Imp/Vel, AXT 2010, Qtm 2010, Dash CF	1
125	0603867		Seat Belt, ReadyReach Seat Belt Color - Red	1
126	0604863		Seat Belt Height Adjustment, 6 Seats, Imp/Vel, Dash CF	1
127	0602464		Helmet Storage, Provided by Fire Department, NFPA 2016	1
128	0647647		Lights, Dome, FRP Dual LED 4 Lts Color, Dome Lt - Red & White Color, Dome Lt Bzl - Black Control, Dome Lt White - Door Switches and Lens Switch Control, Dome Lt Color - Lens Switch	1
129	0631776		Not Required, Overhead Map Lights	1
130	0602637		Portable Hand Light, Provided by Fire Dept, Pumper NFPA 2016 Classification	1
131	0594554		Cab Instruments, Blk Gags, Blk Bez, Impel 2010	1
132	0509511		Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	1
133	0543751		Light, Do Not Move Apparatus Alarm, Do Not Move Truck - Pulsing Alarm	1
134	0509042		Messages, Open Door/Do Not Move Truck, MUX w/Color Display	1
135	0611681		Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX Location, Emerg Sw Pnl's - Driver and Pass Side Overhead	1
136	0555915		Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	1
137	0787001		Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 2nd Qty, - 01 12vdc power from - Battery direct Location - officer side lower panel	1
138	0548004		Wiring, Spare, 15 A 12V DC 1st Qty, - 02 12vdc power from - Battery direct Wire termination - Butt Splice Location, Spare Wiring - Officer Dash	2
139	0797189		Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 1st Qty, - 01 12vdc power from - Battery switched Location - LS rear engine tunnel	1
140	0615214		Vehicle Information Center, LCD On Gauge Cluster w/7" Color Disp, Touchscreen, Imp Location, CZ Display - DS Instrument Panel, Impel Camera System System Of Measurement - US Customary	1
141	0734857		Collision Mitigation, HAAS Alert (R2V), HA5 Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	1
142	0606247		Vehicle Data Recorder w/CZ Display Seat Belt Monitor	1
143	0597940		Install Customer Provided Two-Way Radio Speaker(s) Location - tbd Qty, - 01	1
144	0559156		Install Customer Provided Two-Way Radio(s) Location - tbd Qty, - 01	1
145	0559508		Install Customer Provided Two-Way Radio Remote Head Cable Location - tbd Qty, - 01	1
146	0687904		Antenna Mount, Custom Chassis, Cable Routed to Behind Officer Seat Location - Right Side Qty, - 01	1
147	0653526		Camera, Pierce, Driver Mux, Rear Camera Only Camera System Audio - Not Provided	1
148	0615105		Pierce Command Zone, Advanced Electronics & Control System, Diag LEDs, Imp, WiFi	1
149	0624255		Electrical System, Impel	1
150	0079166		Batteries, (4) Exide Grp 31, 950 CCA ea, Threaded Stud	1
151	0008621		Battery System, Single Start, All Custom Chassis	1

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Line	Option	Type	Option Description	Qty
152	0123174		Battery Compartment, Imp/Vel	1
153	0531338		Charger, Sngl Sys, Kussmaul, Pump Plus 1200, 52-21-1100	1
154	0598091		Location, Charger/Compr, Behind Driver's Seat, Vel/Imp/DCF	1
155	0530951		Location, Bat Chrg Ind, DS Behind Cab Door	1
156	0542439		Shoreline, 20A 120V, Straight Blade, NEMA 5-20, Red Cover Connection, Shoreline - battery charger	1
157	0026800		Shoreline Location Location, Shoreline(s) - DS Step Well	1
158	0783395		Transfer Switch, Generator to Shoreline 30 Amp and Under	1
159	0647728		Alternator, 430 amp, Delco Remy 55SI	1
160	0092582		Load Manager/Sequencer, MUX Enable/Disable Hi-Idle - e)High Idle enable	1
161	0780484		Headlights, Rect LED, HiViz FT-4X6-4KIT, AXT/DCF/Enf/Imp/Sab/Vel	1
162	0648425		Light, Directional, Wln 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF Color, Lens, LED's - c)clear	1
163	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
164	0648074		Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	1
165	0627282		Lights, Clearance/Marker/ID, Rear, FRP LED Bar & P25 LED 4Lts	1
166	0564683		Lights, Tail, Wln M6BTT* Red LED Stop/Tail & M6T* Amber LED Dir Arw For Hsg Color, Lens - Clear	1
167	0561471		Lights, Backup, Wln M6BUW, LED, For Tail Lt Housing	1
168	0659635		Bracket, License Plate & Light, P25 LED, Stainless Brkt	1
169	0556842		Bezels, Wln, (2) M6 Chrome Pierce, For mtg (4) Wln M6 lights	1
170	0589905		Alarm, Back-up Warning, PRECO 1040	1
171	0769420		Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	1
172	0769572		Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	1
173	0770056		Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Rear Step Control, Perimeter Lts - Parking Brake Applied	1
174	0566799		Lights, Step, P25 LED 4lts, Ign, Prk Brk Activated	1
175	0789600		Guard, Aluminum Treadplate, HiViz Light bar, Location Location - LS and RS catwalks Qty, - 02	2
176	0790483		Light, Visor, HiViz LED, FT-MB-33-*-* , 42.44" long Qty, - 01 Location, driver's/passenger's/center - Centered Control, Scene Lts - Cab Sw Panel DS Color, Lt Housing HiViz - White Scene Light Optics - Flood/Spot	1
177	0736731		Lights, HiViz FT-GESM LED 1st Location - high and aft RS crew door Qty, - 01 Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw DS Color, Lt Housing HiViz - White Bezel & Chrome Optic Holder	1
178	0736729		Lights, HiViz FT-GESM LED 2nd Location - high and aft LS crew door Qty, - 01 Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw DS Color, Lt Housing HiViz - White Bezel & Chrome Optic Holder	1
179	0773313		Lights, HiViz FT-MB-2.18-*-* LED, 1st Location - catwalk above RS2 Qty, - 01 Control, Scene Lts - Side Scene Controls Color, Lt Housing HiViz - White Scene Light Optics - combination	1
180	0773312		Lights, HiViz FT-MB-2.18-*-* LED, 2nd Location - catwalk above LS2 Qty, - 01 Control, Scene Lts - Side Scene Controls Color, Lt Housing HiViz - White Scene Light Optics - combination	1
181	0532358		Not Required, Deck Lights, Other Hose Bed & Rear Lighting	1
182	0645877		Lights, Hose Bed, Sides, Dual LED Light Strips Control, Hose Bed Lts - Cup Switch At Rear	1

Item 1.

Line	Option	Type	Option Description	Qty
183	0645677		Lights, Not Required, Rear Work, Alt. 12 Volt Lights At Rear Body	1
184	0743346		Lights, Rear Scene, HiViz FT-GSMJR-*, Surface Mt	2
			Location, Lights - LS and RS Rear bulkhead	
			Qty, - 02	
			Control, Rear Scene Lts - Cab Switch Panel DS, Pump Panel DS and Body Switch, DS Rear Bulkhead	
			Color, Trim - Chrome Trim & Optic Holder	
185	0709438		Light, Walking Surf, FRP Flood, LED	1
186	0060115		Pumper, Medium, Aluminum, 2nd Gen	1
187	0554271		Body Skirt Height, 20"	1
188	0028244		Tank, Water, 500 Gallon, Poly, Med	1
189	0003405		Overflow, 4.00" Water Tank, Poly	1
190	0028104		Foam Cell Required	1
191	0633066		Sleeve, Through Tank	2
			Qty, Sleeve - 2	
			Water Tank Sleeve - Plumbing/Hydraulic Diameter - 3" Plumbing	
192	0553729		Not Required, Restraint, Water Tank, Heavy Duty	1
193	0003429		Not Required, Direct Tank Fill	1
194	0003424		Not Required, Dump Valve	1
195	0048710		Not Required, Jet Assist	1
196	0030007		Not Required, Dump Valve Chute	1
197	0514778		Not Required, Switch, Tank Dump Master	1
198	0126633		Hose Bed, Aluminum, Pumper	1
199	0003481		Hose Bed Capacity, Special	1
			Capacity, Hosebed - HB#1 800' 5", HB#2 500' 2.5", HB#3 200' 2.5" pre-connected BlitzFire	
200	0003488		Divider, Hose Bed, Unpainted	2
			Qty, Hosebed Dividers - 2	
201	0728775	SP	Compt, Portable Monitor Storage in Hose Bed, Front Beveled, Strap	1
			Location - in Hosebed #3	
			Size - 10"x10"x32"	
			Fill in Blank - Blitzfire XXC-32	
202	0010133		Cross-Divider, Hose Bed	1
203	0530804		Cover, Hose Bed, Alum Treadplate	1
204	0505155		Flap, Rear of Alum Hose Bed Cover, Two Piece, Vinyl	1
			Color, Vinyl Cover - c) black	
205	0013512		Running Boards, 12.75" Deep	1
206	0689497		Tailboard, T-Shaped, 24" & 8" Deep, Angled Corners	1
207	0690037		Wall, Rear, Smooth Aluminum/Body Material	1
			Material, Rear Wall Inboard Facing Surfaces - Aluminum Diamondplate	
208	0003531		Tow Bar, Under Tailboard	1
209	0590926		Hose Restraint, Running Board, Velcro Straps	1
			Location, Hose Tray, Running Board - Right Side	
			Qty, Tray, Hose - 1	
210	0014112		Tray, Hose, Running Board, Special Capacity, Predefined	1
			Location, Hose Tray, Running Board - Right Side	
			Qty, Tray, Hose - 1	
			Capacity, Hose Tray (Predefined) - 25' of 5"	
211	0003561		Construction, Compt, Alum, Pumper	1
212	0083686		LS 152" Rollup, Full Height & Depth Front & Rear	1
213	0063658		RS 152" Rollup, Full Height Front & Rear, FDLER	1
214	0692733		Doors, Rollup, Gortite, Side Compartments	6
			Qty, Door Accessory - 06	
			Color, Roll-up Door, Gortite - Painted to Match Lower Body	
			Latch, Roll-up Door, Gortite - Non-Locking Liftbar	
215	0013671		Compt, Rear, Rollup, 30.75" FF, 25.88" D	1
216	0692746		Door, Gortite, Rollup, Rear Compartment	1
			Color, Roll-up Door, Gortite - Satin finish	
			Latch, Roll-up Door, Gortite - Non-Locking Liftbar	
217	0554995		No Body Modification Required	1
218	0625184		Guard, Drip Pan, S/S, Rollup Door, Pumper	7
			Qty, Door Accessory - 07	
			Location, Door Guard/Drip Pan - LS1, LS2, LS3, RS1, RS2, RS3 and B1	

Item 1.

Line	Option	Type	Option Description	Qty
219	0616670		Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door, Pumper/Tanker Qty, - 07 Location, Compartment Lights - All Body Compts	7
220	0687146		Shelf Tracks, Painted Qty, Shelf Track - 07 Location, Shelf Track - LS1, LS2, LS3, RS1, RS2, RS3 and B1	7
221	0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations Qty, Shelf - 06 Material Finish, Shelf - Painted - Spatter Gray Location, Shelves/Trays, Predefined - .Location To Be Determined	6
222	0767212		Tray, 215 lb, Tilt/Slide-Out, 50 Deg, Double Tray, For SCBA Mounting, 4 Packs, CARE Qty - 1 Location, Tray - LS2 Material Finish, Tray - Painted - Spatter Gray	1
223	0647091		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides Qty, - 02 Location, Tray Slide-Out, Floor Mounted - RS1 and B1 Material Finish, Tray - Painted - Spatter Gray	2
224	0709346		Toolboard, Slide-out, Alum, .188", Peg Board, Predefined Locations Qty, - 03 Mounting, Toolboard - Adjustable side-side Hole Diameter, Pegboard/Toolboard - .203" diameter Finish, Pegboard/Toolboard - Painted - Spatter Gray Location, Partition/Toolboard, Predefined - LS1- 18.00" From Forward Door Frame, LS1- 28.00" From Forward Door Frame and LS1- 8.00" From Forward Door Frame	3
225	0558502		Drawer Assembly, CTECH, Four Drawers, Up To 36" Wide Location - LS3 Qty, - 01 Size, Drawer Height 1 (Top) - 3.00" Size, Drawer Height 2 - 4.75" Size, Drawer Height 3 - 5.75" Size, Drawer Height 4 - 9.75"	1
226	0004016		Rub Rail, Aluminum Extruded, Side of Body	1
227	0784811		Fender Crowns, Rear, Stainless, w/Removable Liner Material Finish, Fender Liner - Painted	1
228	0519849		Not Required, Hose, Hard Suction	1
229	0626229		Handrails, Side Pump Panels, Per Print	1
230	0004126		Handrails, Beavertail, Standard	1
231	0004146		Handrail, Rear, Below Hose Bed, Full Width	1
232	0636301		Compt, Extinguisher (2) in Fender Panel, Triangular Door Location, Bracket/comp. - RS rear Qty, - 1 Door Finish, Fender Compt - Polished Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	1
233	0657522		Compt, Air Bottle, Triple, Fender Panel Qty, Air Bottle Comp - 2 Door Finish, Fender Compt - Polished Location, Fender Compt - Triple - LS Fwd and Triple - RS Fwd Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	2
234	0740924	SP	Holder, Air Bottle, Zico Model UH-5-30-3-SF, Location Feature Qty, Bracket - 06 Location, Bracket/comp. - (4) on trays in LS2 (2) on frwd tank wall of RS2	6
235	0004225		Ladder, 24' Duo-Safety 900A 2-Section	1
236	0004230		Ladder, 14' Duo-Safety 775A Roof	1
237	0015036		Rack, Ladders, Hydraulic, Right Side, Air Clamps Ladder Rack Lock Enclosure/Light Mounting Bracket - RS Rear S/S Enclosure	1
238	0756375		Lights, Hyd Lad Rack Deployed, Truck-Lite 15**** Color, Light - Amber Flashing Color, Lens, LED's - Clear	1

Item 1.

Line	Option	Type	Option Description	Qty
238			Trim, T-L 15 - Chrome	
239	0014245		Ladder, 10' Duo-Safety Folding 585A, w/Mounting	1
			Location, Folding Ladder - Hydraulic Rack - Inboard	
240	0564381		Hydraulic Pump, Ladder Rack, Special Location	1
			Location - RS pump panel	
241	0602877		Pike Pole, Pumper, Provided by Fire Department, NFPA 2016	1
			Pike Pole Make/Model - Duo-Safety 10' Pike Pole	
242	0602875		Pike Pole, 6', Pumper, Provided by Fire Department, NFPA 2016	1
			Pike Pole Make/Model - Duo-Safety 6' Pike Pole	
243	0004361		Tubes, Alum, Pike Pole Storage	2
			Qty, Pike Pole Tubes - 02	
			Location, Pike Pole Tube - Hyd Ladder Rack	
244	0785102		Steps, Folding, Front of Body, Cargo Bed Access, w/LED, Trident	1
			Coating, Step - black	
			Location, Steps - Full Height Left Side w/LED Light	
245	0592994		Steps, Folding, Rear of Body, w/LED, Trident	1
			Coating, Step - black	
246	0586899		Step, Cargo Area, Ea.	1
			Qty, - 01	
			Fill in Blank - LS rear	
247	0004425		Pump, Waterous, CSU, 1500 GPM, Single Stage	1
248	0004482		Seal, Mechanical, Waterous	1
249	0559769		Trans, Pump, Waterous C20 Series	1
250	0635600		Pumping Mode, Stationary Only	1
251	0605126		Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	1
252	0003148		Transmission Lock-up, EVS	1
253	0004547		Auxiliary Cooling System	1
254	0014486		Not Required, Transfer Valve, Stage Pump	1
255	0746508		Valve(s), Relief Intake, Trident Air Max, Control Location	1
			Qty - 1	
			Pressure Setting - 125 psig	
			Intake Relief Valve Control - Left Side Pump Panel	
256	0794959		Controller, Pressure, Pierce, Pump Boss, PBA300	1
257	0072153		Primer, Trident, Air Prime, Air Operated	1
258	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
259	0602512		Plumbing, Stainless Steel and Hose, Single Stage Pump, Control Zone	1
260	0795135		Plumbing, Stainless Steel, w/Foam System	1
261	0004645		Inlets, 6.00" - 1250 GPM or Larger Pump	1
262	0699096		Not Required, Cap, Main Pump Inlet, Included w/Storz Adapter	1
263	0730373		Valve, Ball Intake, TFT, AB Series	2
			Location - LS and RS MIV	
			Qty - 2	
			Connection, Inlet, Side B - 1ST (5.0" Rigid Storz) with a cap	
			Connection, Outlet, Side A - NX (6.0" Threaded Swivel)	
			Ball Intake Valve Actuation - Standard (Crank On Left Side)	
			Relief Valve, Ball Intake - Standard	
264	0014650		Pump Suction Tube(s), Short, All	1
265	0084610		Valves, Akron 8000 series- All	1
266	0004660		Inlet, Left Side, 2.50"	1
267	0029147		Not Required, Inlet, Right Side	1
268	0016158		Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	1
			Qty, Inlets - 1	
269	0034720		Anode, Zinc, Pair, Pump Inlets	1
270	0004700		Control, Inlet, at Valve	1
271	0092569		No Rear Inlet (Large Dia) Requested	1
272	0092696		Not Required, Cap, Rear Inlet	1
273	0064116		No Rear Inlet Actuation Required	1
274	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
275	0092568		No Rear Auxiliary Inlet Requested	1
276	0563738		Valve, .75" Bleeder, Aux. Side Inlet, Swing Handle	1
277	0029043		Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing	1
278	0024900		Outlet, Tank Fill, 2.50"	1

Item 1.

Line	Option	Type	Option Description	Qty
279	0004940		Outlet, Left Side, 2.50"	1
			Qty, Discharges - 01	
280	0092570		Not Required, Outlets, Left Side Additional	1
281	0004945		Outlet, Right Side, 2.50"	1
			Qty, Discharges - 01	
282	0092571		Not Required, Outlets, Right Side Additional	1
283	0005047		Outlet, 4" w/4" Right, Handwheel	1
			Valve, Brand - Akron	
284	0649939		Outlet, Front, 1.50" w/2" Plumbing	1
			Fitting, Outlet - 1.50" NST with 90 degree swivel	
			Drain, Front Outlet - Automatic	
			Location, Front, Single - in center bumper tray	
285	0004995		Outlet, Rear, 2.50"	2
			Qty, Discharges - 02	
			Location, Outlet - c) one (1) each side	
286	0092574		Not Required, Outlet, Rear, Additional	1
287	0004990		Outlet, Front HB, 2.50" w/2.50" Plumbing	1
			Location - RS hose bed	
			Qty, Discharges - 01	
288	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
289	0563739		Valve, 0.75" Bleeder, Discharges, Swing Handle	1
290	0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
291	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
292	0025091		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
293	0089584		Not Required, Elbow, Right Side Outlets, Additional	1
294	0045091		Elbow, Rear Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
295	0085695		Not Required, Elbow, Rear Outlets, Large, Additional	1
296	0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	1
			Qty, - 01	
297	0062133		Control, Outlets, Manual, Pierce HW if applicable	1
298	0055107		Outlet, 3.00" Deluge Riser, Akron Valve, Handwheel	1
299	0563671		Monitor, Akron 3431 Hi-Riser- No Ground Base	1
			Monitor Finish - Painted	
300	0644410		Nozzle, Akron 5160, 1250 GPM, Akromatic - Manual	1
301	0005070		Deluge Mount, NPT	1
302	0025140		Not Required, 1.50" Crosslays	1
303	0029196		Not Required, 2.50" Crosslay	1
304	0500535		Not Required, Hose Restraint, Crosslay	1
305	0728853	SP	Speed, (3), (2) 1.5" & (1) 2.5", w/Alum. Trays, Std. Cap, Top Mt./Side Cntrl.	1
306	0752403		Hose Restr, Spdly, 2"Nylon Web, Bottom Anchored	1
			Fastener, Hose Restraint - 2.00" Cam Buckle	
307	0624939		Foam Sys, Husky 3, Single Agent, Multi Select Feature	1
			Discharge, Foam Locations - Front Bumper Center, Rear Outlet Left	
			Side, Crosslay Front and Crosslay Rear	
308	0012126		Not Required, CAF Compressor	1
309	0592527		Refill, Foam Tank, Integral, Husky 3	1
310	0031896		Demonstration, Foam System, Dealer Provided	1
311	0005446		Foam Cell, 20 Gallon, Not Reduce Water	1
			Type of Foam - Class "A"	
312	0697589		Drain, 1.00", Foam Tank #1, Husky 3 Foam System, Quarter Turn	1
313	0091079		Not Required, Foam Tank #2	1
314	0091112		Not Required, Foam Tank #2 Drain	1
315	0007545		Pump House, Side Control, 45", Control Zone	1
316	0746445		Approval Dwg, Pump Operator's Panel, Includes Color And Label Tags	1
			Num Of Truck(s) or Sim Unit, OPER Pump Pnl, Dwg - 01	
317	0032479		Pump Panel Configuration, Control Zone	1
318	0629252		Material, Pump Panels, Side Control Black Vinyl	1
			Material Finish, Pump Panel, Side Control - Black Vinyl	
			Material, Pump Panel, Side Control - Aluminum	
319	0005578		Panel, Pump Access - Right Side Only	1
320	0035500		Raised Pump House Structure, Side Control	1

Item 1.

Line	Option	Type	Option Description	Qty
321	0583824		Light, Pump Compt, WIn 3SC0CDCR LED White Qty, - 01	1
322	0586382		Gauges, Engine, Included With Pressure Controller	1
323	0005601		Throttle, Engine, Incl'd w/Press Controller	1
324	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	1
325	0549333		Indicators, Engine, Included with Pressure Controller	1
326	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
327	0692286		Cold Climate Package, Pump House, Level 2	1
328	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
329	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
330	0757359		Gauge, Water Level, Class 1, Remote Module Driver Activation, Water Level G - pg) pump in gear	1
331	0750438		Water Level Gauge, WIn PSTANK2, LED 1-Light, 4-Level Qty, - 02 Activation, Water Level G - pg) pump in gear Location, Water Level Gauge - Each Side Custom Cab Color, Trim - Chrome Trim	2
332	0062992		Gauge, Foam Level, (1) Tank, Class 1, GAAAR 5lt	1
333	0593161		Light Shield, S/S LED	1
334	0606697		Air Horns, (2) Grover, In Bumper	1
335	0606835		Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	1
336	0016065		Control, Air Horn, Horn Ring, PS Chrome Push Button	1
337	0525667		Siren, WIn 295SLSA1, 100 or 200 Watt	1
338	0510206		Location, Elect Siren, Recessed Overhead In Console Location, Elec Siren - Overhead, DS Center Sw Pnl	1
339	0541056		Control, Elec Siren, Horn Ring, Default Siren Operation	1
340	0601306		Speaker, (1) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt Connection, Speaker - siren head	1
341	0601552		Location, Speaker, Frt Bumper, Recessed, Right Side, Outside Frame,Inbrd (Pos 2)	1
342	0016080		Siren, Federal Q2B	1
343	0006095		Siren, Mechanical, Mounted Above Deckplate Location, Siren, Mech - a) Left	1
344	0650791		Control, Mech Siren, Steering Wheel Sw, PS Foot Sw	1
345	0740391		Sw, Siren Brake, Momentary Chrome Push Button, RS	1
346	0605191		Lightbar, WIn, Freedom IV-Q, 72", RRRWBR_Opt_RBWRRR Opticom Priority - b) High Opticom Activation - Cab Switch & E-Master Momentary Opticom Activation - No Activation Filter, Whl Freedom Ltbrs - No Filters	1
347	0540460		Light, Front Zone, WIn M6*C LED, Clear Lens, 4lts Q Bezel Color, Lt DS Frnt Outside - DS Front Outside Red Color, Lt PS Frnt Outside - PS Front Outside Red Color, Lt DS Front Inside - r) DS Front Inside Red Color, Lt PS Front Inside - r) PS Front Inside Red	1
348	0653937		Flasher, Headlight Alternating Headlt flash deactivation - a)w/high beam	1
349	0540679		Lights, Side Zone Lower, WIn M6*C LED, Clear Lens 2pr Location, Lights Front Side - b)each side bumper Color, Lt Side Front - Red Color, Lt Side Rear - Red Location, Lights Rear Side - Over Rear Wheels	1
350	0564655		Lights, Rear Zone Lower, WIn M6*C LED, Clear Lens, For Tail Lt Housing Color, Lt DS Rear - r) DS Rear Lt Red Color, Lt PS Rear - r) PS Rear Lt Red	1
351	0036676		Light, Rear, One, Recessed to Clear Ladder Rack Arm	1
352	0088745		Light, Rear Zone Upper, WIn L31HRFN LED Beacon, Red LED Color, Dome, Rear Warning - j) both domes clear	1
353	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
354	0006615		Mtg, Rear Warn Lts, On Top of Compt	1
355	0791528		Light, Traffic Directing, WIn TAL65, 36.00" Long, TACTL5 Activation, Traffic Dir L - Not Connected	1
356	0551728		Location, Traf Dir Lt, Recessed with S/S Trim	1

Item 1.

Line	Option	Type	Option Description	Qty
357	0530282		Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	1
358	0006646		Electrical System, 120/240VAC, General Design	1
359	0729601		Generator, Harrison 6kW, 120/240V, Hydraulic, Digital Volt, Hz, Hour, Meter	1
			Generator Interlocks - No Interlocks	
360	0006645		Location, Hydraulic Generator Above Pump	1
			Location, Generator(s) - Over Pump, Left Side	
361	0016752		Starting Sw, Truck Engine Powered Gen, Cab Sw Pnl	1
362	0071054		Remote Start, Hydraulic Generator, PTO and Field - SAME SWITCH	1
			Location, Remote Start - b) pump panel	
363	0016740		Not Required, Fuel System	1
364	0016767		Not Required, Oil Drain Extension, Generator	1
365	0016771		Not Required, Routing Exhaust, Generator	1
366	0036738		Circuit Breaker Panel, Included With PTO Generator	1
			Location, Circuit Breaker Panel - LS3, Left Wall High	
367	0006825		Reel, Elect Cable, Hannay, 1600, (3) Wire	1
			Qty, Cord Reels - 1	
			Reel Guide - b) Captive roller	
			Finish, Reel - Painted Gray	
			Location, Electric Cord Reel - Above Pump With Generator, 1 Reel	
368	0006828		Cord, Electric, 10/3 Yellow, 3 Wire	1
			Lengths of Elect Cord - 1	
			Feet of Yellow Cord - e)200	
			Connection, Cord - Direct connection	
369	0788933		Box, Junc, Akron, 3Wire, 2-15/20A 120V Dup SB, 2-20A 120V TL	1
			Qty, - 01	
			Connection, Electric Plug / Inlet (Male) - Direct Connection	
370	0006824		Holder, Junction Box, Tread Plate Aluminum	1
			Qty, - 1	
			Location, Junction Box Holder - Mount At Pick-Up	
371	0780350		Receptacle Strip, 15A 120V 6-Place, Interior Cab	1
			Qty, - 1	
			Location 1 - DS engine tunnel	
			AC Power Source - Shoreline	
372	0779707		Receptacle Strip, 20A 120V 6-Place, Interior Body	1
			Qty, - 01	
			Location 1 - LS2 low forward bulkhead	
			AC Power Source - Gen to Shoreline Transfer Switch	
373	0779701		Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, 4 place, Interior Body	1
			Qty, - 01	
			Location 1 - RS1	
			AC Power Source - Shoreline	
			Cover, Receptacle - Interior SS Wall plate	
374	0519934		Not Required, Brand, Hydraulic Tool System	1
375	0649753		Not Required, PTO Driven Hydraulic Tool System	1
376	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
377	0602516		NFPA Required Loose Equipment, Pumper, NFPA 2016, Provided by Fire Department	1
378	0602407		Soft Suction Hose, Provided by Fire Department, Pumper NFPA 2016 Classification	1
379	0027023		No Strainer Required	1
380	0602538		Extinguisher, Dry Chemical, Pumper NFPA 2016 Class, Provided by Fire Department	1
381	0602360		Extinguisher, 2.5 Gal. Pressurized Water, Pumper NFPA 2016, Provided by Fire Dept	1
382	0602679		Axe, Flathead, Pumper NFPA 2016 Classification, Provided by Fire Department	1
383	0602667		Axe, Pickhead, Pumper NFPA 2016 Classification, Provided by Fire Department	1
384	0559690		Paint, Two Tone, Cab and Body, w/shield, Custom Cab	1
			Paint, Color - 90 red	
			Paint Color, Upper Area - 101 black	
385	0646897		Paint Chassis Frame Assy, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Standard Black	
386	0693797		No Paint Required, Aluminum Front Wheels	1
387	0693792		No Paint Required, Aluminum Rear Wheels	1

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Line	Option	Type	Option Description	Qty
388	0733739		Paint, Axle Hubs	1
			Paint, Axle Hub - Black #101	
389	0030900		Paint, Hyd Ladder Rack, Two Tone	1
			Color, Paint - 101 black and 90 red	
390	0007230		Compartment, Painted, Spatter Gray	1
391	0544129		Reflective Band, 1"-6"-1"	1
			Color, Reflect Band - A - a) white	
			Color, Reflect Band - B - l) white	
			Color, Reflect Band - C - w) white	
392	0510041		Reflective across Cab Face, Imp/Vel	1
393	0536954		Stripe, Chevron, Rear, Diamond Grade, Pumper	1
			Color, Rear Chevron DG - fluorescent yellow green	
394	0079341		Jog, In Reflective Stripe "Hockey Stick"	1
			Qty, - 01	
395	0065687		Stripe, Reflective, Cab Doors Interior	1
			Color, Reflective - a) white	
396	0027372		Lettering Specifications, (GOLD STAR Process)	1
397	0686426		Lettering, Gold Leaf, 3.00", (61-80)	1
			Outline, Lettering - Outline and Shade	
398	0686202		Lettering, Gold Leaf, 10.00", Each	4
			Qty, Lettering - 04	
			Outline, Lettering - Outline and Shade	
399	0684182		Emblem, Maltese Cross, Reflective, 21"-23", Pair	1
			Qty, - 01	
			Location, Emblem - cab doors	
400	0652945		E-Coat, Under Body/Chassis Component Package	1
			Paint Color, E-Coat - Black	
401	0002838		Undercoating, Cab & Body, Ziebart	1
402	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	1
			Qty, - 01	
403	0772037		Manual, Chassis Service, USB Flash Drive, Custom	1
			Qty, - 01	
404	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
405	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
406	0611136		Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	1
407	0696698		Warranty, Engine, Cummins, 5 Year, WA0181	1
408	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
409	0595767		Warranty, Frame, 50 Year, Velocity/Impel, Dash CF, WA0038	1
410	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
411	0733306		Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	1
412	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
413	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
414	0595813		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
415	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
416	0695416		Warranty, Pierce Camera System, WA0188	1
417	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
418	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
419	0685945		Warranty, Transmission Cooler, WA0216	1
420	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
421	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
422	0693127		Warranty, Gortite, Roll-up Door, 6 Year, WA0190	1
423	0734463		Warranty, Pump, Waterous, 7 Year Parts, WA0382	1
424	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
425	0657990		Warranty, Foam System, Husky 3, WA0231	1
426	0609981		Warranty, Harrison Generator, 6 Year, WA0285	1
427	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
428	0595421		Warranty, Goldstar, 3 Year, Apparatus, WA0018	1
429	0683627		Certification, Vehicle Stability, CD0156	1
430	0736241		Certification, Engine Installation, Imp/Vel, Cummins L9, 2021	1
431	0686786		Certification, Power Steering, CD0098	1
432	0667418		Certification, Cab Integrity, Impel FR, CD0009	1
433	0548950		Certification, Cab Door Durability, Velocity/Impel, CD0001	1

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Line	Option	Type	Option Description	Qty
434	0548967		Certification, Windshield Wiper Durability, Impel/Velocit, CD0005	1
435	0667411		Certification, Electric Window Durability, Velocity/Impel FR, CD0004	1
436	0549273		Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	1
437	0735950		Certification, Cab HVAC System Performance, Velocity/Impel FR, CD0166/CD0168	1
438	0545073		Amp Draw Report, NFPA Current Edition	1
439	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
440	0799248		Appleton/Florida BTO	1
441	0000018		PUMPER, 2ND GEN	1
442	0000012		PIERCE CHASSIS	1
443	0004713		ENGINE, OTHER	1
444	0046395		EVS 3000 Series TRANSMISSION	1
445	0020011		WATEROUS PUMP	1
446	0020009		POLY TANK	1
447	0028048		FOAM SYSTEM	1
448	0020006		SIDE CONTROL	1
449	0020007		AKRON VALVES	1
450	0020015		ABS SYSTEM	1
451	0658751		PUMPER BASE	1

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AGENDA SECTION	WORK SESSION	Item 3.
ITEM NO.		
MEETING DATE	JANUARY 4, 2021	

CITY OF COLUMBIA HEIGHTS - COUNCIL LETTER

ITEM:	Winter Parking		
DEPARTMENT:	Administration	CITY MANAGER'S APPROVAL:	
BY/DATE:	Kelli Bourgeois/ December 31, 2020	BY/DATE:	
CITY STRATEGY:	#1; Safe Community		
Additional Strategy?	#7: Strong Infastructure/Public Services		
SHORT TERM GOAL (IF APPLICABLE):	N/A		
Additional Goal?	N/A		

Enclosed please find information from Public Works and Police regarding the City's winter parking and plow operations for discussion at Monday's Work Session. Public Works Director/City Engineer Kevin Hansen, Streets Superintendent David Cullen, Police Chief Lenny Austin, and Police Captain Erik Johnston will be present at the meeting to review the information, answer questions, and accept direction provided by Council.

Thank you!

Section

7.301 Authority for impoundment

7.302 Procedures

§ 7.301 AUTHORITY FOR IMPOUNDMENT.

(A) A vehicle may be impounded by the Police Department, or by a commercial towing service pursuant to a contract with the city, where such vehicle:

(1) Is parked in such a manner as to constitute a violation of any of the provisions of this chapter and thereby cause an obstruction to the free flow of traffic or interferes with the performance of municipal services; or

(2) Is abandoned, whether on public or private property; or

(3) Unlawfully blocks a water hydrant or is parked in a fire lane, whether on public or private property.

(B) No vehicle shall be impounded unless a tag is affixed to the windshield ordering that said vehicle be towed pursuant to the provisions of this chapter.

(C) No vehicle may be impounded solely because it is parked in such a manner as to constitute a violation of § 7.205(M) except:

(1) Between 2:00 a.m. on November 1 and 6:00 a.m. on March 31 of the next succeeding year; and

(2) At least three and one-half inches of snow has accumulated within the traveled portion of any roadway at any point not greater than 15 feet from any part of the subject vehicle.

(‘77 Code, § 7.301) (Am. Ord. 871, passed 4-9-79)

§ 7.302 PROCEDURES.

(A) If the owner of a vehicle appears before said vehicle is hooked to the tow-truck and the wheels are hoisted from the ground, the operator shall release the vehicle without charging a fee.

(1) If the vehicle is already hooked to the truck and the wheels hoisted, then a fee as set periodically by resolution of the Council shall be charged prior to release of said vehicle.

(2) The operator shall provide a receipt when the vehicle is released upon payment of the aforesaid fee.

(B) The Police Department shall provide the record owner, if any, of the towed vehicle written notification by certified mail of the following information:

(1) Identification of vehicle, including make, model and license number;

(2) Location of vehicle at time of impoundment;

(3) Traffic code violation;

(4) Storage location of vehicle;

(5) A statement that the vehicle may be reclaimed within 30 days, or it will be sold to the highest bidder;

(6) A statement that the owner would be responsible for towing and storage charges.

(C) (1) Said notification shall be provided within 72 hours of the time of impoundment and mailed to the last known address of the record owner, with copies mailed to all identifiable lien holders of record within ten days.

(2) If it is impossible to determine with reasonable certainty the identity and address of an owner of record, or of any lien holders, the notice shall be published once in the legal newspaper of general circulation for the city within 15 days from the date of impoundment.

(D) The vehicle shall be stored until the record owner has provided identification, paid all towing and storage charges incurred and reclaimed said vehicle, or until the expiration of 30 days if said vehicle is not claimed.

(1) After the expiration of 13 days, the vehicle may be reclaimed by any lien holder with proper identification, upon payment of all towing and storage charges.

(2) Upon the expiration of 30 days, the vehicle may be sold to the highest bidder at a public auction. A memorandum bill of sale shall be sent to the last known address of the owner of record, if any.

(E) The Police Department or commercial towing service shall comply with the following procedures:

- (1) The tow-truck operator shall have in his possession an identification card indicating his authority to tow the vehicle.
- (2) Upon arrival at the storage facilities, the vehicle shall be inventoried.
- (3) Towing and storage rates shall be subject to approval of the Council.

(F) The net proceeds of all sales, after deduction of towing and storage costs, and administrative costs of conducting a public sale, shall be forwarded to the Treasurer.

(G) A record shall be kept by the Police Department or the towing service stating the following information:

- (1) The make, model and license number of each vehicle towed, and of each vehicle for which a fee was collected.
 - (2) The date, time and place where each vehicle was picked up.
 - (3) The record owner of each vehicle impounded.
 - (4) The duration of time for storage of each vehicle.
 - (5) The disposition of each vehicle, including charges collected upon pickup, or proceeds derived from the sale of said vehicle.
 - (6) The name and address of the person claiming each vehicle, or the name and address of the purchaser of any vehicle disposed of by public sale.
- (H) Any commercial towing service contracted by the city pursuant to this section shall obtain and keep in full force liability insurance for property damage to impounded vehicles resulting from accident, theft, or other catastrophe in the sum of \$20,000 per vehicle.

('77 Code, § 7.302) (Am. Ord. 1535, passed 9-8-08)

§ 7.205 PROHIBITED NON-MOVING VIOLATIONS.

(A) No person shall park a vehicle in his custody or control in any one place upon any street or roadway for a continuous period longer than six hours or:

(1) In a metered parking zone as indicated by the location of installed meters, between the hours of 9:00 a.m. and 6:00 p.m. of any day except Sundays and legal holidays, at any time when said meter indicates that the time has expired since the last deposit of coins therein; or

(2) In a metered parking zone during the aforementioned times in such a position that said vehicle is not entirely within the space designated for a particular meter, unless the length of said vehicle exceeds the length of the space provided.

(B) No person shall park a vehicle in his custody or control in such a manner as to protrude into or obstruct a lane designed for moving traffic or a fire lane, or park a vehicle on a residential street where parking is prohibited, or park a vehicle in any alley except for the purpose of loading or unloading.

(C) (1) No person with title or custody of a motor vehicle shall abandon such vehicle as defined herein, anywhere within the city. For purposes of this chapter, an **ABANDONED MOTOR VEHICLE** shall consist of:

(a) A motor vehicle which has remained in any one place on public property for a continuous period of 48 hours and lacks vital component parts that are essential to the mechanical functioning of the vehicle, or is otherwise in inoperable condition; or

(b) A motor vehicle which has remained on private property for a continuous period of 48 hours without the consent of the person in control of such property.

(2) Provided, however, that a classic car or pioneer car as defined in M.S. § 168.10, as it may be amended from time to time, shall not be considered as an abandoned motor vehicle within the meaning of subdivision (1)(a) of this division.

(D) No person shall operate, park, stop or stand a vehicle in his custody or control in such a manner as to violate the parking restrictions prescribed by § 7.202(G), or any other restrictions of a temporary or emergency order, pursuant to § 7.203, whether such order is posted or not.

(E) No person shall wash, grease, or repair any vehicle on any park, boulevard, or parkway, except to perform necessary emergency repairs.

(F) No person operating a bus shall allow the same to remain stopped or parked upon any street at a place not designated as a "bus stop." No person operating a taxicab shall allow the same to remain stopped or parked upon any street at a place not designated as a "taxistand" for a period in excess of five minutes while occupying said taxicab; provided, however, that such operator may temporarily stop or park such taxicab at any location when so instructed in order to pick up passengers.

(G) No person shall park, keep, place, store or permit the parking or storage of any stock car, racing car, or junk vehicle on a public street or alley, or any private lands or premises which he owns, occupies or controls for a period of longer than 96 hours, unless it shall be within a building on such private premises. Said person shall be given a notice of violation by the city to take corrective action. **CORRECTIVE ACTION** shall be defined as follows:

(1) When the vehicle is legally parked and in compliance with all applicable city ordinances and state requirements for an operable vehicle on public roads. In the event corrective action is not taken within 96 hours from the notice of the violation, the city may take the vehicle into custody, impound it, and the vehicle is eligible for disposal or sale as an unauthorized vehicle under M.S. § 168B.08, 45 days after notice to the owner.

(2) For purposes of divisions (G), (H) and (I) of this section:

BUS. A vehicle designed for carrying passengers and having a seating capacity of more than nine persons, but not to include any such vehicle which has been altered for use for camping purposes exclusively.

JUNK VEHICLE. Any motor vehicle which is not in operable condition, or which is partially dismantled, or which is used for sale of parts or as a source of repair or replacement parts for other vehicles, or which is kept for scrapping, dismantling, or salvage of any kind. Failure to prominently display a motor vehicle registration license for the current year shall be prima facie evidence that such vehicle is a junk vehicle.

MOTOR TRUCK, TRUCK TRACTOR or COMMERCIAL VEHICLE. A vehicle having either a capacity of more than one ton or weight of more than 5,000 pounds or both, but not to include vehicles which are designed exclusively for recreation purposes.

(H) No person owning, driving or in charge of any bus, motor truck, truck tractor, or commercial vehicle shall permit the same to be parked or stand longer than 24 hours continuously on, in front of, or beside any property in a residential district, except for the purpose of loading or unloading.

(I) No person owning, driving, or in charge of any bus, motor truck, truck tractor, or commercial vehicle designed exclusively for recreation or camping purposes, shall permit more than two of the same to stand longer than 24 hours continuously on, in front of, or beside any property in a residential district except for the purpose of loading or unloading.

(J) No person shall service, repair, replace parts or do maintenance work on a stock car, racing car, or junk car on a public street, nor on any private lands or premises unless it shall be within a building on such private premises.

(K) No person shall park or stop his vehicle in a private parking lot in such a manner as to interfere with or obstruct the movement of traffic therein.

(L) No person parking or stopping his vehicle in a private parking lot shall allow the same to remain in such lot for longer than the posted limit.

(M) No automobile, motor vehicle, recreational vehicle or trailer may be parked or left unattended on any public road or parkway within the City of Columbia Heights at any time between the hours of 2:00 a.m. and 6:00 a.m. without a parking permit issued by the Chief of Police or his designated representative. The Chief of Police may only issue such permits to applicants only upon the following conditions:

(1) Permits in excess of five in any calendar month shall not be granted unless the Chief of Police determines that the applicant cannot park on the property upon which his residence is located without violating the zoning laws relating to permitted off-street parking areas or that the applicant cannot reasonably or legally drive the subject vehicle to any other place on the property where his residence is located without violating the zoning laws relating to off-street parking.

(2) The Chief of Police determines that the issuance of such permit will not impede the plowing or removal of any snow, ice or waste from such public road or parkway.

(3) The permit will only allow the parking of vehicles at such location as is designed by the Chief of Police.

(4) The permit may be revoked by the Chief of Police if the Chief of Police later discovers that the subject vehicle will impede the plowing or removal of snow, ice, or waste from the location of the vehicle; provided, however, that the Chief of Police shall give notice of such revocation by posting a notice to that effect on the subject vehicle for not less than two hours.

(5) No permit shall be valid for a period in excess of four hours.

(6) No permit shall be valid unless clearly displayed upon the permitted vehicle.

(7) Any act of the designated representative of the Chief of Police shall be construed as the act of the Chief of Police for purposes of this division.

(8) All permits granted hereunder shall expire on March 31 of each year.

(N) Division (M) of this section shall not be effective between the dates of April 1 of each year and October 31 of the same year, said dates being inclusive; provided, however, that division (M) of this section shall be applicable between April 1 of each year and May 1 of each year, said dates being inclusive, to any subject vehicle when snow has accumulated to a depth of **three and one-half inches or more** within the traveled portion of any roadway that lies within six feet of the said vehicle.

(O) No person shall park or stop a vehicle which is wider than 68 inches at its widest point in any designated compact car parking space within the city.

(P) No person, firm or corporation owning or having a superior possessory interest in a parking lot containing designated compact parking spaces shall allow or permit any vehicle which is wider than 68 inches at its widest point to be parked within any designated compact car parking space within the city. The existence of two or more vehicles remaining parked in violation of division (O) of this section for a period of more than two hours shall be prima facie evidence that the person, firm or corporation owning or having the superior possessory interest in such lot is allowing or permitting such activity in violation of this section. In addition to the penalties prescribed for misdemeanor violations by this code, the city may take such action as it deems appropriate in law or equity to enforce the owner's responsibility to enforce the proper use of compact parking spaces.

(`77 Code, § 7.205) (Am. Ord. 1063, passed 11-14-83; Am. Ord. 1343, passed 4-28-97; Am. Ord. 1364, passed 11-24-97; Am. Ord. 1485, passed 6-13-05) [Penalty, see § 7.601](#)

Below is what we have on our web page. I cannot find any ordinances pertaining specifically to snow plowing except what's above, which states 3-1/2 inches.

Parking Restrictions

After a snowfall of 3 or more inches, no parking on the street is permitted until it has been plowed from curb-to-curb. Parking restrictions in Columbia Heights are:

No parking on city streets from 2 to 6 am from Nov 1 to March 31.

No parking on city streets after a 3-inch snowfall until the street is plowed curb-to-curb.

No parking on city streets for longer than six hours.

Winter parking enforcement begins each year on November 1 and continues through March 31. No vehicle or trailer may be parked or left unattended on any public road or parkway within the City of Columbia Heights at any time between the hours of 2 am and 6 am without a permit issued by the [Columbia Heights Police Department](#). A permit may only be issued under certain conditions.

All parking permits are subject to suspension for snow removal or other emergencies.

Surrounding City's Winter Parking Bans

Fridley:

Parking on Fridley streets is prohibited between the hours of 2 a.m. and 6 a.m. from November 1 through April 1 (Chapter 506 (Unattended Vehicle ordinance)). In addition, there is no street parking anytime while snow removal is in progress. Vehicles parked on streets during this time may be tagged and towed at your expense. This expedites and improves the snow plowing activities by City crews.

New Brighton:

City Code **Section 29-32** – regarding No Parking After Snowfall states: ***No person shall park or leave standing any vehicle on any street or roadway after a snowfall of at least three inches. Parking may be resumed on the streets or roadways after the snow has been removed or plowed to the curb line. (Code 1966; Ord. No. 249, 2-11- 69; Ord. No. 535, 12-10-85; Code of 1988; Code of 2001)***

Section 29-20 and Section 29-21 of the City Code restrict daytime parking on streets to 6 hours between 5:00 a.m. and 2:00 a.m., and night time parking to 30 minutes between 2:00 a.m. and 5:00 a.m.

Cars that are parked in violation of the Ordinance are plowed in. After the snowfall is over and the streets are cleared, the cars that have been plowed in are usually gone and the remaining snow can be removed. Cars that are not removed within a reasonable period of time are towed by the Police Department.

City of St. Anthony:

(A) No person shall park a vehicle on any city street for a period of 48 hours, commencing immediately after 2 inches or more of continuous snowfall, or until snow removal has been completed curb to curb.

(B) Whenever it is necessary to the proper direction control, regulation of traffic, plowing and/or the removal of snow, ice, or waste, or maintenance or improvement of any highway or street to remove any vehicle standing on a highway or street in the city, then any police officer is authorized to provide for the removal of the vehicle and have the same removed to the nearest convenient garage or other place of safety. The cost of removal and storage of the vehicle will be charged to the owner of the vehicle, and to the person causing the violation.

(C) If any vehicle is left standing for a period in excess of 24 hours, then the vehicle may be deemed a traffic impediment, and a police officer is authorized to provide for the removal of the vehicle.

Brooklyn Park:

Regardless of weather conditions, between October 15 to April 15 vehicles may not be parked on city streets between 2 a.m. to 5 a.m. Vehicles left on city streets between 2 a.m. to 5 a.m. will be ticketed and towed.

City of Crystal / Snow Parking Restrictions

On-street parking is prohibited between 2 a.m. and 5 a.m. After a snowfall of at least 1½ inches in the city, parking is prohibited on public streets and alleys until the street or alley has been plowed and the snow removed to the curb line. [Parking violations](#) should be reported to the police by calling 911. When the city gets 1.5 inches of snow or more, it does a full plow of all city streets and alleys. If there is less than 1.5 inches in accumulation, the city may send out trucks to salt main roads and hills.

Brooklyn Center:

27-120 Parking Restricted and Prohibited 1) No person in charge of any vehicle shall park or permit such vehicle to stand upon the roadway of any highway or street in the City of Brooklyn Center between the hours of 2 a.m.

and 6 a.m., nor for more than six consecutive hours at any other time. No person in charge of any vehicle shall park or permit such vehicle to stand upon any alley in the City of Brooklyn Center at any time.

Street snow removal operations will begin when there has been a snowfall of more than 2.5 inches or if other conditions warrant plowing. No parking is allowed on any City street between 2:00 am and 6:00 am or for more than 6 consecutive hours at any other time. Try not to park on streets, especially during and after a snowfall.

Coon Rapids:

The winter parking ban is in effect from November 1 through April 1. No parking is allowed on the street from 2 a.m. to 6 a.m. Parking is also prohibited on public streets when there is an expected snow accumulation of 3 inches or more, or until the street has been plowed from curb-to-curb.

Blaine:

Sec. 82-151 states: No owner of any vehicle or person in charge of any vehicle shall park or permit such vehicle to stand upon any highway, street, or alley in the city for more than 48 consecutive hours at any time. From November 1 to April 1, no person shall park or permit to be parked any vehicle on any highway, street, or alley between the hours of 2AM and 7AM without an emergency parking permit issued by the police department. Any vehicle parked in violation of this section may be removed as provided by section 82-61. The term "highway, street, or alley" shall be construed to mean the entire width of the right-of-way.

Arden Hills:

No parking on city streets between 2:00 am and 6:00 am. No parking on city streets after the accumulation of two or more inches of snow until plowing has been completed.

Shoreview:

No one can have their vehicle curbside in Shoreview between the hours of 2:00 a.m. and 5:00 a.m

Woodbury:

To facilitate plowing, parking on city streets is banned between 2 a.m. and 6 a.m. from Nov. 1 through April 1. City ordinance No. 14-122 also prohibits on-street parking any time two or more inches of snow have accumulated, until after the street has been completely plowed. The two-inch guideline applies to any hour of the day, any time of the year.

Wayzata:

The City of Wayzata ordinance 303.1A states that no person shall park or leave standing any vehicle on any public street in the City of Wayzata commencing at 2:00 A.M. after a snowfall of 2" or more in depth has fallen. The parking ban shall remain in effect until the snow has been removed or plowed to the curb line.

CITY OF COLUMBIA HEIGHTS

PUBLIC WORKS DEPARTMENT

SNOW AND ICE CONTROL POLICY



2018/2019

SNOWPLOWING AND ICE CONTROL POLICY

1. Introduction:

The City of Columbia Heights believes that it is in the best interest of the residents for the City to assume basic responsibility for control of snow and ice on city streets. Reasonable ice and snow control is necessary for routine travel and emergency services. The City strives to provide such control in a safe and cost effective manner, keeping in mind safety, budget, personnel and environmental concerns. The City will use city employees, equipment and /or private contractors to provide this service. This policy does not relieve the operator of private vehicles, pedestrians, property owners, residents and all others that may be using public streets of their responsibility to act in a reasonable, prudent and cautious manner, given the prevailing street conditions.

The City of Columbia Heights has a winter parking ordinance. This ordinance makes it unlawful to park any vehicle on any street within the City between the hours of 2:00 and 6:00 AM from November 1 through March 31 unless a parking permit has been issued for that vehicle. All parking permits are subject to suspension for snow removal or other emergencies.

Furthermore, no parking is allowed on city streets after a 3" snowfall until the street is plowed curb-to-curb.

1. When will city start snow and ice control operations?

The Director of Public Works or assigned representative will decide when to begin snow or ice control operations. The criteria for that decision are:

- A. Snow accumulation of three (3) inches or more;
- B. Drifting of snow that causes problems for travel;
- C. Icy conditions which seriously affect travel;
- D. Time of snowfall in relationship to heavy use of streets;
- E. Weather forecast, temperature, type of snow, duration and intensity of storm

The Police Department assists Public Works Maintenance in monitoring street conditions and notifies Public Works Maintenance personnel of snow and ice conditions needing immediate attention. Maintenance personnel are notified in accordance with the Public Works Department policy for emergency calls.

2. How snow will be plowed?

Snow will be plowed in a manner so as to minimize traffic obstructions. The center of the roadway will be plowed first. The snow shall then be pushed from centerline to curb on two-way streets. On one-way streets or where there is a center boulevard, snow may be pushed in either direction. Discharge shall go onto the boulevard area. Generally, operations shall continue until all roads are passable. There may be instances when this is not possible depending on storm conditions and other circumstances.

Priorities and schedule of streets plowing and snow removal.

The city has classified city streets based on the street function, traffic volume and importance to the welfare of the community. Some priorities are performed simultaneously depending on conditions and existing situations.

Priority #1 - Main thoroughfares, low volume residential and commercial streets, Public Safety building parking lots and accesses, alleys, cul-de-sacs, dead ends, pump and lift station accesses.

Priority #2 - Municipal building parking lots and sidewalks, pedestrian bridges, designated sidewalk routes.

Priority #3 - (Business District, parking lots, widening streets, etc.) Snow removal as needed.

Priority #4 - Central Avenue (streetscape district only - 37th to 43rd Avenues). Snow removal around bus benches as needed

Priority #5 - Park pathways, skating rinks and hockey rinks

Priority #6 - Industrial and school hydrants – snow removal as needed

Priority #7 - Residential hydrants – snow removal as needed – Assist Adopt-a-Hydrant Program.

Priority #8 - Murzyn Hall, City Hall, Library. Check for ice dams and plugged drains. Remove ice dams and open drains as needed.

During significant and severe storms, the city must be prepared to move personnel and equipment to maintain priority routes first. In fulfilling the need to have all priority streets safe and passable, when resources are limited, plowing of all other streets may be stopped at any time so resources can be shifted to priority routes.

Unforeseeable circumstances may cause delays in completing assigned plow routes. Such circumstances may include weather conditions that endanger the safety of snowplow operators and/or safe and effective operation of equipment, commuter traffic, disabled vehicles, poor visibility conditions, parked cars along streets, assistance to emergency response vehicles, equipment breakdown, and personnel shortages.

3. Snow Removal

The Director of Public Works or assigned representative will determine if and when snow will be removed from the area by truck. Such snow removal will occur in areas where there is no room on the boulevard for snow storage and in areas where accumulated piles of snow create a hazardous condition. Snow removal operations will not commence until other snowplowing operations have been completed. Snow removal operations may also

be delayed depending on weather conditions, personnel and budget availability. The snow will be removed and hauled to a snow storage area. The snow storage area will be located so as to minimize environmental problems.

4. Work schedule for snowplow operators.

Snow plow operators will be expected to work eight-hour shifts. In severe snow emergencies, operators sometimes have to work in excess of eight – hour shifts. Safety of the plow operators and the public is important. Therefore, if additional qualified snow plow operators are not available snow plowing/removal operations may be terminated after 12 hours to allow personnel adequate time for rest. Any decision to suspend operations shall be made by the Director of Public Works and shall be based on the conditions of the storm.

5. Traffic Regulations

The city recognizes that snowplow operators are exempt from traffic regulations set forth in Minnesota Statutes, Chapter 169 while actually engaged in work on streets, except for regulations related to driving while impaired and the safety of school children. Pursuant to this authority, snowplow operator engaged in snow removal or ice control on city streets have discretion to disregard traffic laws set forth in Chapter 169, except for laws relating to impaired driving and school children safety, when in their judgment, it is safe to disregard such laws. The privileges granted herein to operators of snow removal and ice control vehicles shall apply only if the vehicle is equipped with one lighted lamp displaying a flashing, oscillating, or rotating amber light placed in such a position on the vehicle as to be visible throughout an arc of 360 degrees.

6. Weather Conditions

Snow and ice control operations will be conducted only when weather conditions do not endanger the safety of the snowplow operators and equipment. Factors that may delay snow and ice control operations include but are not limited to: severe cold, significant winds, and limited visibility.

7. Use of Sand, Salt, and other Chemicals

The city will use sand, salt, and other chemicals when there area hazardous ice or slippery conditions. The city is concerned about the effect of such chemicals on the environment and will limit its use for that reason.

8. Sidewalks

The city will maintain some of the sidewalks in the city. The list of those sidewalks is attached. It is the responsibility of the resident and/or property owner to remove all accumulated snow from all other sidewalks along public streets adjoining their property. This includes any snow plowed from public streets onto the sidewalk.

9. Mailboxes

Coming into contact with a mailbox is a common obstacle snowplow operators face during storm activities. The city will conduct a review of each mailbox incident to determine whether the city will replace or provide reimbursement for the mailbox. Only mailboxes actually hit by a snowplow will be the responsibility of the city. The city will not be responsible for damage to mailboxes or support posts caused by snow or ice coming into contact the mailbox. At the mailbox owner's request, the city will replace the mailbox with a standard size, non-decorative metal mailbox and replace the support post as necessary with a 4"x 4", decay resistant wood support post, both installed by the city. Alternatively, the city will reimburse the mailbox owner \$75.00 for the replacement of the mailbox and post by others.

10. Landscape

The city will not repair/replace sod damaged due to the application of sand, salt or other deicing chemicals.

The city will repair sod damaged by snow plow during snow removal operations with black dirt and grass seed.

Property owners who install decorative materials in the right-of-way do so at their own risk. Damage within the public right-of-ways is the responsibility of the property owner, including but not limited to: trees, shrubs, bushes, landscape materials, decorative rock, retaining walls, fences and irrigation systems.

11. Deviation From Policy

The Director of Public works or appointed representative may deviate from this policy when in his or her judgment it is in the best interest of the city or is necessary because of budget needs or other circumstances. Changes in priorities (lasting more the 4 hours) will be documented as to what caused such actions, why the change was necessary, and for how long the change is to be in effect. Those city employees and/or contractors affected will be notified immediately by radio or cell phone of such changes with all communications logged. Information logged will include the time and date of the communication, name of the employee contacted, and how they were contacted. Any changes of priorities lasting more that 24 hours should be made in a written record and the public should be informed of such changes through normal methods used by the city for emergency notifications.

12. Complaint Procedures

Complaints will be recorded on telephone logs. Calls requiring service will be transferred to a work request and forwarded to the appropriate supervisor for scheduling. Emergency complaints will be handled in an expeditious manner as resources are available.

13. Driveways

One of the most frequent and challenging problems during snow removal from public streets is the snow deposited in driveways during plowing operations. Snow accumulated on the plow blade has no place to go but in the boulevard areas, which includes driveways. The snow plow operators make every attempt to minimize the amount of snow deposited in driveways but the amount can still be significant. Regardless, the City does not possess resources to attempt to provide private driveway cleaning after plowing public roads.

14. Access to Mail Boxes

The snow plow operators make every effort to remove snow as close to the curb line as practical and to provide access to mailboxes for the postal service. However, it is not possible to provide perfect conditions and minimize damage to mailboxes due to the size and type of equipment the City operates. Therefore, the final clearing adjacent to mailboxes is the responsibility of each resident and subject to the delivery requirements of the United States Postal Service.

15. Review and Modification of Policy

The Director of Public Works or appointed representative shall keep on file all comments and complaints received regarding this policy. The policy will be reviewed periodically. Any review will consider comments and complaints since the last review and any other factors affecting the policy or its implementation.

PLOWING EMERGENCY - PERSONNEL & EQUIPMENT

A. Assignments by department

1. The **Street Department** shall remove snow according to the following priorities:
 - a. Assign personnel as necessary for street plowing and ice control operations.
 - b. Remove snow from main thoroughfares and apply salt and/or sand.
 - c. Remove snow from residential streets and alleys and apply salt and/or sand.
 - d. Remove snow from municipal parking lots.
 - e. Clean up alley openings, intersections and the deposits of snow left by snowbirds. Follow up on complaints from the public and others. Any personnel that become available will be assigned to help others wherever needed. They may have to widen streets again the next day.

2. The **Sewer and Water Department** shall remove snow according to the following priorities:
 - a. Furnish personnel as necessary for street plowing operations.
 - b. Plow entrances and areas around the water tower, pump houses, and lift stations.
 - c. Clean sidewalks and entrances at the Library before it opens and, if necessary, in the afternoon. Personnel shall assist others who are hand shoveling other areas.
 - d. Personnel shall assist the Fire Department in digging out hydrants as needed. Certain hydrants have been designated as critical and will witnessed by reflective hydrant markers.

3. The **Park Department** shall remove snow according to the following priorities:
 - a. Furnish personnel as necessary for street plowing operations.
 - b. Clear snow and deice all City Hall, Public Safety building, and JPM sidewalks and entrances. **Public Safety building: For snow conditions of three (3) inches or more the Fire Department shall initially clear all doorways, stairs, and open the walks around the Public Safety Building. If there is only one person in the Fire Department, they will contact Public Works who will supply one person to help them. After all other work is accomplished; Public Works shall finish widening the walkways.**

JPM maintenance personnel: Responsible for clearing snow from sidewalks and entrances on weekends, holidays and evenings.
 - c. **Remove snow from municipal sidewalks.**
 - Central Avenue & 49th Avenue - Pedestrian Bridge

- Public Safety Building
- City Hall and upper JPM parking lot
- Recreation and JPM – Mill Street sidewalk-front, back & side entrances
- Library – 3939 Central Avenue
- 900 40th Avenue (Van Buren Street – parking lot) - perimeter sidewalk
- 3982 Central Avenue – sidewalk on south side, Central Avenue to parking lot
- Jefferson Street Divide sidewalk (46th Avenue and Jefferson Street)
- Liquor Store Top Valu #1 - 4950 Central Avenue –Sidewalk on Central Avenue adjacent to street.
- Liquor Store Top Valu #2 - 2105 37th Avenue – Sidewalks on 37th Avenue & Hart Blvd. adjacent to street

d. Remove snow from miscellaneous designated sidewalks.

West side

- 49th Avenue, University Avenue to Monroe Street
- 5th Street, 47th – 48th Avenue, east side sidewalk
- Jackson Street, 41st Avenue to 42nd Avenue (east side)
- 42nd Avenue – Jackson Street to Van Buren Street (south side)
- Central Avenue 4022 and 4024 (between buildings)
- 42nd and University (walk bridge) west side
- 40th Avenue, University Avenue bus stop, 3rd Street to University Avenue
- 3942 Van Buren Street (storm water overflow area)

East Side

- 37th Avenue, north side, Reservoir Blvd. to first alley east
- 40th Avenue, Central Avenue to Hayes Street
- 44th Avenue (Tyler Street to Reservoir Boulevard)

e. Remove snow from park sidewalks.

- Huset east and west, Jefferson Street
- Jackson Pond, south end sidewalk
- Edgemoor Park, 2nd Street sidewalk
- Ostrander Park, Tyler Street sidewalk and front entrance sidewalk
- Wargo Park, exterior sidewalk
- Gateway Park, exterior and interior sidewalk

f. Remove snow from park pathways.

- Huset West pathway
- University Avenue Bike path – 40th to 45th Avenue

- McKenna Park pathway
- Sullivan Lake Park pathway
- Curt Ramsdell Park pathway
- Silver Lake Beach
- LaBelle Park pathway
- Prestemon Park pathway
- Keyes Park pathway

g. Remove snow from sidewalks on Community Development properties.

West side

- 3982 Van Buren Street
- 670 40th Avenue
- 828 40th Avenue
- 4235 Washington Street
- 4147 7th Street

East Side

- 961 Gould Avenue

h. Remove snow from skating areas and park parking lots.

i. Roof Maintenance JPM, City Hall, Library.

- Remove ice dams and unplug roof drains

4. The **Sign Department** personnel shall hand-shovel the pedestrian bridge and spread deicer.
 - Furnish personnel as necessary for street plowing operations
 - 42nd and University Avenue (walk bridge)
 -
5. The **Engineering Department** Techs shall remove snow and de-ice the walks and steps around the Municipal Service Center building, parking lots and assist the Sign Department in the removal of snow from the pedestrian bridge.

Drivable Equipment Used in Snow Emergencies:

Heavy Equipment

- #9 Case front-end loader with front plow (two stage snow blower - used for snow removal)
- #14 Caterpillar front-end loader with front plow and wing plow

Dump Trucks

- #80 35,000 GVW International dump truck with reversible front plow, underbody plow, wing plow and sander. (SW Quadrant)
- #82 35,000 GVW International dump truck with reversible front plow, underbody plow, wing plow and sander. (NE Quadrant)
- #83 35,000 GVW International with reversible front plow, underbody plow, wing plow, and sander. (NW Quadrant)
- #84 35,000 GVW International with reversible front plow, underbody plow, wing plow, and sander. (SE Quadrant)
- #99 33,000 GVW Ford dump truck with adjustable front V-plow, underbody plow, wing plow and sander (Alleys and parking lots).
- #250 14,000 GVW Ford dump truck with front plow

Pickups

- #8 4 x 4 1 ton Ford pickup with plow
- #102 4 x 4 V-plow
- #114 4 x 4 ¾ ton Ford pickup with plow
- #117 4 x 4 1 ton Ford pickup with plow
- #137 4 x 4 1 ton Ford pickup with plow
- #202 4 X 4 V-plow
- #234 4 x 4 1 ton Ford pickup with plow (designated for Park use)

Misc. Equipment

- #200 MT Trackless
- #201 John Deere Gator (liquid ice control)
- #232 Toro Groundsmaster 4 x 4 (with broom attachment)
- #280 Caterpillar 247 Skid Steer (with snow bucket attachment)
- #296 MT Trackless (with snow blower, plow and broom)

Street Plowing Routes

Attached are maps of main thoroughfares, quadrants, dead-end alleys and cul-de-sacs, thru alleys, parking lots and snow removal areas.

1. Main thoroughfares – Dump trucks assigned to quadrants
2. Quadrants SW, NW, SE, NE – dump trucks
3. Thru-alleys - #99 dump truck with adjustable V- plow
4. Dead-end alleys and cul-de-sacs – Pickups and 1 ton dump trucks
5. Parking lots – Case front end loader (#9)

6. MSC, SACA, Library, load sand trucks backhoe Caterpillar (#128)
7. #14 front end loader – 37th Avenue to 40th Avenue from University to Central – Central Avenue from 37th Avenue to 43rd Avenue (bump outs and pork chops). 37th Avenue to 45th Avenue from Main Street to University Avenue.

Main Thoroughfares: Quadrants

Four dump truck plows - each operator is assigned to a specific quadrant.

SW Quadrant. This area is from 37th Avenue to 45th Avenue (University Avenue to Central Avenue). Plow main thoroughfares first. 40th Avenue, 44th Avenue, and 45th Avenue (University Avenue, 45th to 42nd) and Jefferson Street. (40th Avenue to 45th Avenue)

NW Quadrant This area includes University Avenue to Central from 45th Avenue to 53rd Avenue exclusive of the City of Hilltop. Again, this quadrant has five main arterials to be plowed first, that being Jefferson Street; University Avenue Service Road; 49th Avenue, 51st Avenue and 53rd Avenue (**Fridley plows 53rd Avenue, Columbia Heights does ice control**). The operator in this quadrant will start on the west end one time and the east end another time in order to equalize the complaint of always being plowed last. When the operator has finished plowing their own area, they will combine to finish whatever area is not completed. Alternate starting points may be used each time.

SE Quadrant. This area includes 37th Avenue to 44th Avenue between Central Avenue and Stinson Boulevard. This quadrant has seven main arterials to be plowed first which include Reservoir Boulevard, 39th Avenue, 40th Avenue, Arthur Street, Hart Boulevard, Stinson Boulevard, 37th Place, and Benjamin Street (43rd Avenue to 45th Avenue). After the main arterial have been completed, plowing starts at Tyler Street from 37th Avenue N and then works avenues from 37th to 44th, then streets easterly to Stinson Boulevard. When this has been accomplished, the plow will work the streets between Central Avenue and Reservoir Boulevard. When the operator has finished plowing their own area, they will combine to finish whatever area is not completed. Alternate starting points may be used each time.

Note: We share the responsibility of plowing 37th Avenue from Stinson Boulevard to Main Street with the City of Minneapolis. 37th Avenue is divided into two segments - (1) Main Street to Central Avenue and (2) Central Avenue to Stinson Boulevard. Per agreement, we alternate segments each year. The agreement period is October 1st to October 1st. **For 2018-2019 Columbia Heights maintains 37th Avenue from Central Avenue to Stinson Boulevard.**

NE Quadrant: This area includes 44th Avenue to 51st Avenue from Central Avenue to Stinson Boulevard. This quadrant has main arterials to be plowed first which include 44th Avenue, Central Avenue to Reservoir Boulevard; 45th Avenue, Central Avenue to 44th Avenue; 47th Avenue, Central Avenue to Fillmore; Fillmore, 45th to 49th Avenue; 49th Avenue, Central Avenue to Fairway Drive; Fairway Drive, West Upland Crest to Stinson

Boulevard; Stinson Boulevard, Silver Lake Beach to Argonne Drive; Arthur Street, 44th Avenue to 45th Avenue; 45th Avenue, Chatham Road to Stinson Boulevard; Chatham Road, 45th Avenue to 49th Avenue; Reservoir Boulevard, 44th Avenue to Fillmore Street. We will either begin plowing Mathaire Addition or Sheffield Addition, depending on the time of day and the number of cars that could be in the Sheffield Addition. Whichever way, we will pick up the Hilltop Addition, Innsbruck Addition and the Heritage Heights Addition. When the operator has finished plowing their own area, they will combine to finish whatever area is not completed. Alternate starting points may be used each time.

Thru-Alleys

The alley "V" plow is pushed by a dump truck. This plow usually starts on the west side of town being California Street to University Avenue, 37th to 45th Avenue and works its way east. Alternate starting points may be used each time. Equipment problems and weather conditions may require the use of 4-wheel drive vehicles to clear alleys.

Dead-end Alleys and Cul-de-Sacs

The 4-wheel drive vehicle operators each receive a map showing all the cul-de-sacs, dead end alleys, and hard-to-get at places. When operators have completed their own designated areas, they will check with the other operators and will help each other finish plowing where needed.

They may assist the "V" plow operator in finishing his alley routes if assigned by the Superintendent. When alleys are finished, operators will clean intersections in their assigned area.

Parking Lots

Plow route for #9 front-end loader:

1. Administration Building (590 40th Avenue), (559 Mill Street) and (555 Mill Street) lots.
 - Note:** Remove snow from 40th Avenue curb line from alley east to Mill Street.
 - Note:** 555 Mill Street parking lot can be used for temporary snow storage.
 - Note:** Plow Mill Street from 40th Avenue to 5th Street. Remove snow from curb line in front of JPM & City Hall.
2. JPM (530 Mill Street) upper and lower lots.
3. Van Buren lot south of 40th Avenue (900 40th Avenue).

Parking Lots

Plow route for #102 – 4-wheel drive pickup

1. Public Safety Building (825 41st Ave.)
2. Madison Street – 37th Avenue to dead-end
3. SACA (627 38th Avenue)

4. Heights Liquor Store - 5225 University Avenue (Liquor Store #3)
5. Liquor Store Top Valu 1 - 4950 Central Avenue
6. Liquor Store Top Valu 2 - 2105 37th Avenue
7. Municipal Service center yard (637 38th Avenue) and parking areas.

ICE CONTROL

When there is a potential for or accumulation of snow or ice, it is normally necessary to perform ice control operations using salt or a salt/sand mixture. This function will proceed under the discretion of the Public Works supervisor. This function begins with communication between the Police Department, Public Works personnel, and Anoka County Central Dispatch, in no special order.

The duty person organizes the ice control operation based on the Superintendent's standing instructions. Main thoroughfares, emergency routes, controlled intersections, and hills are given priority. Police reports of slippery conditions are also considered. Application is limited on low volume streets and cul-de-sacs.

Salt sand will be furnished for residents in the designated area outside the Recycling Center (3801 Madison Street).

SNOW REMOVAL

Certain actions and areas were designated by the City Council on January 11, 1982, and amended from time to time, for services. These services are other than normal street plowing and ice control that the City may perform depending upon the amount of snow accumulation.

When accumulated piles of snow in the business areas, around schools, and public buildings indicate hazardous conditions, the Street Department begins loading and hauling to storage areas. Snow is to be hauled for storage to 1) Huset Park East- Quincy Street parking lot (Note: restricted to daytime use) and 2) Huset Park East –Huset Parkway parking lot.

Snow Removal at Library

A. Parking Lot:

The Library parking lot will be cleared in accordance with the priorities established in this policy. The lot will be cleared in conjunction with the other municipal lots after snow plowing has been completed on the streets, Police and Fire areas and the pump and lift station accesses.

B. Sidewalks:

During the work week, two members of the Sewer & Water Department will remove snow and ice from the sidewalks and entrances to the Library before the Library opens and, if necessary, in the afternoon. Note that there is a snow melting system for the sidewalk at both entrances.

The **weekend duty person** will be responsible for clearing snow and ice from the sidewalks and entrances before opening of the Library on Saturday mornings (currently 10:00 a.m.). Library personnel are responsible for snow and ice clearing on Saturdays after opening and, if conditions warrant, may call out the weekend duty person for assistance.

PLOWING/ICE CONTROL INFORMATION

1. 3" ACCUMULATION REQUIRED BEFORE SNOW EMERGENCY FULL CITY PLOWING
 - APPLY ICE CONTROL IN CONJUNCTION WITH PLOWING OPERATIONS
2. SNOW DEPTH 1" TO 3" – PLOW DRIVING LANES AND APPLY ICE CONTROL
3. FIRST PRIORITY - ARTERIALS AND RESIDENTIAL AREAS
4. ALLEY PLOWING:
 - THRU-ALLEYS PLOWED WITH "V" PLOW
 - DEAD END ALLEYS PLOWED WITH PICK-UPS
5. POLICE REQUEST FOR ICE CONTROL/SPECIFIC AREAS AND ARTERIALS
 - 1 OR 2 ICE CONTROL TRUCKS DEPENDING UPON EXISTING CONDITIONS
6. POLICE REQUEST FOR ICE CONTROL/CITY WIDE
 - 4 ICE CONTROL TRUCKS - STREETS ONLY (ARTERIALS FIRST FOLLOWED BY RESIDENTIAL)
 - ICE CONTROL OPERATIONS IN ALLEYS WILL BE CONDUCTED DURING NORMAL WORK HOURS
7. 53RD AVENUE FROM UNIVERSITY TO CENTRAL: FRIDLEY PLOWS - COLUMBIA HEIGHTS – ICE CONTROL
8. STINSON BOULEVARD FROM 37TH TO 40TH: ST ANTHONY PLOWS - COLUMBIA HEIGHTS ICE CONTROL
9. 37TH AVENUE MAINTENANCE:
 - MAIN STREET TO CENTRAL AVENUE (
 - CENTRAL AVENUE TO STINSON BOULEVARD

SEGMENTS ALTERNATE EACH YEAR ON OCTOBER 1ST:

2018-2019 MINNEAPOLIS PLOW/SALT MAIN STREET TO CENTRAL AVENUE

2018-2019 COLUMBIA HEIGHTS PLOW/SALT CENTRAL AVENUE TO STINSON BOULEVARD

SAND BARRELS**WEST SIDE:**

- Qty. 3 637 38th Avenue - outside of fence for Recycling Center.
- Qty. 1 Behind 4059 Monroe Street at NW corner of alley and 41st Avenue - next to utility pole.
- Qty. 1 4707 Jefferson Street - driveway north side - next to utility pole.
- Qty. 1 46-1/2 Avenue east of Jefferson - next to utility pole.

EAST SIDE:

- Qty. 1 Alley behind 3813-15 Pierce Street - next to hydrant.
- Qty. 1 4464 Stinson Boulevard – secured to pole.
- Qty. 1 41st Avenue and Stinson Boulevard on SW corner.

COLUMBIA HEIGHTS POLICE DEPARTMENT



MEMORANDUM

To: Amáda Márquez Simula, Mayor
Columbia Heights City Council

From: Lenny Austin, Chief of Police

Subject: Winter Parking Information

Date: December 31, 2020

Enclosed you will find the following information regarding CHPD's 2-6 am parking procedures:

- Operational Memorandum Number 206: Snowfall Parking Guidelines
- Operational Memorandum Number 211: Winter Parking Permits
- Breakdown of 2019-2020 snow season & 2020-YTD snow season 2-6 am parking violations, to include number of citations issued, number of permits issued, and number of vehicles towed.

cc: Kelli Bourgeois, City Manager



COLUMBIA HEIGHTS POLICE DEPARTMENT

OPERATIONAL MEMORANDUM

Number: 206
To: ALL CHPD STAFF
From: Erik Johnston, Captain
Subject: Snowfall Parking Guidelines
Date: November 19th, 2019

PURPOSE

The purpose of this operational memorandum is to provide guidelines for the tagging and towing of vehicles during snowfalls. For purposes of this memo a “snowbird” is a vehicle surrounded by recent snowfall and is parked on the street with no tracks coming or going from its location.

PROCEDURE

Snowfalls under 3 inches:

Six hours after the snowplows leave the streets; officers will begin issuing six-hour parking violations for snowbird vehicles. Officers will write a report in order to follow-up and tow after 24 hours in accordance with the six-hour parking ordinance.

Snow emergencies of 3 inches or greater:

There is no parking until the street has been plowed curb to curb on both sides of the street.

When public works has notified the police department they have finished the plowing event the following will take place:

- Vehicles parked on the street will be cited for violation of city ordinance 1490-7.301 (A)(1). This is the ordinance listed on the ticket writer as “CH Tow Authority - Snow.”
- The officer or CSO will attempt to contact the owner of the vehicle to have it moved (this should be done during reasonable hours unless extenuating circumstances exist; knocking on the door is sufficient notification)

- If there is no response they will tow the vehicle. The issued ticket will be turned in with the tow sheet.
- **NOTE:** If it is between the hours of 0200 and 0600 and the vehicle has been issued a parking permit, then the officer must post notice on the vehicle two hours prior to tagging and towing. The officer will also attempt to contact the owner either in person or by phone. The “Snow Emergency Parking” flier file may be found under G:\Police\CSOs\Flyers

Temporary permits for overnight parking do not require posting notice and may be immediately towed after contact is attempted.

The officer or CSO does not need to wait with the vehicle for the tow truck. The tow company can be notified and a copy of the tow sheet left on the windshield. The officer or CSO is then responsible to follow up with the tow company to confirm if the vehicle has been towed.

Snow Emergencies: Parked vehicles obstructing roadway or alley.

There are certain streets that municipal vehicles are unable to travel through safely when plowing, when vehicles are parked on both sides of the street. Those areas include but are not limited to the following areas:

- Circle Terrace Blvd
- 4500 block of Madison Street, including the cul de sac
- 3700 through 3900 block of Jackson Street
- 4900 block of 5th Street
- Peters Place

When Public works notifies Police that they have encountered a street where plow trucks or municipal vehicles are unable to pass through due to vehicles parked on the street, Officers will tag and tow the vehicle(s) causing the obstruction. Vehicles should be tagged under City Ordinance 7.301 (A)(1) “Parked Vehicle—Interfering with Municipal Services.”



COLUMBIA HEIGHTS POLICE DEPARTMENT

OPERATIONAL MEMORANDUM

Number: 211
To: All Police Employees
From: Lenny Austin, Chief
Subject: Winter Parking Permits
Date: 09/30/2014

PURPOSE

The purpose of this operational memorandum is to provide guidelines for the issuing of winter parking permits. The procedures outlined in this memo will supersede previous parking permit methods.

PROCEDURE

Short-term parking permits (overnight permits):

A short-term (overnight) parking permit will be issued under the following procedure:

- Resident must request a permit in-person during normal business (Monday-Friday, 8:00 am to 4:45 pm).
- The support staff will record the name, address, vehicle and reason for the short-term permit.
- The resident will be issued a numbered and dated permit to be hung on their rearview mirror.

Note: Residents can no longer receive an overnight parking permit after normal business hours or by telephone.

Residents are still restricted to no more than five overnight permits per household per month. If the resident needs more than five overnight parking permits per month, they should apply for a long-term parking permit.

Officers are encouraged to use discretion in situations where there are extenuating circumstances.

Long-term parking permits:

The process of applying for a long-term parking permit will not change. The resident wishing to apply should come to the police department during regular business hours (Monday-Friday, 8:00 am to 4:30 pm) and submit an application. If the resident's request is accepted, they will receive a permit that they shall hang from the rearview mirror of their vehicle.

Reviewed/Approved 12/01/2018



Columbia Heights Police Department



Item 3.

Winter Parking Stats

	<i>Nov 1, 2019 to March 31, 2020</i>	<i>Nov 1, 2020 to present</i>
<u>Total 2-6 Admin Tags Issued</u>	<u>1,330</u>	<u>663</u>
Parking Permits Issued (Seasonal)	132	180
Parking Permits Issued (Temporary – up to 5 days issued in the office)	204	46
<u>Parking Permits Denied (rental properties, adequate parking)</u>	<u>76</u>	<u>67</u>
Vehicles Towed	19	2

Admin Tags are \$25.00

There is no charge for seasonal or temporary parking permits

Schmit Towing Fees

Tow Fee: \$124.15

Daily Impound Fee: \$45 per day



AGENDA SECTION	WORK SESSION ITEMS
MEETING DATE	JANUARY 4, 2021

CITY OF COLUMBIA HEIGHTS - COUNCIL LETTER

ITEM:	Review and Comparison of Tobacco Sales and Indoor Smoking Regulations		
DEPARTMENT:	Community Development	CITY MANAGER'S APPROVAL:	
BY/DATE:	Mitchell Forney 12/23/20	BY/DATE:	<i>Kell Bonges</i> 12/31/20
CITY STRATEGY:	#1; Safe Community		
Additional Strategy?	Choose an item.		
SHORT TERM GOAL (IF APPLICABLE):	Choose an item.		
Additional Goal?	Choose an item.		

BACKGROUND:

The Columbia Heights Police Department recently completed compliance checks on licensed tobacco sales establishments in the City. The compliance checks resulted in two citations for tobacco sales to minors. These recent violations prompted a broader conversation by City Council members and staff regarding tobacco sales and consumption regulation within the City. Within this context, staff would like to discuss with the Council the regulation of indoor smoking and sampling. The following memo and attachments present current state and local policies, and provides a summary of possible changes to the Columbia Heights City Code. Any mention of indoor smoking is reference to the smoking of tobacco or tobacco related products within a public space or place of employment.

Smoking and the sampling of tobacco products is covered under MN State Statutes §144.412 through §144.417. Collectively, these Statutes are known as the Clean Air Act. State Statutes created under the Clean Air Act were established "to protect employees and the general public from the hazards of secondhand smoke." (§144.412) Minnesota State Law expressly prohibits the smoking of tobacco or electronic devices containing nicotine within public spaces or places of employment. However, there is one exception to the ban on indoor smoking that allows for sampling. Sampling regulation for tobacco shops can be found in §144.4167 Subd. 4. of State Statute. State Statute does not prohibit the lighting, heating, or activating of tobacco, in a tobacco products shop for the purpose of sampling. State Statute also does not define or set clear parameters for the act of sampling. Despite the lack of clear direction found in the Statutes, many cities chose to further regulate indoor smoking through local ordinances.

As part of the full policy review, Community Development staff researched the codes of 23 surrounding cities. Of those 23 surveyed, only three did not establish further restrictions or restate the Clean Air Act ban on indoor smoking. Three cities reaffirmed the state's prohibition of smoking indoors, while 16 cities either prohibited both Indoor Smoking and sampling or just prohibited Sampling. The list of Cities researched along with what they have outlined in their code is attached.

The options summarized below highlight some of basic changes that can be made to the City Code as it relates to tobacco sales and sampling.

No Change:

This would continue to maintain the status quo within the city. Any violations of the clean air act would have to be brought to the attention of the Minnesota Health Department for their review and prosecution.

Reaffirm the State Prohibition on Indoor Smoking

By establishing a section within city code prohibiting indoor smoking the city would have the ability to conduct compliance checks and prosecute any violations to the City wide policy. This would be very similar to the compliance inspections that both tobacco and alcohol license holders are currently subject to.

Prohibit Seating within Tobacco Shops

The city of Minneapolis currently allows tobacco shops to distribute single service samples for the use of sampling. Prohibited in Minneapolis's city code is the sampling of tobacco not provided by the tobacco shop it is being sampled at. Also prohibited is the furnishing of indoor seating. By seeking a similar route, tobacco shops would continue to be able to sample tobacco, but establishments that are outfitted for patrons to sample for long periods of time would be prohibited.

Prohibit Indoor Sampling

By prohibiting indoor sampling tobacco shops would no longer be able to allow patrons to sample products indoors. Tobacco shops would still have the ability to give samples to prospective customers, but the samples would have to be smoked outside. This would also allow the City to prosecute any violations.

Clearly Define Sampling within City Code

In combination with the possible changes above, clearly defining the extent of sampling allowed would give the City the ability to ensure compliance and prosecute any violations.

STAFF RECOMMENDATION:

City staff does not have a recommendation; the purpose of this memo is the presentation of current policies alongside possible changes to city code.

ATTACHMENTS:

- Summary Table of City Codes
- Code Language from Surrounding Communities

City Code Review Outline

City	Outlined in code
Hilltop	Prohibits Sampling and Indoor Smoking
Fridley	Prohibits Sampling and Indoor Smoking
Minneapolis	Prohibits indoor sampling and the indoor seating within a tobacco shop
Spring Lake Park	Prohibits Smoking Lounges
West St. Paul	Prohibits Sampling
Arden Hills	Prohibits Sampling and indoor smoking
Brooklyn Park	Does not highlight Sampling or Indoor Smoking in code
Bloomington	Prohibits Sampling and Indoor Smoking
North St. Paul	Prohibits Sampling and Indoor Smoking
Robinsdale	Does not highlight Sampling or Indoor Smoking in code
New Brighton	Prohibits Indoor Smoking
South St. Paul	Prohibits Sampling and Indoor Smoking
Crystal	Does not highlight Sampling or Indoor Smoking in code
St. Anthony	Prohibits Indoor Smoking
New Hope	Prohibits Indoor Smoking
Golden Valley	Prohibits Sampling and Indoor Smoking
St. Louis Park	Prohibits Sampling
Richfield	Prohibits Sampling and Indoor Smoking
Lauderdale	Prohibits Sampling and Indoor Smoking
Mendota Heights	Prohibits Indoor Smoking
Maplewood	Prohibits Sampling and Indoor Smoking
Little Canada	Prohibits Sampling and Indoor Smoking
Roseville	Prohibits Sampling and Indoor Smoking

Examples of Other Cities Codes

State of MN Sampling Section

Subd. 4. Tobacco products shop.

Sections [144.414](#) to [144.417](#) do not prohibit the lighting, heating, or activation of tobacco in a tobacco products shop by a customer or potential customer for the specific purpose of sampling tobacco products. For the purposes of this subdivision, a tobacco products shop is a retail establishment that has an entrance door opening directly to the outside, that cannot be entered at any time by persons younger than 21 years of age, and that derives more than 90 percent of its gross revenue from the sale of tobacco, tobacco-related devices, and electronic delivery devices, as defined in section [609.685](#), and in which the sale of other products is merely incidental. "Tobacco products shop" does not include a tobacco department or section of any individual business establishment with any type of liquor, food, or restaurant license.

Fridley

F. Smoking and sampling indoors are prohibited. No person shall smoke in a public place, at a public meeting, or in a place of employment. This subdivision also prohibits the sampling of tobacco, tobacco products, electronic delivery devices, nicotine or lobelia delivery products and products used in electronic delivery devices and nicotine or lobelia delivery products.

Minneapolis

281.56. - Sampling.

Pursuant to the authority granted to the City of Minneapolis by Minnesota Statutes, Section 144.417, the operator of any tobacco products shop licensed under Section 281.10 of the Minneapolis Code of Ordinances is hereby prohibited from any of the following:

- (a) Except for a bona fide sale of a smoking device, providing or otherwise making available for use by a customer, potential customer, or any other person a smoking device for the purpose of sampling any tobacco product, provided that this subsection shall not prevent providing or otherwise making available for sampling, testing, or instructional purposes, an electronic delivery device as defined in Minn. Statute Section 609.685;
- (b) Providing in exchange for a fee or any other consideration seating within or access to the indoor area of a tobacco products shop; or
- (c) Permitting within the indoor area of a tobacco products shop the sampling of any tobacco product which was not furnished by the tobacco products shop on the date and at the time the sampling occurs.

A tobacco products shop may distribute single service samples of smokeless tobacco products or cigarettes, cigars, pipe tobacco, or other tobacco products suitable for smoking subject to the limitations on indoor sampling or smoking provided in this section. (2011-Or-054, § 1, 7-1-11; 2015-Or-001 , § 2, 1-30-15; Ord. No. 2017-038 , § 6, 8-4-17)

Examples of Other Cities Codes

Spring Lake Park

SMOKING LOUNGE. A location licensed to sell tobacco products where: (a) except for a bona fide sale of a smoking device, provided or otherwise made available for use by a customer, potential customer or any other person a smoking device for the purpose of smoking any tobacco product; (b) it is provided in exchange for a fee or any other consideration seating within or access to the indoor area of a tobacco products shop; or (c) it is permitted within the indoor area the sampling of any tobacco product which was not furnished by the tobacco products shop on the date and at the time the sampling occurs.

11.12.120 Smoking And Vapor Lounges

Smoking lounges and vapor lounges are prohibited.

West St.Paul

(I) *Sampling.* Sampling of licensed products shall not be permitted within the indoor area of any retail establishment.

Arden Hills

Subd. 10 Smoking. Smoking shall not be permitted and no person shall smoke within the indoor area of any establishment with a retail tobacco license. Smoking for the purposes of sampling tobacco and tobacco-related products is prohibited.

Brooklyn Park

None

Bloomington

- (a) Except as provided in subsection (c) below, no person shall smoke in public places and places of work , including outdoor and bar areas of restaurants .
The proprietor of an outdoor dining area or outdoor bar area of a restaurant may designate for smoking up to 50% of the outdoor seating capacity of the restaurant provided this location is appropriately signed as a smoking area. Tobacco sampling within a tobacco products shop as defined by M.S. § 144.4167, subd. 4, as it may be amended from time to time, is specifically prohibited in the city. Sampling of electronic delivery devices including products used in electronic delivery devices is also prohibited.

North St Paul

(J) *Smoking.* Smoking shall not be permitted and no person shall smoke within the indoor area of any establishment with a retail tobacco license. Smoking for the purposes

Examples of Other Cities Codes

of sampling tobacco, tobacco-related products, or nicotine or lobelia delivery devices is prohibited.

Robinsdale

None

New Brighton

The inhaling or exhaling of smoke from any lighted cigar, cigarette, pipe or any other lighted tobacco or plant product in the licensed premises is prohibited. (Ord. No 817)

South St. Paul

Sampling. Sampling of tobacco, tobacco products, tobacco-related devices or electronic delivery devices shall not be permitted within the indoor area of any establishment with a retail tobacco license.

Crystal

none

St. Anthony

§ 111.059 SMOKING PROHIBITED. Smoking is prohibited, and no person shall smoke in a public place, at a public meeting, in a place of employment, or in public transportation.

New Hope

(12) Smoking prohibited. Smoking is prohibited within the indoor area of any retail establishment licensed under this ordinance with the sole exception of smoking of samples only in Tobacco Products Shops.

(13) Samples prohibited. No person shall distribute samples of any licensed product free of charge or at a nominal cost, except that Tobacco Products Shops may distribute samples for a reasonable cost.

Golden Valley

(e) *Smoking Prohibited.* Smoking, including smoking for the purpose of sampling of licensed products, is prohibited within the indoor area of any retail establishment licensed under this ordinance.

(f) *Samples Prohibited.* No person shall distribute samples of any licensed product free of charge or at a nominal cost.

St. Louis Park

Examples of Other Cities Codes

- (b) Tobacco sampling of tobacco, electronic delivery devices, nicotine or lobelia delivery products within an establishment selling any tobacco, tobacco product, tobacco related devices, electronic delivery devices, nicotine or lobelia delivery product is prohibited.

Richfield

Subd. 4. Smoking and sampling prohibited. Smoking shall be prohibited, and no person shall smoke, in a public place, at a public meeting, or in a place of employment. This subdivision also prohibits the sampling of tobacco, tobacco products, electronic delivery devices, nicotine or lobelia delivery products and products used in electronic delivery devices and nicotine or lobelia delivery products A licensee under this Section that allowed sampling at its licensed premises on or before October 23, 2014 may continue to allow sampling, but only while that certain licensee operates at that certain licensed premises. (Amended, Bill No. 2018-6)

Lauderdale

L: SMOKING PROHIBITED IN TOBACCO RETAIL ESTABLISHMENTS: Smoking shall not be permitted and no person shall smoke within the indoor area of any establishment with a tobacco retailer license. Smoking for the purposes of sampling regulated products is prohibited.

Mendota Heights

2. Smoking: Notwithstanding any exceptions for tobacco products shops as set forth in the Minnesota Clean Indoor Air Act, no licensee shall directly or indirectly permit smoking in the licensed retail establishment. All licensees under this chapter shall be responsible for the actions of their employees and patrons in regard to any smoking in the licensed retail establishment.

Maplewood

The Minnesota Legislature has enacted the Minnesota Clean Indoor Air Act (Minn. Stats., §§ 144.411 to 144.417), the purpose of which is to protect employees and the general public from the hazards of secondhand smoke by eliminating smoking in public places, places of employment, public transportation and at public meetings, and nothing in the Minnesota Clean Air Act prohibits the city from enacting and enforcing more stringent measures to protect individuals from secondhand smoke. Pursuant to this authority and for the purpose of protecting individuals from the hazards of secondhand smoke, the city has determined that it is in the best interest of the public to prohibit the lighting of tobacco or the use of an electronic delivery device in a retail establishment by a customer or potential customer for the purpose of sampling tobacco products or electronic delivery devices.

Little Canada

(3) Smoking shall not be permitted and no person shall smoke within the indoor area of any establishment with a retail tobacco license. Smoking lighting, heating and burning of Licensed Products, for the purposes of sampling Licensed Products is prohibited. Notwithstanding the preceding, smoking may occur in a Tobacco Store if all of the following circumstances are met:

Examples of Other Cities Codes

Roseville

Smoking is prohibited within the indoor area of any retail establishment licensed under this ordinance. Smoking for the purpose of sampling licensed products is prohibited. (Ord. 1424, 02-13-12) (Ord. 1555, 6-18-2018)

Hilltop

Sec. 10-254. - Smoking and sampling prohibited.

Lighting, inhaling, exhaling or any combination thereof of tobacco products or tobacco related devices is prohibited at all times by any person in any retail establishment in the city, and may subject the violator to both administrative penalties and criminal misdemeanor prosecution for violation of this section.



AGENDA SECTION	WORK SESSION	Item 6.
MEETING DATE	JANUARY 4, 2021	

CITY OF COLUMBIA HEIGHTS - COUNCIL LETTER

ITEM:	City Council Liaison and Council President Appointments for 2021		
DEPARTMENT:	Administration	CITY MANAGER'S APPROVAL:	
BY/DATE:	Nicole Tingley / December 30, 2020	BY/DATE: <i>Kell Bonyea</i> 12/31/20	
CITY STRATEGY:	N/A		
Additional Strategy?	N/A		
SHORT TERM GOAL (IF APPLICABLE):	N/A		
Additional Goal?	N/A		

BACKGROUND:

Annually the Council appoints liaisons to City Boards & Commissions as well as assigning delegates to External Boards. City Boards and Commissions include; Library Board, Park & Recreation Commission, Planning Commission, Charter Commission, and the Traffic Commission. Additionally, a Council President is chosen.

External Boards include; The League of Minnesota Cities, Metro Cities, Mississippi Water Management Organization, Rice Creek Watershed Advisory Board, Columbia Heights School District, The Anoka County Joint Law Enforcement Council and Anoka County Fire Protection Council.

For reference, the attached resolution lists the 2020 assignments for City Boards and Commission and External Boards. Councilmember Novitsky served as the Council President in 2020.

Councilmembers were asked to indicate their preferences. The following responses were received:

City Boards & Commissions:

	1st Preference	2nd Preference	3rd Preference
Buesgens	Park & Recreation Commission	Any	Any
Jacobs	100th Anniversary*	Charter Commission	Planning Commission
Márquez Simula	Planning Commission	Traffic Commission	Park & Recreation Commission
Murzyn, Jr.	Planning Commission	Remain on Park & Recreation Commission	Traffic Commission
Novitsky	Remain on Library Board	Park & Recreation Commission	100 th Anniversary Committee

*Would like to be also be considered for Traffic Commission with the 100th Anniversary Committee if available as 100th Anniversary Committee will likely wind down during the year

External Boards:

	1st Preference	2nd Preference	3rd Preference
Buesgens	League of MN Cities/Metro Cities*		
Jacobs	Metro Cities		
Márquez Simula	League of MN Cities	Metro Cities	Anoka County Joint Law Enforcement Council
Murzyn, Jr.	Anoka County Fire Protection Council		
Novitsky	Mississippi Water Management Organization	Columbia Heights School Board	Anoka County Joint Law Enforcement Council

Mayor Márquez Simula has put together a proposed list of appointments in the attached proposed resolution. She also proposes having Councilmember Murzyn, Jr. serve as Council President for 2021.

City Staff is asking City Council for feedback regarding appointment assignments in order to bring this to the January 11, 2021 City Council Meeting

ATTACHMENTS:

Resolution No. 2020-05

Proposed Draft Resolution for 2021

A RESOLUTION APPROVING COUNCIL LIAISONS AND STAFF ASSIGNMENTS TO CITY BOARDS & COMMISSIONS AND EXTERNAL BOARDS

WHEREAS: Annually the Council appoints liaisons to City Boards & Commissions as well as assigning delegates to External Boards, and

WHEREAS: the City council met in a work session to discuss the appointments,

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Columbia Heights, to approve the following appointments:

City Boards and Commissions:


Library Board	Councilmember Novitsky
Park & Recreation Commission	Councilmember Murzyn, Jr.
Planning Commission	Councilmember Buesgens
Traffic Commission	Councilmember Williams
Charter Commission	Councilmember Williams

External Boards:

Columbia Heights School Board	Delegate Alternate	Councilmember Buesgens Councilmember Murzyn, Jr.
The League of Minnesota Cities	Delegate Alternate	Mayor Schmitt Councilmember Buesgens
Metro Cities	Delegate Alternate	Councilmember Novitsky Councilmember Williams
Mississippi Water Management Organization	Delegate Alternate	Mayor Schmitt Betty Risdahl (Hilltop)
Rice Creek Watershed Advisory Board	Delegate Alternate	Councilmember Novitsky Kevin Hansen
The Anoka County Joint Law Enforcement Council	Delegate Alternate	Mayor Schmitt Lenny Austin
Anoka County Fire Protection Council	Delegate Alternate	Councilmember Murzyn, Jr. Kelli Bourgeois

Passed this 13th day of January, 2020

Offered by: Williams
Seconded by: Buesgens
Roll Call: All Ayes



Donna Schmitt, Mayor

Attest:



Nicole Tingley, City Clerk/Council Secretary

A RESOLUTION APPROVING COUNCIL LIAISONS AND STAFF ASSIGNMENTS TO CITY BOARDS & COMMISSIONS AND EXTERNAL BOARDS

WHEREAS: Annually the Council appoints liaisons to City Boards & Commissions as well as assigning delegates to External Boards, and

WHEREAS: the City council met in a work session to discuss the appointments,

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Columbia Heights, to approve the following appointments:

City Boards and Commissions:

Library Board	<u>Councilmember Novitsky</u>
Park & Recreation Commission	<u>Councilmember Buesgens</u>
Planning Commission	<u>Councilmember Murzyn</u>
Traffic Commission	<u>Mayor Márquez Simula</u>
Charter Commission	<u>Councilmember Jacobs</u>
100 th Anniversary Committee	<u>Councilmember Novitsky</u>

External Boards:

Columbia Heights School Board	Delegate	<u>Councilmember Buesgens</u>
	Alternate	<u>Councilmember Jacobs</u>
The League of Minnesota Cities	Delegate	<u>Mayor Márquez Simula</u>
	Alternate	<u>Councilmember Buesgens</u>
Metro Cities	Delegate	<u>Councilmember Jacobs</u>
	Alternate	<u>Councilmember Novitsky</u>
Mississippi Water Management Organization	Delegate	<u>Councilmember Novitsky</u>
	Alternate	<u>Betty Risdahl (Hilltop)</u>
Rice Creek Watershed Advisory Board	Delegate	<u>Councilmember Murzyn</u>
	Alternate	<u>Kevin Hansen</u>
The Anoka County Joint Law Enforcement Council	Delegate	<u>Mayor Márquez Simula</u>
	Alternate	<u>Lenny Austin</u>
Anoka County Fire Protection Council	Delegate	<u>Councilmember Murzyn</u>
	Alternate	<u>Kelli Bourgeois</u>

Passed this 11th day of January, 2021

Offered by:
Seconded by:
Roll Call:

Amáda Márquez Simula, Mayor

Attest:

Nicole Tingley, City Clerk/Council Secretary

PROPOSED DRAFT



AGENDA SECTION	WORK SESSION	Item 7.
MEETING DATE	JANUARY 4, 2021	

CITY OF COLUMBIA HEIGHTS - COUNCIL LETTER

ITEM:	Appointments to Fire Relief Association Board of Trustees	
DEPARTMENT:	Administration	CITY MANAGER'S APPROVAL:
BY/DATE:	Nicole Tingley / December 28, 2020	BY/DATE: <i>Kelli Bourgeois</i> 12/31/20
CITY STRATEGY:	Choose an item.	
Additional Strategy?	Choose an item.	
SHORT TERM GOAL (IF APPLICABLE):	Choose an item.	
Additional Goal?	Choose an item.	

BACKGROUND:

State Statute 424a.04 mandates that the City Council annually appoint two trustees to the Columbia Heights Volunteer Firefighters Relief Association board of trustees. Under the Statute one of the trustees must be an elected official and the other can be an elected or appointed official.

In recent years, the following appointments were made:

- 2020- Councilmember John Murzyn Jr. and Kelli Bourgeois
- 2019- Councilmember John Murzyn Jr. and Kelli Bourgeois
- 2018- Councilmember John Murzyn Jr. and Kelli Bourgeois

Councilmember Murzyn Jr. has stated that he would like to remain on the Fire Relief Association Board of Trustees.

Appointments to the Fire Relief Association Board of Trustees will be on the January 11, 2021 City Council Meeting Agenda.



AGENDA SECTION	WORK SESSION	Item 8.
MEETING DATE	JANUARY 4, 2021	

CITY OF COLUMBIA HEIGHTS - COUNCIL LETTER

ITEM:	Board & Commission 2021 Appointment Process, Application & Interview Questions	
DEPARTMENT:	Administration	CITY MANAGER'S APPROVAL:
BY/DATE:	Nicole Tingley / December 30, 2020	BY/DATE: <i>Kell Bonyea</i> 12/31/20
CITY STRATEGY:	#8: Engaged, Multi-Generational Population	
Additional Strategy?	Choose an item.	
SHORT TERM GOAL (IF APPLICABLE):	Choose an item.	
Additional Goal?	Choose an item.	

BACKGROUND:

Every April, there are Board and Commission terms that expire. The City Council in recent years has started requiring applications and interviews for all vacancies (even those looking to be reappointed). City Staff is looking for direction on all aspects of this process.

The following positions will be solicited for applications during this process:

- 1 Planning Commission Member (Term of Adam Schill expiring April 1)
- 3 Library Board Members (Terms of Catherine Vesley and Tricia Conway expiring April 1 and vacancy due to passing of Pat Sowada)
- 2 Park & Recreation Commission Members (Terms of Marsha Stroik and Bruce Evans expiring April 1)
- 1 Traffic Commission Members (Term of Kevin Doty expiring April 1)
- 2 Charter Commission Members (appointed by Judge- City Council has not interviewed for this before)

Below is a potential timeline to work from. Staff is looking for feedback on this.

- Advertising Opening- Mid to Late January through end of February - Application deadline of February 28.
- March 1 Work Session- give update of applications received, confirm interview schedule
- Conduct interviews the evenings of Monday, March 15 and Monday, March 22 before the City Council Meeting. More days can be added if needed. Can offer by Zoom or in-person.
- Approve appointments at March 22nd City Council Meeting

Additionally, attached is the application. The only change from 2020 is to specify to applicants to number rank their choices. Staff is seeking confirmation of the application.

Additionally, City staff would like review of the interview questions. Attached are the interview questions from last year. 15 minute interviews were held last year with each person interested being only interviewed for one board/commission. The first page was asked of all applicants, the pages following have questions for each specific commission.

ATTACHMENT(S):

Application and Interview Questions



CITY OF COLUMBIA HEIGHTS
APPLICATION FOR APPOINTMENT TO BOARD OR COMMISSION

Please **rank** your preferred commission(s) with 1 being the top choice:

- | | |
|---|--|
| <input type="checkbox"/> Economic Development Authority | <input type="checkbox"/> Planning Commission |
| <input type="checkbox"/> Park & Recreation Commission | <input type="checkbox"/> Traffic Commission |
| <input type="checkbox"/> Library Board | <input type="checkbox"/> Charter Commission* |

(*Note: for this commission, please indicate if you are a qualified voter? Yes No)

Name:	
Address:	
Preferred phone #	Alternate Phone #
Email address:	
How long have you lived in Columbia Heights?	
Property you own in Columbia Heights (Other than residence)	

Present Employer:
Work Phone:
Position Title:

Educational Background:
Civic Experience:

Please describe why you are interested in serving on a commission, and why you feel you are qualified:

Item 8.

Availability:

Please indicate what (if any) evenings you are **not** available for Commission Meetings.

___ Monday ___ Tuesday ___ Wednesday ___ Thursday ___ Friday

Please list three References:

Name	Address	Phone Number

I hereby certify that the facts within this foregoing application are true and correct to the best of my knowledge.

Signature _____ Date: _____

Return completed application to:
City of Columbia Heights
Attn: City Clerk
590 40th Ave NE
Columbia Heights, MN 55421

ntingley@columbiaheightsmn.gov

BOARD AND COMMISSION INTERVIEW

Name _____ Date/Time _____

1. Briefly describe any training, education, or relevant experience that you have acquired that would benefit the City of Columbia Heights including civic and community groups.

2. What motivated you to apply to serve on a board or commission (please be specific to the ones you are interested in)?

3. Why do you feel that you would be a good person to represent the opinions and concerns of the City?

4. Are you aware of any circumstances in which you may have a conflict of interest due to work or personal situations; or do you see any conflicts with the meeting schedule?

Library Board

1. Please describe your understanding of the role of the Library Board and the responsibilities/duties of its members?

2. In your opinion what are the strengths and weaknesses of the library's programs and services? What are your experiences with them?

RATING	<u>Least</u>					<u>Most</u>				
Knowledge of community	1	2	3	4	5	1	2	3	4	5
Involvement with community	1	2	3	4	5	1	2	3	4	5
Ability to present information orally	1	2	3	4	5	1	2	3	4	5
Experience/training/interest beneficial to this board or commission	1	2	3	4	5	1	2	3	4	5
Knowledge of assigned commission	1	2	3	4	5	1	2	3	4	5

Overall Impression 1 2 3 4 5 6 7 8 9 10

Overall Rating _____ Interviewed by _____

Board or Commission recommended for: _____

Planning Commission

1. Please describe your understanding of the role of the Planning Commission and the responsibilities/duties of its members.

2. What are some of the most important concerns or issues that you think the City will face in the next 5-10 years? 10-20 years?

RATING

	<u>Least</u>					<u>Most</u>				
Knowledge of community	1	2	3	4	5					
Involvement with community	1	2	3	4	5					
Ability to present information orally	1	2	3	4	5					
Experience/training/interest beneficial to this board or commission	1	2	3	4	5					
Knowledge of assigned commission	1	2	3	4	5					
Overall Impression	1	2	3	4	5	6	7	8	9	10

Overall Rating _____

Interviewed by _____

Board or Commission recommended for: _____

Traffic Commission

1. Please describe your understanding of the role of the Traffic Commission and the responsibilities/duties of its members.

2. What do you feel should be the top priorities of the Traffic Commission?

RATING

	<u>Least</u>					<u>Most</u>				
Knowledge of community	1	2	3	4	5					
Involvement with community	1	2	3	4	5					
Ability to present information orally	1	2	3	4	5					
Experience/training/interest beneficial to this board or commission	1	2	3	4	5					
Knowledge of assigned commission	1	2	3	4	5					
Overall Impression	1	2	3	4	5	6	7	8	9	10

Overall Rating _____

Interviewed by _____

Board or Commission recommended for: _____



Action Items

Communications and Convening:

Action #	Action
1	Issue a Proclamation to raise awareness about the decline of the monarch butterfly and the species' need for habitat.
2	Launch or maintain a public communication effort to encourage residents to plant monarch gardens at their homes or in their neighborhoods. (If you have community members who speak a language other than English, we encourage you to also communicate in that language; Champion Pledges must communicate in that language.)
3	Engage* with community garden groups and urge them to plant native milkweeds and nectar-producing plants.
4	Engage* with city parks and recreation, public works, sustainability, and other relevant staff to identify opportunities to revise and maintain mowing programs and milkweed / native nectar plant planting programs.
5	Engage* with gardening leaders and partners (e.g., Master Naturalists, Master Gardeners, Nature Centers, Native Plant Society Chapters) to support monarch butterfly conservation.
6	Engage* with Homeowners Associations (HOAs), Community Associations or neighborhood organizations to identify opportunities to plant monarch gardens and revise maintenance and mowing programs.

Action #	Action
7	Engage* with developers, planners, and landscape architects to identify opportunities to create monarch habitat.
8	Create a community-driven educational conservation strategy that focuses on and benefits local, underserved residents.
9	Create a community art project to enhance and promote monarch and pollinator conservation as well as cultural awareness and recognition.

*Engage includes: in-person meetings, conferences and summits, trainings, or regular communication through email, phone, social media, etc.

Program and Demonstration Gardens:

Action #	Action
10	Host or support a native seed or plant sale, giveaway or swap.
11	Facilitate or support a milkweed seed collection and propagation effort.
12	Plant or maintain a monarch and pollinator-friendly demonstration garden at City Hall or another prominent community location.
13	Convert abandoned lots to monarch habitat.
14	Plant milkweed and pollinator-friendly native nectar plants in medians and public rights-of-way.
15	Launch or maintain an outdoor education program in school gardens that builds awareness and creates habitat by engaging students, teachers, and the community in planting native milkweed and pollinator-friendly native nectar plants (i.e., National Wildlife Federation’s Eco-Schools USA Schoolyard Habitats program and Monarch Mission curriculum).

Action #	Action
16	Earn or maintain recognition for being a wildlife-friendly city by participating in other wildlife and habitat conservation efforts (i.e., National Wildlife Federation’s Community Wildlife Habitat program).
17	Host or support a monarch neighborhood challenge to engage neighborhoods and homeowners’ associations within the community to increase awareness and/or create habitat for the monarch butterfly.
18	Initiate or support community science (or citizen science) efforts that help monitor monarch migration and health.
19	Add or maintain native milkweed and nectar producing plants in public community gardens.
20	Launch, expand, or continue an invasive species removal program that will support the re-establishment of native habitats for monarch butterflies and other pollinators.
21	Host or support a city monarch butterfly festival to promote monarch and pollinator conservation, as well as cultural awareness and recognition
22	Display educational signage at monarch gardens and pollinator habitat beyond monarch demonstration gardens.

Systems Change:

Action #	Action
23	Remove milkweed from the list of noxious plants in city weed / landscaping ordinances (if applicable).
24	Change weed or mowing ordinances to allow for native prairie and plant habitats.

Action #	Action
25	Increase the percentage of native plants, shrubs and trees that must be used in city landscaping ordinances and encourage use of milkweed where appropriate.
26	Direct city property managers to consider the use of native milkweed and nectar plants at city properties where appropriate.
27	Integrate monarch butterfly conservation into the city's Park Master Plan, Sustainability Plan, Climate Resiliency Plan or other city plans.
28	Change ordinances so pesticide, herbicide, insecticide or other chemicals used in the community are not harmful to pollinators.
29	Adopt ordinances that support reducing light pollution.
30	California Specific: Pass a resolution to protect over-wintering monarch butterfly habitat on public and private lands.