



INVITATION TO BID

CITY OF JOHNSON CITY, TENNESSEE
PURCHASING DEPARTMENT
423/975-2715

WWW.JOHNSONCITYTN.ORG/PURCHASING

Bid Name / Number **TRIPLE COMBINATION PUMPER/ #6016**
Due Day / Date / Time **Tuesday / May 3, 2016 / 2:00 PM**
Bid Location / Mail Address Johnson City Purchasing Department, Debbie Dillon-Director,
 209 Water Street (37601), P O Box 2150 (37605), Johnson City, TN
Bid Contact / Telephone A/C Chris Williams (423) 483-5821, cwilliams@johnsoncitytn.org or purchasing@johnsoncitytn.org
Bid Issue Date April 12, 2016
Delivery Location J C Fire Dept., C/O City Garage, 209 Water Street, Johnson City, TN 37604
FOB Destination, freight prepaid and allowed - Johnson City, TN
Payment Terms Net 30

Bidder is responsible for completing the remaining portion of this bid document

ITEM NO.	QTY	DESCRIPTION	UNIT PRICE
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Triple Combination Pumper as per the attached instructions & specifications that are an integral part of this bid. The City will consider purchasing one of the following units: a custom manufactured unit, a demonstration unit or an in-stock unit (as may be in the City's best interest).

Return three (3) complete sets of bid submittals (see attached).

The City reserves the right to purchase the unit determined to be in the City's best interest.

ATTACHED VEHICLE/EQUIPMENT DELIVERY & ACCEPTANCE PROCEDURES APPLY

A DEMONSTRATION OF PROPOSED PUMPER MAY BE REQUIRED, AT VENDORS EXPENSE,

Cooperative Purchasing Agreement: Vendors are to indicate if it is permissible for other governmental agencies in the State of Tennessee to purchase these items or services at the same price. Freight charges may be adjusted to reflect differences in delivery costs to other locations. Please indicate your approval of Cooperative Purchasing Agreement. Yes No.

Bidder's Check List Place a check mark by all areas to signify compliance.

Bid signed in ink by authorized company representative Bid prices, extensions and total verified as correct
 Addenda initialed and returned with bid, if applicable As per submittals listed

By signing this document, the undersigned hereby agrees to the prices and all other terms and conditions, including the attached *Bid/RFP General Terms & Conditions* and the City's *Requirements for Bids, Requests for Proposals, and Contracts Between the City of Johnson City and Other Parties* contained in this bid and associated documents relating to this bid and will furnish items as specified if this bid is accepted.

SUBMITTAL INSTRUCTIONS:

Place signed bid response in a sealed envelope plainly identified on the outside in the lower left corner with the Bid Name and Number. Vendor responsible for delivery to Johnson City Purchasing Dept., Debbie Dillon-Director, P. O. Box 2150 (37605), 209 Water Street (37601) Johnson City, TN on or before the bid opening date and time.

Firm Name _____

By _____

PRINTED & SIGNED

Address _____

Telephone _____

Fax _____

E-Mail _____

ELECTRONIC RESPONSES ARE NOT ACCEPTABLE.

BID MUST BE SIGNED TO BE VALID

TRIPLE COMBINATION PUMPER JOHNSON CITY FIRE DEPARTMENT

BIDDER INSTRUCTIONS

GENERAL

The Johnson City Fire Department is seeking through this to purchase a Triple Combination Pumper with the option of choosing either ; a custom manufactured truck (that meets these specifications) or a Dealer demonstrator model or stock truck (not used) will be considered with slight specification variances. Vendors shall offer the most cost effective options to meet these needs as year, make, mileage and accessories will be factors. Any vehicles offered in this proposal must meet all requirements of NFPA 1901, latest edition. The City reserves the right to determine which option is in the best interest of the Johnson City Fire Dept. The City is the final authority in determining the best offer(s).

AVAILABILITY

Specify availability of any trucks offered as this may be an award consideration.

INSPECTION

Any demonstrator unit offered shall be available for inspection by City staff, upon request at the City Garage, prior to an award recommendation can be made.

CONTRACT AWARD

Contract award, if made, shall be based on the best offer that is within the budgeted amount. The City reserves the right to choose the bid that is in it's best interest.

BID BOND Each bid shall be accompanied by a bid bond in the amount of not less than five percent (5%) of the amount bid. Bond shall be issued by a surety company licensed to do business in the State of Tennessee. This bond is required as a guarantee that, if the bid is accepted, a contract will be entered into and the performance thereof duly secured. If the successful bidder fails to execute required contracts, the bid security will be forfeited. Bid bonds submitted by unsuccessful vendors will be returned upon award of the contract. In lieu of a bond, cashier's checks are acceptable, personal checks are not.

PROPRIETARY/CONFIDENTIAL INFORMATION

Proposers are hereby notified that all information submitted as part of, or in support of, proposals will be available for public inspection after opening of proposals, in compliance with Tennessee Statutes.

SUBMITTALS

The City of Johnson City is requesting that interested respondents submit a detailed and written bid outlining the units available with any available options specified. In order to properly evaluate all submittals, it is requested that Dealers include the following at a minimum:

- Signed bid cover sheet
- Completed price sheet
- Completed specification checklists (for each unit offered)
- Photographs of proposed fire truck (demo/stock unit offered)
- 5% bid bond
- Completed insurance forms

Service & warranty sheet

Brochures/literature (for each unit offered)

Any other pertinent information to demonstrate proposed Pumper's value.

ADDENDA

Any change to this bid will be brought forward in the form of a written addendum from the Purchasing Department and will be provided to all known interested parties, and will be posted on the Purchasing Departments website (see para 2 of Sealed Solicitation General Terms and Conditions). No oral interpretations or communication will affect or change in any way the information contained herein.

INSURANCE REQUIREMENTS

The attached Insurance Checklist (which includes a section for the Insurance agent to fill-out) and General Contract Form must be completed and returned with the bid submittal package. Successful vendor shall provide certificate of insurance, as specified, prior to contract award. Successful vendor shall maintain insurance coverage for a minimum of three (3) years following final delivery/acceptance by the City.

QUALITY ASSURANCE

The proposer shall be a Dealer authorized to represent Manufacturer of fire trucks proposed. Bids shall only be considered from companies that have an established reputation in the field of triple Combination Pumper construction.

Each bidder shall furnish satisfactory evidence of their ability to provide the apparatus specified, and shall **state the location of the factory where the apparatus is to be/was built. The bidder shall show they are in a position to render prompt service and furnish replacement parts for said apparatus.**

Truck Manufacturer shall specialize in the construction of NFPA 1901 compliant vehicles. Documentation may be required, upon request.

The completed apparatus, assemblies, subassemblies, component parts, and so on, shall be designed and constructed with due consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is to be subjected when placed in service. All parts of the apparatus shall be strong enough to withstand the general service under full load. The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair.

LIABILITY

Successful bidder shall defend any and all suits and assume all liability for the use of any patented process, device or article forming a part of the apparatus or any appliance furnished under this contract.

BID FORM
TRIPLE COMBINATION PUMPER / ITB #6016
DEMONSTRATOR/IN-STOCK PUMPER

The offeror certifies by signing this bid that to the best of his/her knowledge and belief this proposal to the City of Johnson City, Tennessee has not been prepared in collusion with any other person or agent. The offeror also certifies that the prices, terms and conditions of said bid have been arrived at independently and have not been communicated by the undersigned to any other seller, proprietor or agent of similar services and will not be communicated prior to the official receipt date and time of this bid. The offeror further states that no official or employee of the City of Johnson City has been promised any personal, financial or other beneficial interest, either directly or indirectly, in order to influence award of an Agreement.

Bid Price: \$ _____

List any options & associated costs: _____

List any discount payment options : _____

List Pumper anticipated delivery/date: _____

General description of proposed Pumper . (Make, Model, VIN, Mileage, etc):

Company/Agent _____

Signature _____

Title _____

Address _____

Telephone _____

Fax/Email _____

Date _____

THIS SHEET MUST BE SIGNED TO BE VALID
SUBMIT A SEPARATE SHEET FOR EACH PUMPER PROPOSED

BID FORM
TRIPLE COMBINATION PUMPER / ITB #6016
CUSTOM MANUFACTURED MODEL

The offeror certifies by signing this bid that to the best of his/her knowledge and belief this proposal to the City of Johnson City, Tennessee has not been prepared in collusion with any other person or agent. The offeror also certifies that the prices, terms and conditions of said bid have been arrived at independently and have not been communicated by the undersigned to any other seller, proprietor or agent of similar services and will not be communicated prior to the official receipt date and time of this bid. The offeror further states that no official or employee of the City of Johnson City has been promised any personal, financial or other beneficial interest, either directly or indirectly, in order to influence award of an Agreement.

Bid Price: \$ _____

List any options & associated costs: _____

List any discount payment options : _____

List Pumper anticipated delivery/date: _____

General description of proposed Pumper (Make, Model, etc):

Company/Agent _____

Signature _____

Title _____

Address _____

Telephone _____

Fax/Email _____

Date _____

THIS SHEET MUST BE SIGNED TO BE VALID
SUBMIT A SEPARATE SHEET FOR EACH PUMPER PROPOSED

TRIPLE COMBINATION PUMPER SERVICE/WARRANTY INFORMATION:

(Submit for each Pumper proposed)

Service Information: Vendor to state location of authorized service facility and average response time as this may be an award consideration.

Service Location

Average response time

Warranty: Vendor to state warranty period on all major components:

List any extended warranties available and associated costs:

COMPLETE AND RETURN WITH BID RESPONSE FOR EACH PUMPER PROPOSED

BID FORM
TRIPLE COMBINATION PUMPER / ITB #6016
DEMONSTRATOR/IN-STOCK PUMPER

The offeror certifies by signing this bid that to the best of his/her knowledge and belief this proposal to the City of Johnson City, Tennessee has not been prepared in collusion with any other person or agent. The offeror also certifies that the prices, terms and conditions of said bid have been arrived at independently and have not been communicated by the undersigned to any other seller, proprietor or agent of similar services and will not be communicated prior to the official receipt date and time of this bid. The offeror further states that no official or employee of the City of Johnson City has been promised any personal, financial or other beneficial interest, either directly or indirectly, in order to influence award of an Agreement.

Bid Price: \$ _____

List any options & associated costs: _____

List any discount payment options : _____

List Pumper anticipated delivery/date: _____

General description of proposed Pumper . (Make, Model, VIN, Mileage, etc):

Company/Agent _____

Signature _____

Title _____

Address _____

Telephone _____

Fax/Email _____

Date _____

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TRIPLE COMBINATION PUMPER / ITB #6016
CUSTOM MANUFACTURED MODEL

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List any options & associated costs: _____

List any discount payment options : _____

List Pumper anticipated delivery/date: _____

General description of proposed Pumper (Make, Model, etc):

Company/Agent _____

Signature _____

Title _____

Address _____

Telephone _____

Fax/Email _____

Date _____

THIS SHEET MUST BE SIGNED TO BE VALID
SUBMIT A SEPARATE SHEET FOR EACH PUMPER PROPOSED

TRIPLE COMBINATION PUMPER SERVICE/WARRANTY INFORMATION:

(Submit for each Pumper proposed)

Service Information: Vendor to state location of authorized service facility and average response time as this may be an award consideration.

Service Location

Average response time

Warranty: Vendor to state warranty period on all major components:

List any extended warranties available and associated costs:

COMPLETE AND RETURN WITH BID RESPONSE FOR EACH PUMPER PROPOSED

ITB# 6016 – TRIPLE COMBINATION PUMPER
SPECIFICATION CHECKLIST

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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Bidder must complete and return this form for the bid to be considered responsive. A check mark shall be placed in the areas of specification acknowledgement *yes or no". Variances must be clearly identified and bidder may use a separate sheet if necessary. Failure to comply with any part of the specifications will not remove that bid from consideration but will indicate a variance on which the City alone will determine the importance to the overall performance of the Pumper and suitability for the intended purpose. Any omission from the specifications shall not relieve the bidder from the responsibility of furnishing a TRIPLE COMBINATION PUMPER ready for use.

NOTE: Any brand names identified throughout are to set a quality level only. Approved equals will be considered if vendor includes detailed product specifications for the City's consideration. The City will be the final determination as to acceptance of any alternates.

The following chassis, pump, and body specifications shall be strictly adhered to. Exceptions shall be allowed if they are equal to or superior to that specified (as judged by the city), and provided they are listed and fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS". Exception lists shall refer to the specification page number. Each check in the "NO" column shall be listed and fully explained. Where no check is made in a particular paragraph either "YES" or "NO", it shall be assumed the bidder is taking exception to that paragraph. If a paragraph contains an empty column, where the bidder neglected to check the proper "YES" or "NO" column, it is assumed the bidder is not conforming to the requirements of this paragraph. If no explanation is given in the "EXCEPTIONS TO SPECIFICATIONS" document the bid is subject to immediate rejection.

The City is aware that most all bidders shall need to take some exceptions therefore; BIDDERS THAT TAKE NO EXCEPTIONS shall BE REQUIRED TO MEET EVERY PARAGRAPH TO THE FULLEST EXTENT SHOULD THEIR BID BE ACCEPTED. It is the intent of the City to receive bids that do not require telephone calls or other communications to ascertain what a bidder is intending to supply. All deviations, regardless of significance must be explained in the "Exceptions to Specifications" section of the bid. When exceptions are not taken but inconsistencies are noted in the submitted detailed specifications, the bid may be subject to rejection.

Upon delivery, the apparatus shall be inspected against THESE specifications (or otherwise agreed to for a Demo/In-stock unit) and Bidder's deviations shall not be acceptable unless they were noted as exceptions at the time of bid, and the apparatus shall be rejected until said deviations are corrected to the satisfaction of the City.

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
CHASSIS SPECIFICATION		
MODEL		
The chassis shall be a 2016 model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.		
MODEL YEAR		
The chassis shall have a vehicle identification number that reflects a 2016 model year.		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>U.S.A. SAFETY STANDARDS</p> <p>The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. Spartan Chassis (or approved equal) is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from Spartan Chassis (or approved equal) or their OEM needed to be in compliance with those regulations.</p>		
<p>APPARATUS TYPE</p> <p>The apparatus shall be a pumper vehicle designed for emergency service use which shall be equipped with a permanently mounted fire pump which has a minimum rated capacity of 750 gallons per minute (3000 L/min). The apparatus shall include a water tank and hose body whose primary purpose is to combat structural and associated fires.</p>		
<p>VEHICLE TYPE</p> <p>The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.</p>		
<p>AXLE CONFIGURATION</p> <p>The chassis shall feature a 4 x 2 axle configuration consisting of a single rear drive axle with a single front steer axle.</p>		
<p>GROSS AXLE WEIGHT RATINGS FRONT</p> <p>The front gross axle weight rating (GAWR) of the chassis shall be 20,000 pounds.</p> <p>This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.</p>		
<p>GROSS AXLE WEIGHT RATINGS REAR</p> <p>The rear gross axle weight rating (GAWR) of the chassis shall be 27,000 pounds.</p> <p>This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.</p>		
<p>PUMP PROVISION</p> <p>The chassis shall include provisions to mount a drive line pump in the middle of the chassis, behind the cab, more commonly known as the midship location.</p>		
<p>CAB STYLE</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The cab shall be a custom, fully enclosed, MFD model with a 10.00 inch raised roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to four (4) seating positions.</p> <p>The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.</p> <p>The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.</p> <p>All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.</p> <p>The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and lower roof skin shall be 0.13 inch thick; the rear wall and raised roof skins shall be 0.19 inch thick (3/16); the front cab structure shall be 0.19 inch thick.</p> <p>The exterior width of the cab shall be 94.00 inches wide with a minimum interior width of 88.00 inches. The overall cab length shall be 131.10 inches with 54.00 inches from the centerline of the front of the axle to the back of the cab.</p> <p>The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.</p> <p>The cab shall offer an interior height of 57.50 inches from the front floor to the headliner in the non-raised roof area and a rear floor to headliner height of 65.00 inches in the raised roof area, at a minimum. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of 51.88 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.</p> <p>The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 61.00 inches high, from the cab floor to the top of the door opening.</p> <p>The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.</p> <p>The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.</p> <p>The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.</p>		
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<p>OCCUPANT PROTECTION</p> <p>The vehicle shall include the Advanced Protection System™ (APS) which shall secure belted occupants and increase the survivable space within the cab. The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.</p> <p>The system components shall include:</p> <ul style="list-style-type: none"> • Driver steering wheel airbag • Driver dual knee air bags (patent pending) with energy management mounting (patent pending) and officer knee airbag. • Large driver, officer, and crew area side curtain airbags • APS advanced seat belt system - retractor pre-tensioners tighten the seat belts around the occupants, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries • Heavy truck Restraints Control Module (RCM) - receives inputs from the outboard sensors, selectively deploys APS systems, and records sensory inputs immediately before and during a detected qualifying event • Integrated outboard crash sensors mounted at the perimeter of the vehicle - detects a 		
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CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>qualifying front or side impact event and monitors and communicates vehicle status and real time diagnostics of all critical subsystems to the RCM</p> <ul style="list-style-type: none"> • Fault-indicating Supplemental Restraint System (SRS) light on the driver's instrument panel <p>Frontal impact protection shall be provided by the outboard sensors and the RCM. In a qualifying front impact event the outboard sensors provide inputs to the RCM. The RCM activates the steering wheel airbag, driver side dual knee airbags (patent pending), officer side knee airbag, and advanced seat belts for each occupant in the cab.</p> <p>The APS frontal impact system shall be independently tested to ensure occupant injury criteria does not exceed injury criteria defined in Federal Motor Vehicle Safety Standard (FMVSS) 208. Frontal impact into a rigid barrier at 25 mph shall be conducted by an independent third party test facility using belted 95th percentile Hybrid II test dummies.</p> <p>Rollover, side impact, and ejection mitigation shall be provided by the outboard sensors and the RCM. In qualifying rollover or side impact events the outboard sensors provide inputs to the RCM. The RCM activates the side curtain airbags and advanced seat belts for each occupant in the cab. The RCM measures roll angle, lateral acceleration, and roll rate to determine if a rollover event or side impact event is imminent or occurring.</p> <p>In the event of a qualifying offset or other non-frontal impact, the RCM shall determine and intelligently deploy the front impact protection system, the side impact protection system, or both front and side impact protection systems based on the inputs received from the outboard crash sensors.</p> <p>The APS side impact system shall be independently tested to ensure occupant injury criteria does not exceed injury criteria defined in Federal Motor Vehicle Safety Standard (FMVSS) 214. Side impact from a moving barrier at 17 mph shall be conducted by an independent third party test facility using belted 50th percentile ES-2re test dummies.</p>		
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<p>CAB FRONT FASCIA</p> <p>The front cab fascia shall be constructed of lightweight, impact resistant fiberglass reinforced plastic which shall be attached to the front cab skin to offer an appealing exterior (or approved equal). The cab fascia will encompass the front of the aluminum cab structure from the bottom of the windshield to the lower section of the cab.</p> <p>The fascia shall include modules for two (2) single Hi/Low beam headlamps, the modules shall also provide a turn signal position integrated with the headlight bezel. The headlight bezel shall be removable, when removed there shall be easy access for maintenance of the light assemblies as well as access to the engine air intake ember separator, the electrical bulkhead connections, and the transmission electronic communications module. Stylized louvers are incorporated into the design of the fascia to enhance air flow to the cooling system.</p> <p>The fascia shall also provide two (2) warning light positions below each of the headlamp</p>		
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CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
modules for the installation of up to four (4) warning lights on the front cab fascia.		
<p>FRONT GRILLE</p> <p>The fascia shall include a fixed stainless steel raised front grille. The grille shall be painted PPG FDGH 911678 flat black and installed on the front of the cab fascia.</p>		
<p>CAB UNDERCOAT</p> <p>There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.</p>		
<p>CAB PAINT EXTERIOR</p> <p>The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.</p> <p>All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.</p> <p>The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper followed by sealing the seams with seam sealer.</p> <p>The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils. The entire cab shall then be baked at 180 degrees for one (1) hour to speed the curing process of the coatings.</p>		
<p>CAB PAINT MANUFACTURER</p> <p>The cab shall be painted with PPG Industries paint.</p>		
<p>CAB PAINT PRIMARY/LOWER COLOR</p> <p>The lower paint color shall be PPG FBCH 71096 ALT Red.</p>		
<p>CAB PAINT SECONDARY/UPPER COLOR</p> <p>The secondary/upper paint color shall be PPG FBCH 9000 black.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>CAB PAINT EXTERIOR BREAKLINE</p> <p>The upper and lower paint shall meet at a breakline on the cab which shall be located approximately 1.00 inch below the door windows on each side of the cab. On the front of the cab the breakline shall follow the body line on the cab fascia curving downward below the windshield wipers and above the headlamps until the breakline meets the cab grille near the corners of the grille approximately 11.00 inches below the top of the grille.</p>		
<p>CAB PAINT PINSTRIPE</p> <p>A 0.50 inch wide gold reflective tape with black borders shall be applied on the break line between the two different colored surfaces.</p>		
<p>CAB PAINT WARRANTY</p> <p>The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for ten (10) years from the first owner's date of purchase or in service or the first 100,000 actual miles, whichever occurs first.</p>		
<p>CAB PAINT INTERIOR</p> <p>The visible interior cab structure surfaces shall be painted with a multi-tone onyx black texture finish.</p>		
<p>CAB ENTRY DOORS</p> <p>The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.</p> <p>The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.</p> <p>All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.</p>		
<p>CAB ENTRY DOOR TYPE</p> <p>All cab entry doors shall be full length in design to fully enclose the lower cab steps.</p>		
<p>CAB INSULATION</p> <p>The cab ceiling and walls shall include 1.00 inch thick foam insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior</p>		
<p>CAB STRUCTURAL WARRANTY</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Summary of Min. Cab Warranty Terms:</p> <p>The cab structure shall be warranted for a period of ten (10) years or one hundred thousand (100,000) miles which ever may occur first. The warranty period shall commence on the date the vehicle is delivered to the first end user.</p>		
<p>CAB TEST INFORMATION</p> <p>The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 <u>COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks</u>, Section 5 of SAE J2422 <u>Cab Roof Strength Evaluation Quasi –Static Loading Heavy Trucks</u> and ECE R29 <u>Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.</u></p> <p>The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.</p>		
<p>ELECTRICAL SYSTEM</p> <p>The chassis shall include a single starting electrical system which shall include a 12 volt direct current Weldon brand of multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.</p>		
<p>APPARATUS WIRING PROVISION</p> <p>An apparatus wiring panel shall be installed in the center dash area behind the rocker switch panel which shall include eight (8) open circuits consisting of three (3) 20 amp, one (1) 30 amp, three (3) 10 amp, and one (1) 15 amp circuit, with relays and breakers with trigger wires which shall be routed to the rocker switch panel.</p>		
<p>MULTIPLEX DISPLAY</p> <p>The multiplex electrical system shall include (2) Weldon Vista IV displays which shall be located one (1) on the right side of the dash in the switch panel and one (1) on the left side of the dash in the switch panel. The Vista IV displays shall feature full color LCD display screens which include a message bar displaying the time of day and important messages requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be eight (8) push button virtual controls, four (4) on each side of the display for the on-board diagnostics. The display screens shall be video ready for back-up cameras, thermal cameras, and DVD.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The Vista IV displays shall offer varying fonts and background colors. The displays shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.</p>		
<p>DATA RECORDING SYSTEM</p> <p>The chassis shall have a Weldon Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:</p> <ul style="list-style-type: none"> • Vehicle Speed • Acceleration • Deceleration • Engine Speed • Engine Throttle Position • ABS Event • Seat Occupied Status • Seat Belt Status • Master Optical Warning Device Switch Position • Time • Date <p>Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system.</p>		
<p>ACCESSORY POWER</p> <p>The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud. A 225 amp battery direct power and ground stud shall be provided and installed on the chassis near the left hand battery box for OEM body connections.</p>		
<p><u>EXTERIOR ELECTRICAL TERMINAL COATING</u></p> <p>All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.</p>		
<p>ENGINE</p> <p>The chassis engine shall be a Cummins ISL9 engine. The ISL9 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 450 horse power at 2100 RPM and shall be governed at 2200 RPM. The torque rating shall feature 1250</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>foot pounds of torque at 1400 RPM with 543 cubic inches (8.9 liters) of displacement.</p> <p>The ISL9 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2013 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.</p> <p>The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent SAE 15W40 CJ4 low ash engine oil which shall be utilized for proper engine lubrication.</p> <p>A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.</p>		
<p>CAB ENGINE TUNNEL</p> <p>The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade, 0.19 of an inch thick aluminum. The tunnel shall be a maximum of 41.50 inches wide X 25.50 inches high.</p> <p><u>DIESEL PARTICULATE FILTER CONTROLS</u></p> <p>There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.</p>		
<p>ENGINE PROGRAMMING HIGH IDLE SPEED</p> <p>The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.</p>		
<p>ENGINE HIGH IDLE CONTROL</p> <p>The vehicle shall be equipped with an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the master switch is activated and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the Vista display and control screen for the high idle speed control.</p>		
<p>ENGINE PROGRAMMING ROAD SPEED GOVERNOR</p> <p>The engine shall include programming which will govern the top speed of the vehicle.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>AUXILIARY ENGINE BRAKE</p> <p>A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.</p> <p>The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.</p>		
<p>AUXILIARY ENGINE BRAKE CONTROL</p> <p>An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:</p> <ul style="list-style-type: none"> • A valid gear ratio is detected. • The driver has requested or enabled engine compression brake operation. • The throttle is at a minimum engine speed position. • The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift. <p>The compression brake shall be controlled via an off/low/medium/high virtual button on the Vista display and control screen. The multiplex system shall remember and default to the last engine brake control setting when the vehicle is shut off and re-started.</p>		
<p>ELECTRONIC ENGINE OIL LEVEL INDICATOR</p> <p>The engine oil shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal. The warning shall activate in a low oil situation upon turning on the master battery and ignition switches without the engine running.</p>		
<p>FLUID FILLS</p> <p>The engine oil, coolant, transmission, and power steering fluid fills shall be located under the cab. The windshield washer fill shall be accessible through the front left side mid step.</p>		
<p>ENGINE DRAIN PLUG</p> <p>The engine shall include an original equipment manufacturer installed oil drain plug.</p>		
<p>ENGINE WARRANTY</p> <p>The engine shall be warranted for a min period of five (5) years or 100,000 miles, whichever occurs first.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>REMOTE THROTTLE CONTROL</p> <p>An electronic vernier type hand throttle shall be supplied for the pump panel.</p>		
<p>REMOTE THROTTLE HARNESS</p> <p>An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness and shall terminate in the left frame rail behind the cab for connection by the body builder. The harness shall contain connectors for a hand throttle and a multiplexed gauge. Separate circuits shall also be included for pump controls, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indicator light. The harness shall be designed for a side mount pump panel.</p> <p>An apparatus interface wiring harness shall be included for the cab and shall be wired into the cab harness interface connectors which shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits, governor/hand throttle controls and dash display which shall incorporate the "Pump Engaged" and "OK to Pump" indicator lamps. The harness shall contain circuits for the body builder to wire a pump switch.</p>		
<p>ENGINE PROGRAMMING REMOTE THROTTLE</p> <p>The engine ECM discreet wire remote throttle circuit will be turned on for use with a discreet wire based pump controller.</p>		
<p>ENGINE PROGRAMMING IDLE SPEED</p> <p>The engine low idle speed will be programmed at 700 rpm.</p>		
<p>ENGINE FAN DRIVE</p> <p>The engine cooling system fan shall incorporate a thermostatically controlled, Horton clutched type fan drive.</p> <p>When the clutched fan is disengaged it shall facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure.</p> <p>ENGINE COOLING SYSTEM</p> <p>There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.</p> <p>The cooling system shall utilize a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, an air to air charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.</p> <p>The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.</p> <p>The cooling system shall include a one piece injection molded polymer eleven (11) blade fan with a fiberglass fan shroud.</p> <p>The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and sight glass to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements, and allows for expansion and recovery of coolant into a separate integral expansion chamber.</p> <p>All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.</p> <p>The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.</p>		
<p>ENGINE COOLING SYSTEM PROTECTION</p> <p>The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame color.</p>		
<p>ENGINE COOLANT</p> <p>The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.</p> <p>Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
of the extended life coolant makeup.		
<p>ELECTRONIC COOLANT LEVEL INDICATOR</p> <p>The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.</p>		
<p>COOLANT HOSES</p> <p>The cooling system hoses shall be silicone heater hose with rubber hoses in the cab interior. The radiator hoses shall be formed silicone coolant hoses with formed aluminized steel tubing. All heater hose, silicone coolant hose, and tubing shall be secured with stainless steel constant torque band clamps.</p>		
<p>ENGINE AIR INTAKE</p> <p>The engine air intake system shall include an ember separator air intake filter which shall be located in the front of the cab. This filter shall protect the downstream air filter from embers using a combination of unique flat and crimped metal screens constructed into a corrosion resistant steel frame. This multilayered screen shall be designed to trap embers or allow them to burn out before passing through the pack, while creating only minimal air flow restriction through the system. Periodic cleaning or replacement of the screen shall be all that is required after installation.</p> <p>The engine shall also include an air intake filter which shall be bolted to the frame and located under the front of the cab on the right hand side. The system shall utilize a replaceable dry type filter which ensures dust and debris remains safely contained inside the housing during operation via leak-tight seals. The service cover shall be located on the bottom of the housing, eliminating the chance of contaminating the air intake system during air filter service.</p> <p>The air flow distribution and dust loading shall be uniform throughout the high-performance filter element, which shall result in pressure differential for improved horsepower and fuel economy. The air intake ember separator shall be mounted within easy access via a hinged panel behind the right hand side headlight module. The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.</p>		
<p>AIR INTAKE PROTECTION</p> <p>A light duty skid plate shall be supplied for the engine air intake system below the right front side of the cab. The skid plate shall provide protection for the air intake system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame color.</p>		
<p>ENGINE EXHAUST SYSTEM</p> <p>The exhaust system shall be mounted below the frame in the outboard position with the SCR</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>canister in line rearward of the DPF. The exhaust system shall utilize a 90-degree bend in the exhaust tubing from the turbo into a side inlet DPF canister that allows the entire system to be pulled forward. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.</p> <p>The exhaust system shall include a diesel particulate filter (DPF), a diesel oxidation catalyst, and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be injected into the system through the decomposition tube between the DPF and SCR.</p> <p>The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.</p> <p>The DPF, the decomposition tube, and the SCR canister through the end of the tailpipe shall be connected with zero leak clamps.</p>		
<p>DIESEL EXHAUST FLUID TANK</p> <p>The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.</p> <p>The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.</p> <p>The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.</p>		
<p>ENGINE EXHAUST ACCESSORIES</p> <p>The vehicle will include a MagnaGrip exhaust extraction system collar which shall be shipped loose.</p>		
<p>ENGINE EXHAUST WRAP</p> <p>The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.</p>		
<p>TRANSMISSION</p> <p>The drive train shall include an Allison model EVS 3000 torque converting, automatic</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO																		
<p>transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.</p> <p>The transmission shall include two (2) internal oil filters and Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.</p> <p>The transmission gear ratios shall be:</p> <p>1st 3.49:1 2nd 1.86:1 3rd 1.41:1 4th 1.00:1 5th 0.75:1 6th 0.65:1 (if applicable) Rev 5.03:1</p>																				
<p>TRANSMISSION MODE PROGRAMMING</p> <p>The transmission, upon start-up, will select a six (6) speed operation without the need to press the mode button.</p>																				
<p>TRANSMISSION FEATURE PROGRAMMING</p> <p>The Allison Gen V-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.</p> <p>This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.</p> <p>A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.</p> <table border="0"> <thead> <tr> <th><u>Function ID</u></th> <th><u>Description</u></th> <th><u>Wire assignment</u></th> </tr> </thead> <tbody> <tr> <td colspan="3"><u>Inputs</u></td> </tr> <tr> <td>C</td> <td>PTO Request</td> <td>142</td> </tr> <tr> <td>J</td> <td>Fire Truck Pump Mode (4th Lockup)</td> <td>122 / 123</td> </tr> <tr> <td colspan="3"><u>Outputs</u></td> </tr> <tr> <td>C</td> <td>Range Indicator</td> <td>145 (4th)</td> </tr> </tbody> </table>	<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>	<u>Inputs</u>			C	PTO Request	142	J	Fire Truck Pump Mode (4th Lockup)	122 / 123	<u>Outputs</u>			C	Range Indicator	145 (4th)		
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CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

		YES	NO
G	PTO Enable Output Signal Return	130 103	
ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR			
The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.			
TRANSMISSION SHIFT SELECTOR			
An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.			
TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE			
When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.			
TRANSMISSION COOLING SYSTEM			
The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.			
TRANSMISSION DRAIN PLUG			
The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.			
TRANSMISSION WARRANTY			
The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.			
PTO LOCATION			
The transmission shall have two (2) power take off (PTO) mounting locations, one (1) in the 8:00 o'clock position and one (1) in the 4:00 o'clock position.			
MIDSHIP PUMP / GEARBOX			
A temporary jackshaft driveline shall be installed by the chassis manufacturer to accommodate the mid-ship split shaft pump as specified by the apparatus manufacturer.			

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
DRIVELINE All drivelines shall be heavy duty metal tube and equipped with Spicer 1710 series universal joints. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat®.		
MIDSHIP PUMP / GEARBOX MODEL The midship pump/gearbox provisions shall be for a Waterous CSUC20 pump or Hale QMAX equivalent.		
MIDSHIP PUMP GEARBOX DROP The Waterous or Hale pump gearbox shall have a "C" (medium length) drop length.		
MIDSHIP PUMP RATIO Specify ratio for the midship pump: _____.		
MIDSHIP PUMP LOCATION C/L SUCTION TO C/L REAR AXLE Specify the midship pump location as the dimension from the centerline of the suction to the centerline of the rear axle: _____ inches.		
FUEL FILTER/WATER SEPARATOR The fuel system shall have a Fleetguard FS1003 fuel filter/water separator as a primary filter. The fuel filter shall have a drain valve. A water in fuel sensor shall be provided and wired to an instrument panel lamp and audible alarm to indicate when water is present in the fuel/water separator. A secondary fuel filter shall be included as approved by the engine manufacturer.		
FUEL LINES The fuel system supply and return lines installed from the fuel tank to the engine shall be reinforced nylon tubing rated for diesel fuel. The fuel lines shall be brown in color and connected with brass fittings.		
FUEL SHUTOFF VALVE A fuel shutoff valve shall be installed in the fuel draw line at the primary fuel filter to allow the fuel filter to be changed without loss of fuel to the fuel pump.		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>A second fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.</p>		
<p>ELECTRIC FUEL PRIMER</p> <p>Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.</p>		
<p>FUEL TANK</p> <p>The fuel tank shall have a capacity of sixty (60) gallons minimum and shall measure 35.00 inches in width X 17.00 inches in height X 29.00 inches in length. The baffled tank shall be made of 14 gauge aluminized steel. The exterior of the tank shall be painted with a PRP Corsol™ black anti-corrosive exterior metal treatment finish. This results in a tank which offers the internal and external corrosion resistance.</p> <p>The tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.</p> <p>The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.</p> <p>The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.</p>		
<p>FUEL TANK MATERIAL AND FINISH</p> <p>The fuel tank shall be constructed of 14 gauge stainless steel. The exterior of the fuel tank shall be painted to match the frame color.</p>		
<p>FUEL TANK STRAP MATERIAL</p> <p>The fuel tank straps shall be constructed of ASTM A-36 steel.</p>		
<p>FUEL TANK FILL PORT</p> <p>The fuel tank fill ports shall be provided with two (2) left fill ports located one (1) in the forward position and one (1) in the middle position and the right fill port located in the middle position of the fuel tank.</p>		
<p>FUEL TANK DRAIN PLUG</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
A 0.5 inch NPT drain plug shall be centered in the bottom of the fuel tank.		
<p>FRONT AXLE</p> <p>The front axle shall be a Meritor Easy Steer Non drive front axle, model number MFS-20 (or approved equal). The axle shall include a 3.74 inch drop and a 71.00 inch king pin intersection (KPI). The axle shall include a conventional style hub with a standard knuckle.</p>		
<p>FRONT AXLE WARRANTY</p> <p>The front axle shall be warranted by Meritor for two (2) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.</p>		
<p>FRONT WHEEL BEARING LUBRICATION</p> <p>The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.</p>		
<p>FRONT SHOCK ABSORBERS</p> <p>Two (2) Bilstein inert, nitrogen gas filled shock absorbers shall be provided and installed as part of the front suspension system. The shocks shall be a monotubular design and fabricated using a special extrusion method, utilizing a single blank of steel without a welded seam, achieving an extremely tight peak-to-valley tolerance and maintains consistent wall thickness. The monotubular design shall provide superior strength while maximizing heat dissipation and shock life.</p> <p>The ride afforded through the use of a gas shock is more consistent and shall not deteriorate with heat, the same way a conventional oil filled hydraulic shock would.</p> <p>The Bilstein front shocks shall include a digressive working piston assembly allowing independent tuning of the compression and rebound damping forces to provide optimum ride and comfort without compromise. The working piston design shall feature fewer parts than most conventional twin tube and “road sensing” shock designs and shall contribute to the durability and long life of the Bilstein shock absorbers.</p> <p>Proposals offering the use of conventional twin tube or “road sensing” designed shocks shall not be considered.</p>		
<p>FRONT SUSPENSION</p> <p>The front suspension shall include a nine (9) leaf spring pack in which the longest leaf measures 54.00 inch long and 4.00 inches wide and shall include a military double wrapped front eye. Both spring eyes shall have a case hardened threaded bushing installed with lubrication counter bore and lubrication land off cross bore with grease fitting. The spring capacity shall be rated at 21,500 pounds.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>STEERING COLUMN/ WHEEL</p> <p>The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver's position. The steering wheel shall be covered with black polyurethane foam padding.</p> <p>The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.</p>		
<p>ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR</p> <p>The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.</p>		
<p>POWER STEERING PUMP</p> <p>The hydraulic power steering pump shall be a TRW PS and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type.</p>		
<p>FRONT AXLE CRAMP ANGLE</p> <p>The chassis shall have a front axle cramp angle of 48-degrees to the left and 44-degrees to the right.</p>		
<p>POWER STEERING GEAR</p> <p>The power steering gear shall be a TRW model TAS 65 with an assist cylinder.</p>		
<p>CHASSIS ALIGNMENT</p> <p>The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.</p>		
<p>REAR AXLE</p> <p>The rear axle shall be a Meritor model RS-25-160 single drive axle (or approved equal). The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 27,000 pounds.</p> <p>The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.63 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.</p>		
<p>REAR AXLE DIFFERENTIAL LUBRICATION</p> <p>The rear axle differential shall be lubricated with oil.</p>		
<p>REAR AXLE WARRANTY</p> <p>The rear axle shall be warranted by Meritor for two (2) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.</p>		
<p>REAR WHEEL BEARING LUBRICATION</p> <p>The rear axle wheel bearings shall be lubricated with oil.</p>		
<p>REAR AXLE DIFFERENTIAL CONTROL</p> <p>A driver controlled differential lock shall be installed on the rear axle. This feature shall allow the main differential to be locked and unlocked when encountering poor road or highway conditions, where maximum traction is needed, for use at speeds no greater than 25 MPH. The differential lock shall be controlled by a locking rocker switch on the switch panel. The light on the switch shall illuminate with positive engagement of the differential control.</p>		
<p>VEHICLE TOP SPEED</p> <p>The top speed of the vehicle shall be approximately 68 MPH +/-2 MPH at governed engine RPM.</p>		
<p>REAR SUSPENSION</p> <p>The single rear axle shall feature a Reyco 102AR air suspension with a single air bag on each side attached to a tapered forged drop leaf spring with one adjustable and one fixed torque rod.</p> <p>The suspension shall feature dual air height control valves which shall be installed to ensure equal frame height on both sides of the vehicle regardless of the load. The suspension shall also include two premium shock absorbers, one each side.</p> <p>The rear suspension capacity shall be rated at 21,000 to 27,000 pounds to meet the rear axle rating selected.</p>		
<p>REAR SHOCK ABSORBERS</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Shock absorbers shall be supplied by the suspension manufacturer and installed on the rear axle suspension.</p>		
<p>FRONT TIRES</p> <p>The front tires shall be Michelin 385/65R22.5 “L” tubeless radial XFE regional tread.</p> <p>The front tire stamped load capacity shall be 19,840 pounds per axle with a speed rating of 65 miles per hour when properly inflated to 130 pounds per square inch.</p> <p>The Michelin Tire Intermittent Service Rating load capacity shall be 20,000 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch. The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to one (1) hour of loaded travel with a one (1) hour cool down prior to another loaded run.</p>		
<p>REAR TIRES</p> <p>The rear tires shall be Michelin 12R-22.5 16PR "H" tubeless radial XDN2 all-weather tread.</p> <p>The rear tire stamped load capacity shall be 27,120 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.</p> <p>The Michelin Tire Intermittent Service Rating load capacity shall be 28,880 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch. The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to one (1) hour of loaded travel with a one (1) hour cool down prior to another loaded run.</p>		
<p>REAR AXLE RATIO</p> <p>The rear axle ratio shall be _____.</p>		
<p>BALANCE WHEELS AND TIRES</p> <p>All of the wheels and tires, including any spare wheels and tire assemblies, shall be dynamically balanced.</p> <p>TIRE PRESSURE INDICATOR</p> <p>There shall be a voucher provided with the chassis for a pop up style tire pressure indicator at each tire valve stem. The indicator shall provide visual indication of pressure in the specific tire.</p> <p>The tire pressure indicators shall be redeemed upon the vehicle manufacturer’s receipt of the voucher for installation by the customer.</p>		
<p>FRONT WHEEL</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch LvL One™ polished aluminum wheels. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts. The wheels shall feature one-piece forged strength and shall include Alcoa's Dura-Bright® finish with XBR technology as an integral part of the wheel surface. Alcoa Dura-Bright® wheels keep their shine without polishing. Brake dust, grime and road debris are easily removed by simply cleaning the wheels with soap and water.</p>		
<p>REAR WHEEL</p> <p>The rear wheels shall be Alcoa hub piloted, 22.50 inch X 8.25 inch LvL One™ aluminum wheels with a polished outer surface and Alcoa Dura-Bright® wheel treatment with XBR® technology as an integral part of the wheel. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.</p>		
<p>WHEEL TRIM</p> <p>The front wheels shall include stainless steel lug nut covers and stainless steel baby moons shipped loose with the chassis for installation by the apparatus builder. The baby moons shall have cutouts for oil seal viewing when applicable.</p> <p>The rear wheels shall include stainless steel lug nut covers and band mounted spring clip stainless steel high hats shipped loose with the chassis for installation by the apparatus builder.</p> <p>The lug nut covers, baby moons, and high hats shall be RealWheels® brand constructed of 304L grade, non-corrosive stainless steel with a mirror finish. Each wheel trim component shall meet D.O.T. certification</p>		
<p>WHEEL GUARDS</p> <p>The rear dual wheels shall include a plastic isolator approximately 0.04" installed between the inner and outer wheel hub to help prevent corrosion caused by metal to metal contact. There shall also be a plastic isolator between the axle hub and the wheels on both front and rear axles.</p> <p>TIRE CHAINS</p> <p>On-Spot automatic ice chains shall be installed on the rear axle of the chassis to provide instant traction on ice and snow at speeds below 35 MPH.</p>		
<p>TIRE CHAINS ACTIVATION</p> <p>The tire chain system shall be activated by a virtual button on the Vista display and control screen. The virtual button shall display "Active" when the tire chains are engaged. The tire chains shall be interlocked with the transmission and shall engage only if the vehicle is traveling 30 MPH or less. After traveling over 30 MPH, the vehicle must be reduced to a speed below 5 MPH for the tire chains to be engaged or re-engaged. The virtual button, once the vehicle reaches 35 MPH shall be reset to "Inactive". The vehicle must then reduce to a</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>speed below 5 MPH to enable the tire chains virtual button.</p>		
<p>BRAKE SYSTEM</p> <p>A rapid build-up air brake system shall be provided. The air brakes shall include a two (2) air tank, three (3) reservoir system with a total of 4152 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.</p> <p>The rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.</p> <p>A four (4) sensor, four (4) modulator Anti-lock Braking System (ABS) shall be installed on the front and rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxillary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.</p> <p>Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the single rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.</p> <p>A virtual style switch shall be provided and properly labeled “mud/snow”. When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.</p> <p>The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle’s motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle’s lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.</p>		
<p>FRONT BRAKES</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
The front brakes shall be Meritor EX225 Disc Plus disc brakes with 17.00 inch vented rotors.(or approved equal)		
REAR BRAKES		
The rear brakes shall be Meritor EX225 Disc Plus disc brakes with 17.00 inch vented rotors.(or approved equal)		
PARK BRAKE		
Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.		
In addition to the mechanical rear brake engagement, the front service brakes will also engage via air pressure, providing additional braking capability.		
PARK BRAKE CONTROL		
A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.		
The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver.		
FRONT BRAKE CHAMBERS		
The front brakes shall be provided with MGM type 24 long stroke brake chambers.		
AIR DRYER		
The brake system shall include a Wabco System Saver 1200 air dryer with an integral heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be mounted behind the battery box on the left hand side.		
REAR BRAKE CHAMBERS		
The rear axle shall include TSE 24/30 H.O.T. (High Output Technology) brake chambers shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake pads against the brake rotor		
AIR COMPRESSOR		
The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.</p>		
<p>AIR GOVERNOR</p> <p>An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket on the left frame rail behind the battery box.</p>		
<p>MOISTURE EJECTORS</p> <p>Manual pet-cock type drain valves shall be installed on all reservoirs of the air supply system.</p>		
<p>AIR SUPPLY LINES</p> <p>The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.</p> <p>Brass compression type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.</p>		
<p>VEHICLE TOWED AIR SUPPLY PACKAGE</p> <p>The chassis shall include a vehicle towing air supply package. The air service brake connection shall be accomplished via trailer glad hands located under the left side of the front bumper. The connecting surface of the glad hand connections shall be rotated vertical and shall be mounted as far rearward under the bumper as possible. The connections shall include labels to distinguish between the "Primary" and "Service" air systems.</p>		
<p>REAR AIR TANK MOUNTING</p> <p>If a combination of wheel base, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted perpendicular to frame.</p>		
<p>WHEELBASE</p> <p>Specify chassis wheelbase: _____.</p>		
<p>REAR OVERHANG</p> <p>Specify chassis rear overhang shall be _____/inches</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>FRAME</p> <p>The frame shall consist of double rails running parallel to each other with cross members forming a ladder style frame. The frame rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep upper and lower flanges X 0.38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and 0.38 inches thick. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. Each double rail section shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches. The frame shall measure 35.00 inches in width or approved equal.</p> <p>Proposals calculating the frame strength using the “box method” shall not be considered.</p> <p>Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.</p> <p>A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The bolt heads shall be flanged type, held in place by distorted thread flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.</p> <p>Any proposals not including additional reinforcement for each cross member shall not be considered.</p> <p>All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.</p> <p>The frame and cross members shall carry a lifetime warranty to the original purchaser. A copy of the frame warranty shall be made available upon request.</p> <p>Proposals offering warranties for frames not including cross members shall not be considered.</p>		
<p>FRAME PAINT</p> <p>The frame shall be powder coated black prior to any attachment of components.</p> <p>All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-curved pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.</p> <p>Any proposals offering painted frame with variations from the above process shall not be</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.		
<p>FRONT BUMPER</p> <p>The chassis shall be equipped with a severe duty front bumper constructed from structural steel channel. The bumper material shall be 0.38 thick ASTM A36 steel which shall measure 12.00 inches high with a 3.05 inch flange and shall be 99.00 inches wide with angled front corners.</p> <p>The bumper shall be primed and painted as specified.</p> <p>FRONT BUMPER EXTENSION LENGTH</p> <p>The front bumper shall be extended approximately 24.00 inches ahead of the cab.</p>		
<p>FRONT BUMPER EXTENSION FRAME WIDTH</p> <p>The front bumper extension frame shall feature an overall width of 48.25 inches.</p>		
<p>FRONT BUMPER PAINT</p> <p>The front bumper shall be painted the same as the upper cab color.</p>		
<p>MECHANICAL SIREN</p> <p>The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include mounting hardware designed to recess or flush mount.</p>		
<p>MECHANICAL SIREN LOCATION</p> <p>The siren shall be recess mounted on the left side of the front fascia of the bumper approximately in the center of the flat surface between the bumper radius and the frame rail.</p>		
<p>AIR HORN</p> <p>The front bumper shall include two (2) Hadley brand E-Tone air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish on the exterior and a painted finish deep inside the trumpet.</p>		
<p>AIR HORN LOCATION</p> <p>The air horns shall be recess mounted in the front bumper fascia between the frame rails in the right and left outboard positions.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>AIR HORN RESERVOIR</p> <p>One (1) air reservoir, with a 1200 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.</p>		
<p>ELECTRONIC SIREN SPEAKER</p> <p>There shall be one (1) Cast Products Inc. model SA4301, 100 watt speaker provided. The speaker shall measure 6.20 inches tall X 7.36 inches wide X 3.06 inches deep. The speaker shall include a flat mounting flange which shall be polished aluminum.</p>		
<p>ELECTRONIC SIREN SPEAKER LOCATION</p> <p>The electronic siren speaker shall be located on the front bumper face in the center position between the frame rails.</p>		
<p>FRONT BUMPER TOW HOOKS</p> <p>Two (2) heavy duty tow hooks, painted to match the chassis frame, shall be installed in a rearward position out of the approach angle area, bolted directly to the side of the chassis frame with grade 8 bolts.</p>		
<p>TOW FORK PROVISION</p> <p>A tow bar provision shall be installed on the front of the chassis and attached to the frame rails which shall allow the vehicle to be picked up from the front and towed.</p>		
<p>CAB TILT SYSTEM</p> <p>The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.</p> <p>The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.</p> <p>It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.</p> <p>Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.</p> <p>A steel safety channel assembly, painted safety yellow shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.</p>		
<p>CAB TILT AUXILIARY PUMP</p> <p>A manual cab tilt pump module shall be attached to the cab tilt pump housing.</p>		
<p>CAB TILT LIMIT SWITCH</p> <p>A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.</p>		
<p>CAB TILT CONTROL RECEPTACLE</p> <p>The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.</p> <p>The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.</p>		
<p>CAB WINDSHIELD</p> <p>The cab windshield shall have a surface area of 2825.00 square inches and be of a two (2) piece wraparound design for maximum visibility.</p> <p>The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.</p> <p>Each windshield shall be installed using black self locking window rubber.</p>		
<p>GLASS FRONT DOOR</p> <p>The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished manually utilizing a crank style handle on the inside of</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>the door. A reinforced window regulator assembly shall be provided for severe duty use.</p> <p>There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as “cozy glass” ahead of the front door roll down windows.</p> <p>The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.</p>		
<p>GLASS TINT FRONT DOOR</p> <p>The windows located in the left and right front doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.</p>		
<p>GLASS REAR DOOR RH</p> <p>The rear right hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.</p>		
<p>GLASS TINT REAR DOOR RIGHT HAND</p> <p>The window located in the right hand side rear window shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.</p>		
<p>GLASS REAR DOOR LH</p> <p>The rear left hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.</p>		
<p>GLASS TINT REAR DOOR LEFT HAND</p> <p>The window located in the left hand side rear door shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.</p>		
<p>GLASS SIDE MID RH</p> <p>The cab shall include a window on the right side behind the front and ahead of the crew door which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a dark gray</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>automotive tint unless otherwise noted.</p>		
<p>GLASS TINT SIDE MID RIGHT HAND</p> <p>The window located on the right hand side of the cab between the front and rear doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.</p>		
<p>GLASS SIDE MID LH</p> <p>The cab shall include a window on the left side behind the front door and ahead of the crew door and above the wheel well which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a dark gray automotive tint unless otherwise noted.</p>		
<p>GLASS TINT SIDE MID LEFT HAND</p> <p>The window located on the left hand side of the cab between the front and rear doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.</p>		
<p>CLIMATE CONTROL</p> <p>The cab shall include a 57,500 BTU @ 425 CFM front overhead heater/defroster which shall be provided and installed above the windshield between the sun visors.</p> <p>The cab shall also include a combination heater air-conditioning unit mounted on the engine tunnel. This unit shall offer eight (8) adjustable louvers, four (4) forward facing and four (4) rearward facing, a temperature control valve and two (2) blowers offering three (3) speeds which shall be capable of circulating 550 cubic feet of air per minute. The unit shall be rated for 42,500 BTU/Hr of cooling and 36,000 BTU/Hr of heating. The temperature and blower controls shall be located on the heater/air conditioning unit.</p> <p>All defrost/heating systems shall be plumbed with one (1) seasonal shut-off valve at the front corner on the right side of the cab.</p> <p>The air conditioner lines shall be a mixture of custom bend zinc coated steel fittings and Aero-quip GH 134 flexible hose with Aero-quip EZ clip fittings.</p>		
<p>CLIMATE CONTROL DRAIN</p> <p>The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>CLIMATE CONTROL ACTIVATION</p> <p>The heating and defrosting controls shall be located on the front overhead climate control unit. There shall be additional heating and air conditioning controls located on the engine tunnel mounted climate control unit.</p>		
<p>A/C CONDENSER LOCATION</p> <p>A roof mounted A/C condenser shall be installed centered on the cab forward of the raised roof against the slope rise.</p>		
<p>A/C COMPRESSOR</p> <p>The air-conditioning compressor shall be a belt driven, engine mounted, open type compressor that shall be capable of producing a minimum of 32,000 BTU at 1500 engine RPMs. The compressor shall utilize R-134A refrigerant and PAG oil.</p>		
<p>UNDER CAB INSULATION</p> <p>The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.</p> <p>The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.</p> <p>The engine tunnel insulation shall measure approximately 0.75 inch thick including a vertically lapped polyester fiber layer, a 1.0 lb/ft² PVC barrier layer, an open cell foam layer, and a moisture and heat reflective foil facing reinforced with a woven fiberglass layer. The foil surface acts as protection against moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.</p> <p>The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by 3 mils of acrylic pressure sensitive adhesive and aluminum pins with hard hat, hold in place fastening heads.</p>		
<p>INTERIOR TRIM FLOOR</p> <p>The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.</p>		
<p>INTERIOR TRIM</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.</p>		
<p>REAR WALL INTERIOR TRIM</p> <p>The rear wall of the cab shall be trimmed with vinyl.</p>		
<p>HEADER TRIM</p> <p>The cab interior shall feature header trim above the driver and officer positions constructed of vacuum formed ABS material.</p>		
<p>TRIM CENTER DASH</p> <p>The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation.</p>		
<p>TRIM LH DASH</p> <p>The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.</p>		
<p>TRIM RH DASH</p> <p>The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.</p>		
<p>ENGINE TUNNEL TRIM</p> <p>The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.</p>		
<p>POWER POINT DASH MOUNT</p> <p>The cab shall include two (2) 12 volt cigarette lighter type receptacles in the cab dash to provide a power source for 12 volt electrical equipment. The receptacles shall be wired battery direct.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The cab shall also include two (2) Dual universal serial bus (USB) charging receptacles in the cab dash rocker switch cutout to provide a power source for USB chargeable electrical equipment. Each USB receptacle shall include one (1) USB port capable of a 5 Volt-1 amp output and one (1) USB port capable of a 5 Volt-2.1 amp output. The receptacles shall be wired battery direct and include a backlit legend.</p>		
<p>STEP TRIM</p> <p>Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of polished 5032 H32 aluminum Grip Strut® grating with angled outer corners. The step shall feature a splash guard to reduce water and debris from splashing in to the step. The splash guard shall have an opening on the outer edge to allow debris and water to flow through rather than becoming trapped within the stepping surface. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength.</p>		
<p>UNDER CAB ACCESS DOOR</p> <p>The cab shall include an aluminum access door in the left crew step riser painted to match the cab interior paint with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.</p>		
<p>INTERIOR DOOR TRIM</p> <p>The interior trim on the doors of the cab shall consist of an aluminum panel constructed of Marine Grade 5052-H32 0.13 of an inch thick aluminum plate. The door panels shall include a painted finish.</p>		
<p>CAB DOOR TRIM REFLECTIVE</p> <p>The interior of each door shall include high visibility reflective tape. A white reflective tape shall be provided vertically along the rear outer edge of the door. The lowest portion of each door skin shall include a reflective tape chevron with red and white stripes. The chevron tape shall measure 6.00 inches in height.</p>		
<p>INTERIOR GRAB HANDLE "A" PILLAR</p> <p>There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each “A” post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.</p>		
<p>INTERIOR GRAB HANDLE FRONT DOOR</p> <p>Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish to assist personnel entering and exiting the cab.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>INTERIOR GRAB HANDLE REAR DOOR</p> <p>A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. The handle shall assist personnel in exiting and entering the cab.</p>		
<p>INTERIOR SOFT TRIM COLOR</p> <p>The cab interior soft trim surfaces shall be gray in color.</p>		
<p>INTERIOR TRIM SUNVISOR</p> <p>The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield. Each sun visor shall be constructed of Masonite and covered with padded vinyl trim.</p>		
<p>INTERIOR ABS TRIM COLOR</p> <p>The cab interior vacuum formed ABS composite trim surfaces shall be gray in color.</p>		
<p>INTERIOR FLOOR MAT COLOR</p> <p>The cab interior floor mat shall be black in color.</p>		
<p>CAB PAINT INTERIOR DOOR TRIM</p> <p>The inner door panel surfaces shall be painted with multi-tone onyx black texture finish</p>		
<p>TRIM CENTER DASH INTERIOR PAINT</p> <p>The entire center dash shall be coated with multi-tone onyx black texture finish. Any accessory pods attached to the dash shall also be painted this color.</p>		
<p>TRIM LH DASH INTERIOR PAINT</p> <p>The left hand dash shall be painted with a multi-tone onyx black texture finish.</p>		
<p>TRIM RIGHT HAND DASH INTERIOR PAINT</p> <p>The right hand dash shall be painted with multi-tone onyx black texture finish.</p>		
<p>DASH PANEL GROUP</p> <p>The main center dash area shall include three (3) removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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SWITCHES CENTER PANEL		
<p>The center dash panel shall include six (6) switch positions in the upper left portion of the panel.</p> <p>A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.</p>		
SWITCHES LEFT PANEL		
<p>The left dash panel shall include one (1) windshield wiper/washer control switch located in the left hand side of the panel. The switch shall have backlighting provided.</p>		
SWITCHES RIGHT PANEL		
<p>The right dash panel shall include no rocker switches or legends.</p>		
SEAT BELT WARNING		
<p>A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s), an indicator light in the instrument panel, and an audible alarm.</p> <p>The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and audible alarm shall remain active until all occupied seats have the seat belts fastened.</p>		
SEAT MATERIAL		
<p>The seats shall include a covering of high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Common trade names for this material are Imperial 1200 and Durawear.</p>		
SEAT COLOR		
<p>All seats supplied with the chassis shall be black in color. All seats shall include red seat belts.</p>		
DRIVER'S SEAT		
<p>The driver's seat shall be an H.O. Bostrom Firefighter Sierra model seat. The seat shall feature</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>eight-way electric positioning. The eight positions shall include up and down, fore and aft with 8.00 inches of travel, back angle adjustment and seat rake adjustment. The seat shall feature integral springs to isolate shock.</p> <p>The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly.</p> <p>The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00 inches measured with the seat height adjusted to the lowest position of travel.</p> <p>This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.</p> <p>The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.</p>		
<p>DRIVER'S SEAT BACK</p> <p>The driver's seat shall include a standard seat back incorporating the all belts to seat feature (ABTS). The seat back shall feature a contoured head rest.</p>		
<p>DRIVER'S SEAT MOUNTING</p> <p>The driver's seat shall be installed in an ergonomic position in relation to the cab dash.</p>		
<p>DRIVER'S OCCUPANT PROTECTION</p> <p>The driver's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.</p> <p>The driver's seating area APS shall include:</p> <ul style="list-style-type: none"> • Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the driver, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries. • Large side curtain airbag - protects the driver's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a 		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>collision as well as provides ejection mitigation protection to the driver in a qualifying event by covering the window and the upper portion of the door.</p> <ul style="list-style-type: none"> • Dual knee airbags (patent pending) with energy management mounting (patent pending) - protects the driver's lower body from dangerous surface contact injuries, acceleration injuries, and from intrusion as well as locks the lower body in place so the upper body shall be shall be slowed by the load limiting seat belt. <p>Steering wheel airbag - protects the driver's head, neck, and upper torso from contact injuries, acceleration injuries, and contact points with intrusive surfaces as a result of a collision.</p>		
<p>OFFICER SEAT</p> <p>The officer's seat shall be a H.O. Bostrom Firefighter series. The seat shall feature a tapered and padded seat, and cushion. The seat shall be a non-adjustable type seat.</p> <p>The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant.</p> <p>The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00 inches.</p> <p>This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.</p>		
<p><u>OFFICER SEAT BACK</u></p> <p>The officer's seat shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.</p> <p>The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.</p> <p>The bracket system shall be free of straps and clamps that may interfere with auxiliary</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.</p> <p>The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.</p> <p>The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.</p>		
<p><u>OFFICER SEAT MOUNTING</u></p> <p>The officer's seat shall offer a special mounting position which is 2.00 inches rearward of the standard location offering increased leg room for the occupant</p>		
<p><u>OFFICER OCCUPANT PROTECTION</u></p> <p>The officer's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.</p> <p>The officer's seating area APS shall include:</p> <ul style="list-style-type: none"> • Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the officer, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries. • Large side curtain airbag - protects the officer's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the officer in a qualifying event by covering the window and the upper portion of the door. <p>Knee airbags - protects the officer's lower body from dangerous surface contact injuries, acceleration injuries, and from contact points with intrusive surfaces as a result of a collision as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.</p>		
<p><u>POWER SEAT WIRING</u></p> <p>The power seat or seats installed in the cab shall be wired directly to battery power.</p>		
<p><u>SEAT BELT ORIENTATION CREW</u></p> <p>The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>SEAT REAR FACING OUTER LOCATION</p> <p>The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the left side front seat and one (1) located directly behind the right side front seat.</p>		
<p>SEAT CREW REAR FACING OUTER</p> <p>The crew area shall include a seat in the rear facing outboard position which shall be a H.O. Bostrom Firefighter series. The seat shall feature a tapered and padded seat, and cushion. The seat and cushion shall be spring load hinged and compact in design for additional room and shall remain in the stored position until occupied.</p> <p>The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant.</p> <p>The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.</p> <p>This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.</p>		
<p>SEAT BACK REAR FACING OUTER</p> <p>The rear facing outboard seat shall feature a Bostrom SecureAll™ self contained breathing apparatus (SCBA) locking system which shall store most U.S. and International SCBA brands and bottle sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.</p> <p>The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.</p> <p>The bracket system shall be free of straps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.</p> <p>The SecureAll™ shall include a release handle which shall be integrated into the center of the bottom seat cushion for easy access and to eliminate hooking the release handle with clothing or other equipment.</p> <p>The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.</p>		
<p>SEAT MOUNTING REAR FACING OUTER</p> <p>The rear facing outer seats shall offer special mounting positions which shall be 2.00 inches towards the rear wall offering additional space between the front seats and the outer rear facing seats.</p>		
<p>OCCUPANT PROTECTION RFO</p> <p>The rear facing outer seat position(s) shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.</p> <p>Each rear facing outer seating position APS shall include:</p> <ul style="list-style-type: none"> • APS advanced seat belt system - retractor pre-tensioners tighten the seat belts around each occupant, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries. <p>Side curtain airbag - protects each occupant's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to each occupant in a qualifying event by covering the windows and walls adjacent to each seating position with an airbag custom designed for each cab configuration.</p>		
<p>CAB FRONT UNDERSEAT STORAGE ACCESS</p> <p>The left and right under seat storage areas shall have a solid aluminum hinged door with non-locking latch.</p>		
<p>SEAT COMPARTMENT DOOR FINISH</p> <p>All underseat storage compartment access doors shall have a multi-tone onyx black texture finish.</p>		
<p>WINDSHIELD WIPER SYSTEM</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The cab shall include a dual arm wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers which shall be affixed to a radial wet arm. The system shall include a single motor which shall initiate the arm in which both the left hand and right hand windshield wipers are attached, initiating a back and forth motion for each wiper. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position.</p>		
<p>ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR</p> <p>The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a "Check Washer Fluid Level" message.</p>		
<p>CAB DOOR HARDWARE</p> <p>The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of a fiber reinforced plastic composite with a black matt finish.</p> <p>The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.</p> <p>All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.</p>		
<p>DOOR LOCKS</p> <p>Each cab entry door shall include a manually operated door lock. Each door lock may be actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door or by using a TriMark key from the exterior. The door locks are designed to prevent accidental lock out.</p>		
<p>GRAB HANDLES</p> <p>The cab shall include one (1) 18.00 inch knurled, anti-slip, one-piece exterior assist handle behind each cab door. The grab handle shall be made of 14 gauge 304- stainless steel and be 1.25 inch diameter to enable non-slip assistance with a gloved hand.</p>		
<p>REARVIEW MIRRORS</p> <p>Ramco model CRM-310-1750-THCHR bus style mirrors shall be provided. The mirror heads shall be injection molded chrome plated ABS plastic and shall measure 9.50 inches wide X 17.50 inches high. The mirrors shall be mounted one (1) on each the driver and officer doors of the cab with polished die-cast aluminum arms.</p> <p>The mirrors shall feature an upper heated manual convex glass with a lower heated remote flat glass. The mirror control switches shall be located within easy reach of the driver. The mirrors</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
shall be manufactured using the finest quality non-glare glass and shall feature a rigid mounting thereby reducing vibration. The mirrors shall be corrosion free under all weather conditions.		
REARVIEW MIRROR HEAT SWITCH The heat for the rearview mirrors shall be controlled through a virtual button on the Vista display and control screen.		
EXTERIOR TRIM REAR CORNER There shall be mirror finish stainless steel scuff plates on the outside corners at the back of the cab. The stainless steel plate shall be affixed to the cab using two sided adhesive tape.		
CAB FENDER Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 3.50 inches wide made of 14 gauge 304 polished stainless steel.		
MUD FLAPS FRONT The front wheel wells shall have mud flaps installed on them.		
IGNITION A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a one-quarter turn switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches. Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position. The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.		
BATTERY The single start electrical system shall include six (6) 950 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541 or approved equal.		
BATTERY TRAY The batteries shall be installed within two (2) steel battery trays located on the left side and		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.</p> <p>The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.</p>		
<p>BATTERY BOX COVER</p> <p>Each battery box shall include a steel cover which protects the top of the batteries. Each cover shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.</p>		
<p>BATTERY CABLE</p> <p>The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed at the ends with heat shrink and sealant.</p>		
<p>BATTERY JUMPER STUD</p> <p>The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure</p>		
<p>ALTERNATOR</p> <p>The charging system shall include a 320 amp Leece-Neville 12 volt alternator. The alternator shall include a self-exciting integral regulator.</p>		
<p>BATTERY CONDITIONER</p> <p>A Kussmaul 1200 Pump Plus battery conditioner shall be supplied. The battery conditioner shall be mounted in the cab in the LH rear facing outer seating position.</p>		
<p>BATTERY CONDITIONER DISPLAY</p> <p>A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the cab, viewable through the cab mid side window behind the left front door.</p>		
<p>AUXILIARY AIR COMPRESSOR</p> <p>A Kussmaul Pump 12V air compressor shall be supplied. The air compressor shall be installed behind the driver's seat. The air compressor shall be plumbed to the air brake system to maintain air pressure.</p>		
<p>ELECTRICAL INLET</p> <p>A Kussmaul 20 amp electrical receptacle shall be supplied.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to. <u>Amp Draw Reference List:</u> <i>Kussmaul 1000 Charger - 3.5 Amps</i> <i>Kussmaul 1200 Charger - 10 Amps</i> <i>Kussmaul 35/10 Charger - 10 Amps</i> <i>1000W Engine Heater - 8.33 Amps</i> <i>1500W Engine Heater - 12.5 Amps</i> <i>120V Air Compressor - 4.2 Amps</i></p>		
<p>ELECTRICAL INLET LOCATION</p> <p>An electrical inlet shall be installed on the left hand side of cab over the wheel well.</p>		
<p>ELECTRICAL INLET CONNECTION</p> <p>The electrical inlet shall be connected to the battery conditioner.</p>		
<p>ELECTRICAL INLET COLOR</p> <p>The electrical inlet connection shall include a yellow cover.</p>		
<p>HEADLIGHTS</p> <p>Two (2) headlamp and combination side marker/turn lamp modules shall be part of the front cab fascia. Each module shall include one (1) rectangular halogen high/low beam headlamp.</p>		
<p>FRONT TURN SIGNALS</p> <p>The front fascia shall include two (2) Whelen model 600 4.00 inch X 6.00 inch programmable LED amber turn signals which shall be installed above the headlights.</p>		
<p>HEADLIGHT LOCATION</p> <p>The headlights shall be located on the front fascia of the cab directly above the front warning lights.</p>		
<p>SIDE TURN/MARKER LIGHTS</p> <p>The sides of the cab shall include two (2) LED round side marker lights which shall be provided just behind the front cab radius corners.</p>		
<p>MARKER AND ICC LIGHTS</p> <p>In accordance with FMVSS, there shall be five (5) LED cab marker lamps designating identification, center and clearance provided. These lights shall be installed on the face of the</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
cab within full view of other vehicles from ground level.		
HEADLIGHT AND MARKER LIGHT ACTIVATION The headlights and marker lights shall be controlled via a virtual button on the Vista display. There shall be a virtual dimmer control on the Vista display to adjust the brightness of the dash lights. The headlamps shall be equipped with the "Daytime Running" light feature, which shall illuminate the headlights to 80% brilliance when the battery master switch is in the "On" position and the parking brake is released.		
GROUND LIGHTS Each door shall include an incandescent NFPA compliant ground light mounted to the under side of the cab step below each door. Each light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The ground lighting shall be activated by the opening of the door on the respective cab side as well as via a virtual button on the Vista display and control screen.		
LOWER CAB STEP LIGHTS The middle step located at each door shall include a 4.00 inch round incandescent light which shall activate with the opening of the respective door.		
INTERMEDIATE STEP LIGHTS The intermediate step well area at each door shall include an LED light within a chrome housing. The Egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with Entry step lighting.		
ENGINE COMPARTMENT LIGHT There shall be an incandescent NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.		
LIGHTBAR PROVISION There shall be one (1) light bar installed on the cab roof. The light bar installation shall include mounting and wiring to a control switch on the cab dash.		
CAB FRONT LIGHTBAR The lightbar provisions shall be for one (1) Whelen brand Freedom FN72QLED lightbar mounted centered on the front of the cab roof. The lightbar shall be 72.00 inches in length. The lightbar shall feature ten (10) red LED lights and two (2) clear LED lights. The light bar shall also include one (1) Opticom mounted center in the light bar. The clear lights shall be disabled with park brake engaged. The cable shall exit the light bar on the right side of the cab.		
LIGHTBAR SWITCH		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The light bar shall be controlled by a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.</p>		
<p>SIDE SCENE LIGHTS</p> <p>The side of the cab shall include two (2) Federal model GHSCENE scene lights, one (1) each side which shall be recess mounted. The Federal lights shall offer 12 volts and a two (2) 20 watt halogen bulbs which shall be adjustable both vertically and horizontally.</p>		
<p>SIDE SCENE LIGHT LOCATION</p> <p>The scene lighting located on the left and right sides of the cab shall be mounted rearward of the cab "B" pillar in the 10.00 inch raised roof portion of the cab between the front and rear crew doors.</p>		
<p>SIDE SCENE ACTIVATION</p> <p>The scene lights shall be activated by two (2) virtual buttons on the Vista display and control screen(s), one (1) for each light, and by opening the respective side cab doors.</p>		
<p>INTERIOR OVERHEAD LIGHTS</p> <p>The cab shall include a two-section, red and clear Weldon incandescent dome lamp located over each door. The dome lamps shall be rectangular in shape and shall measure approximately 9.50 inches in length X 5.00 inches in width with a black colored bezel. The clear portion of each lamp shall be activated by opening the respective door and via the multiplex display and both the red and clear portion can be activated by individual switches on each lamp.</p> <p>An additional incandescent three (3) light module with dual map lights shall be located over the engine tunnel which can be activated by individual switches on the lamp.</p>		
<p>DO NOT MOVE APPARATUS LIGHT</p> <p>The front headliner of the cab shall include a flashing red light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.</p> <p>The flashing red light shall be 6.00 inches long X 2.50 inches wide X 1.75 inches high and shall be located centered left to right for greatest visibility.</p> <p>The light and alarm shall be interlocked for activation when either a cab door is not firmly closed or an apparatus compartment door is not closed, and the parking brake is released.</p>		
<p>MASTER WARNING SWITCH</p> <p>A master switch shall be included, as a virtual button on the Vista display and control screen</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>which shall be labeled “E Master” for identification. The button shall feature control over all devices wired through it. Any warning device switches left in the “ON” position when the master switch is activated shall automatically power up.</p>		
<p>HEADLIGHT FLASHER</p> <p>An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.</p> <p>Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled “On Scene” when the park brake is applied.</p>		
<p>HEADLIGHT FLASHER SWITCH</p> <p>The flashing headlights shall be activated through a virtual button on the Vista display and control screen.</p>		
<p>INBOARD FRONT WARNING LIGHTS</p> <p>The cab front fascia shall include two (2) Whelen 600 series Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.</p>		
<p>INBOARD FRONT WARNING LIGHTS COLOR</p> <p>The warning lights mounted on the cab front fascia in the inboard positions shall be clear.</p>		
<p>OUTBOARD FRONT WARNING LIGHTS</p> <p>The cab front fascia shall include two (2) Whelen 600 series Super LED front warning lights in the left and right outboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.</p>		
<p>OUTBOARD FRONT WARNING LIGHTS COLOR</p> <p>The warning lights mounted on the cab front fascia in the outboard positions shall be clear.</p>		
<p>FRONT WARNING SWITCH</p> <p>The front warning lights shall be controlled through a virtual control on the Vista display and control screen. This switch shall be clearly labeled for identification.</p>		
<p>INTERSECTION WARNING LIGHTS</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
The chassis shall include two (2) Whelen 600 series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors.		
INTERSECTION WARNING LIGHTS COLOR		
The intersection lights shall be red with a clear lens.		
INTERSECTION WARNING LIGHTS LOCATION		
The intersection lights shall be mounted on the side of the bumper in the rearward position.		
SIDE WARNING LIGHTS		
The cab sides shall include two (2) Whelen 600 series Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the cab within a chrome bezel.		
SIDE WARNING LIGHTS COLOR		
The warning lights located on the side of the cab shall be red with clear lens.		
SIDE WARNING LIGHTS LOCATION		
The warning lights on the side of the cab shall be mounted above the "B" pillar in the highest available position.		
AUXILIARY SIDE WARNING LIGHTS		
The cab side shall include an auxiliary set of Whelen 600 series 4.00 inch tall X 6.00 inch wide Super LED warning lights, one (1) each side, which shall feature fourteen (14) flash patterns plus a steady burn for solid colors and twenty (20) flash patterns plus a steady burn for split colors. The lights shall be surface mounted within a chrome bezel.		
AUXILIARY SIDE WARNING LIGHTS COLOR		
The auxiliary warning lights located on the side of the cab shall be red with clear lens.		
AUXILIARY SIDE WARNING LIGHTS LOCATION		
The auxiliary warning lights on the side of the cab shall be mounted over the front wheel well directly over the center of the front axle.		
SIDE AND INTERSECTION WARNING SWITCH		
The side warning lights shall be controlled through a virtual button on the Vista display and		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
control screen. This button shall be clearly labeled for identification.		
TRAFFIC CONTROL There shall be one (1) GTT (Global Traffic Technologies) Opticom model 795H traffic control optical emitter mounted in the lightbar on the front of the cab roof. There shall be an indicator light on the dash. The emitter shall be activated with the lightbar switch and shall be deactivated when the parking brake is applied.		
SIREN CONTROL HEAD A Whelen 295HFS2 electronic siren control head with remote amplifier shall be provided and flush mounted in the switch panel with a location specific to the customer's needs. The siren shall feature 200-watt output, hands free mode and shall be in "standby" mode awaiting instruction. The siren shall offer radio broadcast, public address, wail, yelp, or piercer tones and hands free operation which shall allow the operator to turn the siren on and off from the horn ring if a horn/siren selector switch option is also selected.		
HORN BUTTON SELECTOR SWITCH A virtual button on the Vista display and control screen shall be provided to allow control of either the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements		
AIR HORN ACTIVATION The air horn activation shall be accomplished by the steering wheel horn button for the driver and a black momentary push button on the switch panel. An air horn activation circuit shall be provided to the chassis harness pump panel harness connector.		
MECHANICAL SIREN ACTIVATION The mechanical siren shall be actuated by a Linemaster model SP491-S81 foot switch mounted in the front section of the cab for use by the driver and a black push button in the switch panel on the dash. A siren brake shall be provided on the Vista display. The siren activation shall be interlocked with the park brake and shall only be active when master warning switch is on to prevent accidental engagement.		
BACK-UP ALARM An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.		
INSTRUMENTATION An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.</p> <p>The instrument panel shall contain the following gauges:</p> <p>One (1) electronic speedometer shall be included. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H.</p> <p>One (1) electronic tachometer shall be included. The scale on the tachometer shall read from 0 to 3000 RPM.</p> <p>One (1) two-movement gauge displaying primary system, and secondary system air volumes and integral LCD odometer/trip odometer shall be included on the lower portion of the LCD. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI). The air pressure scales shall be linear to operate with an accuracy of 1 degree of the measured data with a red indication zone on the gauge showing critical levels of air pressure. A red indicator light in the gauge shall indicate a low air pressure, as well as a message on the LCD screen. The odometer shall display up to 9,999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD shall display Transmission Temperature in degrees Fahrenheit on the upper portion of the LCD. The LCD screen shall also be capable of displaying certain diagnostic functions.</p> <p>One (1) four-movement gauge displaying engine oil pressure, coolant temperature, fuel level, voltmeter, and an *indicator bar displaying Diesel Exhaust Fluid (DEF) LED bar shall be included. The scale on the engine oil pressure gauge shall read from 0 to 120 pounds per square inch (PSI). The engine oil pressure scale shall be linear to operate with an accuracy of 1 degree of the measured. A red indicator light in the gauge shall indicate a low engine oil pressure, as well as a message on the LCD screen. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (F). The coolant temperature scale shall be linear to operate with an accuracy of 1 degree of the measured data with a red indication zone on the gauge showing critical levels of air pressure. A red indicator light in the gauge shall indicate high coolant temperature, as well as a message on the LCD screen. The scale on the fuel level gauge shall read from empty to full as a percentage of fuel remaining. An amber indicator light shall indicate low fuel at 25% tank level. The scale on the voltmeter shall read from 10 to 16 volts with a red indication zone on the gauge showing critical levels of battery voltage. A red indicator light shall indicate high or low system voltage, as well as a message on the LCD screen. The scale on the DEF LED bar will consist of four (4) LEDs displaying levels in increments of 25% of useable DEF in green. Upon decreasing levels, the indicator bar will change colors to notify the driver of decreasing levels of DEF and action will be required. An amber indicator light shall indicate low levels of DEF, as well as a message on the LCD screen and an audible alarm.</p> <p>The instrument panel shall include a light bar that contains the following LED indicator lights and produce the following audible alarms in applicable configurations:</p>		
RED LAMPS		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Stop Engine-indicates critical engine fault Air Filter Restricted-indicates excessive engine air intake restriction Park Brake-indicates parking brake is set Seat Belt Indicator-indicates when a seat is occupied and corresponding seat belt remains unfastened Low Coolant-indicates engine coolant is required</p>		
<p>AMBER LAMPS MIL-indicates an engine emission control system fault Check Engine-indicates engine fault Check Trans-indicates transmission fault High Transmission Temperature-indicates excessive transmission oil temperature ABS-indicates anti-lock brake system fault HEST-indicates a high exhaust system temperature Water in Fuel-indicates presence of water in fuel filter *DPF-indicates a restriction of the diesel particulate filter *Regen Inhibit-indicates regeneration has been postponed due to user interaction Range Inhibit-indicates a transmission operation is prevented and requested shift request may not occur. *SRS-indicates a problem in the supplemental restraint system Check Message-Turn Signal On Check Message-Door Ajar Check Message-Cab Ajar *Check Message-ESC Active *Check Message-DPF Regen Active Check Message-No Engine Data Check Message-No Transmission Data Check Message-No ABS Data Check Message-No Data All Communication With The Vehicle Systems Has Been Lost Check Message-Check Engine Oil Level Check Message-Check Washer Fluid Level Check Message-Check Power Steering Fluid Level Check Message-Low Transmission Fluid Level Check Message-Check Coolant Level</p> <p>GREEN LAMPS Left and Right turn signal indicators *ATC-indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system High Idle-indicates engine high idle is active. Cruise Control-indicates cruise control is active OK to Pump-indicates the pump engage conditions have been met Pump Engaged-indicates the pump is currently in use Auxiliary Brake-indicates secondary braking device is active</p>		
<p>BLUE LAMP High Beam Indicator</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
WHITE LAMP Wait to Start-indicates active engine air preheat cycle		
AUDIBLE ALARMS FROM GAUGE PACKAGE High Trans Temp High or Low Voltage Check Engine Check Transmission Stop Engine Low Air Pressure Fuel Low Water in Fuel *ESC High Coolant Temperature Low Engine Oil Pressure Low Coolant Level *Low DEF Level Air Filter Restricted Extended Left and Right Turn Remaining On Cab Ajar Door Ajar ABS System Fault Seatbelt Indicator		
EXTERNAL AUDIBLE ALARM Air Filter Cab Ajar Door Ajar Check Engine Stop Engine Low Air Pressure Low Engine Oil Pressure Water in Fuel Low DEF ABS System Fault Seatbelt Indicator		
LCD MESSAGES Transmission Temperature Battery Voltage Engine Hours Vehicle Speed Engine RPMs Fuel Level DEF Level Engine Oil Pressure		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
Ammeter (If quipped) Auxiliary Ammeter (If quipped) Engine Coolant Temp Primary System Air Pressure Secondary System Air Pressure Turbo Boost Pressure Exhaust Temperature Engine Load Engine Torque Instant Fuel Economy Average Fuel Economy		
<p>BACKLIGHTING COLOR</p> <p>The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.</p>		
<p>CAMERA</p> <p>An Audiovox Voyager heavy duty rearview camera system shall be supplied. The system shall include one (1) camera with a teardrop shaped chrome plated housing shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle and one (1) shall be mounted on the officer side of the cab below windshield ahead of the front door at approximately the same level as the cab door handle.</p> <p>The cameras shall be wired to dual Weldon Vista displays which shall be located on the driver and officer sides of the dash. The rear camera shall activate when the transmission is placed in reverse and the right camera shall activate with the right side turn signal. Each camera shall also be activated by a button on the Vista displays.</p>		
<p>CAB EXTERIOR PROTECTION</p> <p>The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.</p>		
<p>FIRE EXTINGUISHER</p> <p>A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.</p>		
<p>DOOR KEYS</p> <p>The cab and chassis shall include a total of four (4) door keys for the manual door locks.</p>		
<p>DIAGNOSTIC SOFTWARE OCCUPANT PROTECTION</p> <p>Diagnostic software for the Advanced Protection System shall be available for free download</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>from the Manufacturer's website to authorized OEMs, dealers and service centers, as well as the vehicle owner.</p> <p>The software has been validated to be compatible with the following RP1210 interface adapters:</p> <ul style="list-style-type: none"> • Dearborn Group DPA4 Plus • Noregon Systems JPRO® DLA+ • Cummins INLINE5 • Cummins INLINE6 • NexIQ™ USB-Link™ 		
<p><u>CAB AND CHASSIS LABELING LANGUAGE</u></p> <p>The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English.</p>		
<p>CHASSIS OPERATION MANUAL</p> <p>There shall be two (2) digital copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.</p>		
<p>ENGINE AND TRANSMISSION OPERATION MANUALS</p> <p>The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:</p> <p>(1) Hard copy of the Engine Operation and Maintenance manual with CD</p> <p>(1) Digital copy of the Transmission Operator's manual</p> <p>(1) Digital copy of the Engine Owner's manual</p>		
<p>SERVICE/WARRANTY REQUIREMENTS</p> <p>Successful vendor will be required to provide a detailed list of filters, recommended lubricant viscosities, and any other warranty requirements associated with this unit.</p>		
<p>CAB/CHASSIS AS BUILT WIRING DIAGRAMS</p> <p>The cab and chassis shall include two (2) digital copies of wiring schematics and option wiring diagrams.</p>		
<p>EXHAUST</p> <p>The chassis horizontal exhaust pipe shall be equipped with a stainless steel heat shield to</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>protect the body compartments.</p> <p>The exhaust pipe shall discharge engine exhaust to the right side of the apparatus.</p>		
<p>MUDFLAPS</p> <p>Anti-sail mudflaps, shall be installed behind the rear wheels.</p>		
<p>REEL COMPARTMENTS</p> <p>The front extended bumper shall house the hydraulic hose reel in a specially designed compartment recessed in the right side of the gravelshield. The center section shall be open for storage of hydraulic rescue tools and the left side shall be for 100 feet of 2" hose and nozzle.</p> <p>The compartment shall be constructed of 3/16" aluminum sheeting and shall be raised above the gravelshield approximately five inches.</p> <p>The compartments shall have a common flip lid that open toward the cab to allow the reel to be easily serviced. The lid shall include power lift hold open cylinders and stainless steel latches to hold the lids securely in place.</p>		
<p>TIRE CHAIN ADJUSTMENT AND TESTING</p> <p>The automatic tire chains furnished with the custom chassis shall be adjusted and road tested to assure proper operation.</p>		
<p>FUEL FILL</p> <p>The fuel fill of the custom chassis shall be located in the drivers side rear fender area and have a painted stainless steel door and be labeled: "DIESEL FUEL ONLY"</p>		
<p>CAMERA MOUNTING</p> <p>The body builder shall mount the chassis supplied camera on the rear of the body.</p>		
<p>EMS COMPARTMENT</p> <p>An EMS compartment shall be installed on the floor at the rear wall. It shall be approximately 37" wide. Openings shall be from either side. The bottom shall be 32" front to rear X 12" high. On top of the base will a section 36" high X 24" front to rear.</p> <p>One adjustable shelf shall be provided in the upper section.</p> <p>A removable cargo net shall be provided for retaining stored equipment on each end.</p> <p>The compartment shall be constructed of aluminum and will have a Rino-Liner finish.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Storage compartment shall be compliant per NFPA standard for automotive fire apparatus.</p>		
<p>COMPARTMENT LIGHT</p> <p>Compartment shall have a light installed on the side wall of the compartment. The light shall be controlled by a switch.</p>		
<p>RADIO ANTENNA MOUNT</p> <p>An antenna mounting base, Model MATM with 17 feet of coax cable and weatherproof cap shall be provided for a two way radio.</p> <p>The mount shall be located on the cab roof just to the rear of the officer seat.</p> <p>The cable shall be routed to the officer side interior for customer to route to the instrument panel if needed.</p>		
<p>RADIO MOUNTING</p> <p>Fire Department supplied pre-programmed radio will be installed in the cab.</p>		
<p>ENGINE TUNNEL ACCESSORIES</p> <p>The engine tunnel shall feature a fabricated aluminum console which shall include a large storage bin with dividers and a map compartment. There shall be two (2) cup holders included in the console.</p>		
<p>PUMP CONTROL</p> <p>Provisions shall be made for placing the pump drive system in operation using controls and switches that are identified and within convenient reach of the operator.</p> <p>A "Pump Engaged" indicator shall be provided in the driving compartment and on the operator's panel to indicate that the pump shift process has been successfully completed. An "OK to Pump" indicator shall be provided in the driving compartment to indicate that the pump is engaged, the chassis transmission is in pump gear, and the parking brake is engaged.</p> <p>The fire pump-shift system shall be equipped with a means to prevent unintentional movement of the control device from its set position. The system shall include a nameplate indicating the chassis transmission shift selector position to be used for pumping and located so that it can be easily read from the driver's position.</p> <p>The system shall include the applicable NFPA standard interlocks, pump shift and OK TO PUMP indicator lights in the cab and pump panel. The fire pump system shall be equipped with an interlock system to ensure that the pump drive system components are properly engaged in the pumping mode of operation so that the pumping system can be safely operated from the pump operator's position.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>If applicable, the secondary braking device shall be automatically disengaged for pumping operations.</p>		
<p>ANODE SYSTEM</p> <p>Two (2) anodes shall be installed in the pump to prevent damage caused by galvanic corrosion within the pump.</p> <p>One (1) installed in the suction side of the pump and one (1) installed in the discharge side of the pump.</p> <p>The anodes should be inspected every 12 months and replaced when over 75% of the zinc has been consumed. Performance of the anode life will vary with water quality and PH.</p>		
<p>PUMP</p> <p>WATEROUS CSUC20C 1500 GPM single stage midship mounted centrifical pump or a Hale QMAX 1500 GPM Single Stage midship mounted centrifical pump.</p> <p>The pump must deliver the percentage of rated capacity at the pressure listed below:</p> <ul style="list-style-type: none"> 100% of rated capacity at 150 PSI net pump pressure 100% of rated capacity at 165 PSI net pump pressure 70% of rated capacity at 200 PSI net pump pressure 50% of rated capacity at 250 PSI net pump pressure <p>THE PUMP shall be of single stage construction and shall comply with all applicable requirements of the latest standards for automotive fire apparatus of the National Fire Protection Association, NFPA NO. 1901, and shall have a rated capacity of 1500 gpm or greater.</p> <p>PUMP shall be free from objectionable pulsation and vibration under all normal operating conditions.</p> <p>PUMP BODY shall be close grained gray iron and must be horizontally split in two sections for easy removal of the entire impeller shaft assembly, and designed for complete servicing from the bottom of the truck without disturbing setting of the pump in the chassis or apparatus piping which is connected to the pump.</p> <p>Pump body halves shall be bolted together on a single horizontal face to minimize leakage and facilitate reassembly.</p> <p>DISCHARGE MANIFOLD shall be cast as an integral part of the pump body assembly and shall provide at least three full 3-1/2 inch openings for ultimate flexibility in providing various discharges outlets for maximum efficiency, and shall be located as follows:</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>One outlet on the right side of the pump body</p> <p>One outlet on the left side of the pump body</p> <p>One outlet directly on top of the pump discharge manifold</p> <p>IMPELLERS shall be bronze with double suction inlets, accurately balanced (mechanically and hydraulically), of mixed flow design with reverse flow, labyrinth type, wear rings that resist water bypass and loss of efficiency due to wear. <u>Flame plated impeller hubs are standard to assure longer life despite the presence of abrasives in the water supply.</u></p> <p>WEAR RINGS to be bronze, and shall be easily replaceable to restore original pump efficiency and eliminate the need for replacing the entire pump casing due to wear.</p> <p>IMPELLER SHAFT shall be stainless steel, accurately ground to size, and supported at each end by oil or grease lubricated anti-friction ball bearings for rigid and precise support.</p> <p>Bearings shall be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals.</p> <p>The impeller shaft shall be of two piece construction separable between the pump and pump transmission to allow true separation of the transmission from the pump without disassembly of either component.</p> <p>No sleeve type bearings shall be used.</p> <p>STUFFING BOXES shall be equipped with two piece glands to permit adjustment or replacement of packing without disturbing pump.</p> <p>Lantern rings shall be located at inner ends of stuffing boxes so that all rings of packing can be removed without removal of the lantern rings.</p> <p>Water shall be fed into stuffing box lantern rings for proper lubrication and cooling when the pump is operating.</p> <p>PUMP TRANSMISSION shall be rigidly attached to the pump body assembly and be of latest design incorporating a high strength, involute tooth form Hy-Vo chain drive(or approved equal) capable of operating at high speeds to provide smooth, quiet transfer of power.</p> <p>The shift engagement shall be accomplished by a free sliding collar and shall incorporate an internal locking mechanism to insure that collar will be maintained in ROAD or PUMP position.</p> <p>PUMP SUCTION STRAINERS - The suction fittings shall include removable, die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>in the pump.</p>		
<p>WATEROUS or HALE PUMP CONDITIONAL WARRANTY</p> <p>Waterous or Hale Company warrants to the original buyer that products and parts manufactured by Waterous or Hale will be free from defects in material and workmanship under normal use and service for a period of five (5) years from the date the product is first placed in service or 5-1/2" years from the date of shipment by Waterous or Hale, whichever period shall be the first to expire.</p>		
<p>WATEROUS or HALE DISCHARGE RELIEF VALVE</p> <p>The relief valve system shall be positive and quick acting, and shall have a control valve to provide instantaneous hydraulic lock-out which does not require the operator to cancel out or disturb the pressure setting.</p> <p>Relief valve control (pilot valve) shall be protected from malfunction due to sand or other sediment in the water by a strainer which can be removed, cleaned and replaced from the operator's panel while the pump is operation.</p> <p>Relief valve indicator lights shall be provided and mounted on the panel adjacent to the pilot valve assembly.</p> <p>The indicator lights are to be "amber" and marked OPEN to indicate the relief valve is bypassing and "green" marked CLOSED to indicate the relief valve is closed.</p>		
<p>AIR POWERED-TYPE PRIMER SYSTEM - MANUALCONTROL</p> <p>The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multi-stage, venture based AirPrime System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump. The priming system shall have a five year warranty.</p>		
<p>ENGINE MONITORING DISPLAY</p> <p>Fire Research TachP3 model TPA600-A00 engine monitoring display kit shall be installed. The kit shall include a display module, audible alarm buzzer, and cables. The display module shall consolidate four (4) instruments into one device. The case shall be waterproof and have dimensions not to exceed 4.2" high by 4.2" wide by 0.7" deep. Inputs for engine information shall be from a J1939 (or ISO11898) CAN bus.</p> <p>The following continuous LED displays shall be provided:</p> <ul style="list-style-type: none"> Engine RPM Oil Pressure 		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Engine Coolant Temperature Battery Voltage When available on J1939 the Transmission Temperature is visible with the push of a button.</p> <p>The program shall have self-diagnostic capabilities. It shall monitor inputs and support programmable audible and visual warning alarms for the following conditions: Low Oil Pressure Low Battery Voltage High Battery Voltage High Engine Coolant Temperature</p>		
<p>REMOTE THROTTLE CONTROL - CHASSIS SUPPLIED</p> <p>The throttle control furnished with the custom chassis shall be installed at the pump panel.</p>		
<p>PIPING</p> <p>All piping shall be heavy duty 304 grade schedule 10 stainless steel or Class 1 high pressure flexible hose. All stainless steel fittings shall be threaded or welded.</p> <p>Class 1 flexible hose shall be Black SBR synthetic rubber hose with 300# working and 1200# burst pressure with stainless steel fittings.</p> <p>Whenever possible, sweep type elbows shall be utilized in order to reduce friction loss, thread-in 45's and 90's will be used elsewhere.</p> <p>Victaulic or rubber couplings shall be used where necessary to allow flexing of plumbing which will prevent damage or loosening of the piping if connected rigidly.</p> <p>All threaded joints shall have non-hardening type sealant for easy removal for repairs.</p> <p>All piping, including intake and discharge lines shall be hydrostatically tested. A vacuum test shall be applied to the pump, plumbing, and valves to test for leaks. The system shall be tested and shall show minimum loss of no more than 10 inches of vacuum over a 5 minute period as required by NFPA section 16.13.6.4.</p>		
<p>AKRON VALVES</p> <p>All pump intake and discharge valves shall be AKRON 8000 Heavy Duty swing-out series. The valves shall have an all brass body with flow optimizing stainless steel ball, and dual polymer seats. The valves shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require the lubrication of seats or any other internal</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>waterway parts, and be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valves shall carry a ten (10) year manufacturers warranty. The valve shall be manufactured and assembled in the United States.</p>		
<p>AKRON VALVES</p> <p>All pump intake and discharge valves shall be AKRON 8000 Heavy Duty swing-out series. The valves shall have an all brass body with flow optimizing stainless steel ball, and dual polymer seats. The valves shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require the lubrication of seats or any other internal waterway parts, and be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valves shall carry a ten (10) year manufacturers warranty. The valve shall be manufactured and assembled in the United States.</p>		
<p>U.L. PUMP CERTIFICATION TEST</p> <p>One (1) certification test shall be performed at the manufacturers on site testing facility by Underwriters Laboratories.</p> <p>The certification shall include at minimum:</p> <ul style="list-style-type: none"> A) Pumping Test - NFPA 16.13.2 B) Pumping Engine Overload Test – NFPA 16.13.3 C) Pressure Control System Test - NFPA 16.13.4 D) Priming System Tests - NFPA 16.13.5 E) Vacuum Test - NFPA 16.13.6 F) Water Tank-To-Pump Flow Test - NFPA 16.13.7 G) If Fire Pump is Driven by the Chassis Engine: Engine Speed Advancement Interlock Test – NFPA 16.13.8 H) Gauge and Flowmeter Test – NFPA 16.13.9 <p>A test plate shall be provided at the pump operator's position that gives the rated discharges and pressures together with the speed of the engine as determined by the certification test. The plate shall be completely engraved with all information at the factory and attached to the vehicle prior to delivery. The original U.L. Certificate shall be provided upon acceptance and payment of the apparatus in full.</p>		
<p>VENTED LUG CAPS AND PLUGS</p> <p>All intake and discharge plugs and caps shall be vented lug type designed to relieve trapped pressure and help reduce possible operator injuries.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>STEAMER INLETS</p> <p>Two (2) 6" steamer inlets shall be provided on the pump panels, one (1) left side and one (1) on right side.</p> <p>Both to have screens and the left side to have chrome cap with long handles. The right side to have Kochek model SKE56L 30 degree elbow, yellow in color, 6" female NST with long handles to 5" Storz. It will have a Kochek Model #CC507, yellow in color, 5" Storz cap.</p>		
<p>WATEROUS INTAKE VALVE WITH RELIEF VALVE or Approved Equal - ELECTRIC OPERATED</p> <p>A Waterous Monarch Intake Valve shall be provided. Includes an extra short intake fitting, an intake butterfly valve and an intake nipple with integral relief valve mounting pad, all designed to fit behind the pump panel. The Monarch valve shall be controlled with an electric actuator with control and indicator lights located on operator's panel.</p> <p>A Waterous Intake Relief Valve shall be provided to make it less likely that "water hammer" will burst the supply line, and allows the discharge relief valve or governor system to properly control discharge pressure. The Waterous Intake Relief Valve system incorporates two separate units for ultimate flexibility in installation and operation: the pilot valve and the main valve. The pilot valve controls operation of the main valve and will be panel mounted to be easily field adjusted for varying operating conditions and will be preset at 125 PSI. It includes a removable strainer and removable needle valve for easy servicing. The main valve is a sliding piston type valve mounted on the pump inlet, with its outlet terminating in a 2-1/2 inch victaulic connection which will be piped to the appropriate location. The pilot valve control allows operation from closed to full open with very small pressure rise in the pump inlet.</p> <p>The intake valve shall be installed on the right side intake.</p>		
<p>WATEROUS INTAKE VALVE WITH RELIEF VALVE or Approved Equal - MANUAL</p> <p>A Waterous Monarch Intake Valve shall be provided. Includes an extra short intake fitting, an intake butterfly valve and an intake nipple with integral relief valve mounting pad, all designed to fit behind the pump panel. The Monarch valve shall be controlled with a manual worm gear actuator with control and indicator lights located on operator's panel.</p> <p>A pressure relief valve shall be included that is factory preset at 125 PSI. The pressure relief valve shall provide overpressure protection for the suction hose even when the intake valve is closed. The outlet of the relief valve shall be 2.5" in diameter to allow directing the discharge flow away from the pump operator's position.</p> <p>The intake valve shall be installed on the left side intake.</p>		
<p>SUCTION-LEFT SIDE / Right Side</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>A 2-1/2" suction valve shall be installed on the left side and right side of the unit with the valve body mounted behind the pump panel, with a 2-1/2" NST chrome inlet swivel, chrome plug and chain, and removable inlet strainer.</p>		
<p>TANK TO PUMP</p> <p>There shall be one 3" gated tank to pump line piped to the tank sump.</p> <p>Piping from the sump to the valve shall be 4" diameter.</p> <p>The line shall be plumbed directly into the back of the pump for maximum efficiency.</p> <p>A full-flow, in line ball valve, with check valve, shall be provided to prevent accidental pressurization of the water tank through the pump connection.</p> <p>A control will be located on the operator's panel with a function plate.</p>		
<p>TANK FILL - 2"</p> <p>There shall be a 2-1/2" tank refill line installed with a 2" inline valve.</p> <p>Valve shall be controlled at the pump operator's panel and will be clearly marked "TANK REFILL/PUMP COOLER".</p>		
<p>CROSSLAY HOSEBEDS W/ 2" PLUMBING</p> <p>Three (3) crosslays shall be installed over the pump compartment.</p> <p>Each section of the crosslay shall be capable of holding 200' of 2" double jacketed hose. <u>Forward crosslay will be single stack load and rear two (2) crosslays will be double stack load.</u></p> <p>A 2" mechanical swivel with 1-1/2" NST hose connector shall be used in each crosslay to provide access of hose in either direction.</p> <p>Stainless steel rollers with nylon guides shall be mounted on both ends and below crosslays.</p> <p>A 1/4" aluminum divider shall separate the crosslays and poly-plas matting shall be used on the crosslay floor.</p> <p>Each crosslay section shall have one 2" brass valve and shall be controlled at the operator's panel.</p>		
<p>CROSSLAY LID</p> <p>A polished aluminum diamond plate lid shall be provided over the crosslay(s).</p> <p>The lid shall have full length stainless steel hinge with velcro straps to hold lid firmly in place.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>VINYL FLAPS</p> <p>Each end of the crosslay or speedlay bins shall have Black vinyl flaps installed on each end to retain the hose load. The flaps shall be secured with shock cord fasteners.</p> <p>Meets NFPA 15.10.7 - Any hose storage area shall be equipped with a positive means to prevent unintentional deployment of the hose from the top, side, front, and rear of the hose storage area while the apparatus is underway in normal operations.</p>		
<p>DUNNAGE COMPARTMENT</p> <p>The remaining area behind the crosslay(s) shall be used for additional storage space.</p>		
<p>TRASHLINE - 1-3/4" W/2" PLUMBING</p> <p>One (1) trashline discharge shall be piped to the front bumper with 2" piping and 2" valve.</p> <p>Discharge shall terminate above the left front bumper with a Trident 2" Female NPT x 1.5" Male NH chrome swivel elbow.</p> <p>A control handle shall be provided on the pump operator's panel.</p>		
<p>DISCHARGES RIGHT SIDE</p> <p>Two (2) 2-1/2" discharges shall be located on the right side pump panel and be controlled from the operator's panel.</p> <p>Discharges shall terminate with a 2-1/2" NST 30 degree turn down with chrome cap and retainer chain.</p>		
<p>RIGHT 4" DISCHARGE</p> <p>A 4" Akron full flow discharge shall be located on the right side pump panel and be electric activated with control switches located on the operator's panel.</p> <p>Discharge shall terminate with a Kochek model SKE45R, Red in Color, 4" NST x 5" 30 degree Storz adapter with Kochek model #CC507 5" blind cap and retainer chain, Red in color.</p> <p>DISCHARGES LEFT SIDE</p> <p>Two (2) 2-1/2" discharges shall be located on the left side pump panel and be controlled from the operator's panel.</p> <p>Discharges shall terminate with a 2-1/2" NST 30 degree turn down with chrome cap and retainer chain.</p>		
<p>CLASS 1 FLOWMINDER VALUE SYSTEM, 4" LARGE DIAMETER DISCHARGE</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The aerial discharge shall be equipped with a Class 1 Flowminder Value system to give the pump operator or engineer an indication of actual volume of water (in gallons per minute) being discharged through the aerial waterway and the actual line pressure. The Flowminder shall show total flow when a single "Total Flow" button is depressed and held.</p> <p>The Flowminder Value system shall consist of:</p> <ul style="list-style-type: none"> • A digital display and mechanical pressure gauge shall be located on the pump panel. A chrome plated bezel with black corner inserts shall surround the pressure gauge. The flow display shall be weatherproof with super-bright digits at least 1/2" high. The pressure display shall be a 2-1/2" liquid filled, mechanical gauge with sub Z freeze protection. • A flow transmitter mounted in the discharge line piping between the pump and the discharge outlet. The transmitter is to consist of a weather resistant black composite housing with a stainless steel durable paddle wheel. The only part inserted into the water flow path shall be the paddle wheel. • A set of connecting cables to connect the digital display to the flow transmitter and to the apparatus power. • Machined mounting hardware to hold the transmitter in the correct position in the discharge line shall be provided and placed in strict accordance with the Class 1 mounting requirements as stated in the operation and instruction manual. <p>The flow meter shall be checked and calibrated prior to delivery of the apparatus.</p>		
<p>AROUND THE PUMP (ATP) FOAM SYSTEM, 1500GPM, A/B, SINGLE TANK</p> <p>A Williams Fire & Hazard Control, Inc. Model #WATP-1500V-A/B around the pump foam proportioning system shall be provided for the purpose of proportioning Class A and Class B foam concentrates into the suction side of fire pump. The system shall have foam solution capacities of 125-4800GPM @ .25-1% proportioning rates for Class A and 30-3750GPM @ 1-6% for Class B foam concentrates utilizing a common, infinitely adjustable metering valve and associated system components. The system shall be capable of operating at pump suction pressures up to 33% of pump main discharge pressure and shall produce foam solution at all discharge outlets simultaneously when in operation.</p> <p>CONTROL PANEL</p> <p>The foam system shall be controlled from the pump operators position and shall have a system control panel to include the following three controls:</p> <p style="padding-left: 40px;">System ON / OFF control valve Flush ON / OFF control valve Foam source control switch (TANK / AUXILIARY)</p> <p>FOAM CONCENTRATE EDUCTOR</p> <p>A Williams 2", High-Head jet pump eductor shall be provided for installation within the fire pump intake housing/piping to introduce foam concentrate into the suction side of the fire pump. The jet pump shall be supplied motive water from the fire pump discharge housing/piping when in operation. The jet pump eductor shall be capable of operating at pump suction pressures up to 33% of pump main discharge pressure.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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METERING VALVE

A common, infinitely adjustable proportioning metering valve shall be provided at the operator's position to allow for system proportioning capacity settings. Metering valve shall be of bronze construction with Teflon seats. Valve shall permit operator selection of .250, .500, 1.0, 3.0 and 6.0% proportioning settings at six specific and infinite intermediate solution flow rates and shall have integral OFF capability.

FOAM SUCTION STRAINER

A 2" bronze "Y" strainer with blow-down port shall be provided and installed within the jet pump foam suction piping to protect the foam system from foreign matter.

FOAM SUCTION CHECK VALVE

One, 2" check valve shall be provided and installed within the jet pump eductor foam suction piping to prevent back pressure and flushing water contamination of the foam concentrate storage tank.

B FOAM CONCENTRATE & FLUSHING INTAKE

A 2" gated foam concentrate and flushing intake located on the pump enclosure panel shall be provided. The quarter turn valve shall be provided with 2" male NPT threads and NPSH cap with retaining chain. The intake shall be piped to the foam jet pump suction piping between the A tank suction check valve and strainer and shall be utilized for external Class B foam concentrate source operation.

MOTIVE WATER CONTROL VALVE

A 1-1/2" manual motive water flow control valve shall be provided for installation in a minimum 1-1/2" port in the fire pump discharge housing/piping to supply pressurized motive water to the jet pump eductor water inlet to allow system operation. The valve shall be controlled from the main system control panel.

MOTIVE WATER STRAINER

A 1-1/2" bronze "Y" strainer with blow-down port shall be provided and installed within the jet pump motive water supply line to protect the foam system jet pump eductor inlet from foreign matter.

FLUSHING WATER VALVE

A 1" manual valve shall be provided for installation in a minimum 1" port in the fire pump discharge housing/piping for the purpose of utilizing the water pump for foam system flushing. The valve shall be controlled at the main system control panel.

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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FOAM SYSTEM PLUMBING

Piping and fittings outboard of the foam jet pump eductor shall be stainless steel, brass and/or high-pressure hose and shall not contain any galvanizing pipe due to potential adverse reactions with foam liquids. Victaulic or equivalent grooved couplings shall be used throughout the piping system to allow for chassis flex and ease of dismantling for repairs and maintenance. All gasket materials shall be compatible with foam liquids.

NFPA #1901 DESIGN AND PERFORMANCE REQUIREMENTS

The proportioning system shall be capable of proportioning foam concentrate in accordance with the foam concentrate manufacturer's recommendations for the types of foam concentrates used in the system over the system design range of flow and pressures. The foam proportioning system water flow characteristics and the range of proportioning ratios shall be specified as noted herein.

The foam system shall be in compliance with the current applicable sections of NFPA #1901 as it relates to this specified foam system. Foam system manufacturer options and/or components may be required in addition to those listed within these specifications to provide for full NFPA #1901 compliance as it relates to this specified foam system.

FOAM SYSTEM CONTROLS

The foam proportioning system operating controls shall be located at or near the pump operator's position and shall be clearly identified.

8valve calibrated and marked to indicate the rates of the foam concentrate proportioning available as determined by the design of the system.

LABELS, NAMEPLATES, AND INSTRUCTIONS SPECIFICATION

An instruction plate shall be provided for the foam proportioning system that includes, at a minimum, piping schematic of the system and basic operating instructions. A nameplate that is marked clearly with the identification and function shall be provided for each control, gauge, and indicator related to the foam proportioning system.

A label shall be provided on the pump operator's panel that identifies the types of foam concentrates that the foam proportioning system is designed to use. It shall also state the minimum/maximum foam proportioning rates at the minimum/maximum foam proportioning rated system flow and pressure.

MANUALS

Two (2) copies of an operations and maintenance manual shall be provided. They shall include a complete system diagram together with operating instructions and details outlining all recommended maintenance procedures.

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>YELLOW BACKGROUND PLATE</p> <p>There shall be a stainless steel background plate located on the pump panel directly behind the foam system controls. The background plate shall outline all the foam control handles for easy identification. The plate shall be painted a bright yellow.</p>		
<p>POLYPROPYLENE FOAM TANK</p> <p>There shall be one (1) Pro Poly 30 gallon polypropylene foam cell(s) incorporated into the polypropylene water tank.</p> <p>There shall be one (1) pressure/vacuum vent installed on the foam tank.</p> <p>There shall be one (1) drain hose connected to the foam cell. The drain shall have a 1/4 turn valve installed inside the pump house and it shall drain below the frame rail of the chassis.</p>		
<p>(2) 2-1/2" LEFT FRONT DISCHARGES (HOSEBED)</p> <p>Two (2) 2-1/2" discharges shall be piped to the left front of the hosebed and be controlled from the operator's panel.</p> <p>Each discharge shall terminate with a 2-1/2" NST 30 degree turn down, with chrome cap and retainer chain.</p>		
<p>3" DECK GUN DISCHARGE</p> <p>One (1) 3" deck gun discharge shall be plumbed to center of the dunnage area over the pump.</p> <p>Piping will be firmly supported and braced.</p> <p>The discharge shall be controlled at the operator's panel.</p> <p>Discharge shall terminate with 4 bolt flange.</p>		
<p>PORTABLE DECK GUN - APOLLO</p> <p>An Apollo model 3422 portable monitor with ground base shall be provided. Includes:</p> <p>One (1) stream shaper</p> <p>One (1) set of stacked tips</p>		
<p>AKRON SLO-CLOZ</p> <p>An Akron Slo-Cloz device shall be provided on each 3" discharge valve to limit the opening of the valve to no faster than 3 seconds per N.F.P.A. specifications.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The hydraulic device shall be operable from -40 deg. F to 140 deg. F.</p> <p>The device shall be made of corrosion-resistant materials and shall not add more than 1-1/2" to the valve height.</p>		
<p>PUMP MASTER DRAIN</p> <p>A master drain that will have the capacity to drain all lines and main pump at the same time. The master drain will be mounted on the left side panel and will be readily accessible.</p>		
<p>DRAIN VALVES</p> <p>The drain valves shall be Innovative Controls 3/4" ball brass drain valves with chrome-plated lift lever handles and ergonomic grips. Each lift handle grip shall feature built-in color-coding labels and a verbiage tag identifying each valve, also supplied by Innovative Controls. The colors labels shall also include valve open and close verbiage. The drain valves shall located in the lower portion of the pump panels.</p>		
<p>ENGINE COOLER</p> <p>The supplementary heat exchanger cooling system supplied on the chassis shall be completed to the panel to permit water from the discharge side of the pump to be circulated through the engine cooling system.</p> <p>Coolant inlet and outlet shall be continuous, preventing intermixing of engine coolant and pump water.</p> <p>The heat exchanger shall be of brass construction, with control valve located on operator's panel</p>		
<p>CONSTRUCTION</p> <p>The pump house shall be a properly supported structure mounted between the body and chassis cab and shall be bolted to the chassis frame rails. The panel shall be supported by 1-1/2" stainless steel tubing. (or approved equal)</p> <p>The pump and all of the pump mounted valves shall be completely enclosed by the pump house design.</p> <p>Left and right side pump house panels shall consist of upper and lower stainless steel removable panels.</p> <p>Stainless panels to be brushed satin finish 12 gauge 304 material to ensure longevity.</p> <p>The left side of the pump house shall consist of an upper hinged panel containing all required gauges.</p> <p>The lower panel shall contain left side specified discharges, inlets, drains, and pump controls.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The right side of the pump house shall consist of a double vertically hinged access door. The door will be swing open style with quick opening latch.</p> <p>A separate lower panel shall contain the specified right side mounted discharges and inlets and their respective drains.</p> <p>The bottom panel shall be fastened to the pump house with stainless steel bolts and shall be completely removable.</p>		
<p>PUSH/PULL VALVE CONTROL HANDLES</p> <p>For valve actuation, the apparatus pump panel shall be equipped with side mount valve controls.</p> <p>The ergonomically designed push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and verbiage. The control rod, double laminated locking clips and rod housing shall be stainless steel and provide a true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall minimize rod deflection, never need lubrication, and ensure consistent long term operation. Where required locking 1/4 turn push-pull T-handle controls will be provided.</p> <p>The control assembly shall include a decorative chrome plated zinc panel mounting bezel and 4 mounting bolts.</p>		
<p>IDENTIFICATION LABELS FOR PUMP PANEL</p> <p>Innovative Controls verbiage label bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These labels shall be designed and manufactured to withstand the specified apparatus service environment.</p> <p>The verbiage label bezel assemblies shall include a chrome plated panel mount bezel with durable easy to read UV resistant polycarbonate inserts featuring the specified verbiage and color coding. The UV resistant polycarbonate verbiage and color inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.</p>		
<p>SIDE MOUNTED OPERATOR'S PANEL</p> <p>The following items shall be located on the left side pump panel:</p> <p>*Individual 0-400# compound discharge gauges shall be provided for each 1.5" or larger discharge</p> <p>*One (1) -30 to 400 psi master pressure gauge</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>*One (1) -30 to 400 psi master vacuum gauge</p> <p>*One (1) engine oil pressure gauge with audible & visual alarm</p> <p>*One (1) engine water temperature gauge with audible & visual alarm</p> <p>*One (1) engine voltmeter</p> <p>*One (1) waterproof engine tachometer</p> <p>*One (1) auxiliary engine cooler control (heat exchanger)</p> <p>*Two (2) UL test connections</p> <p>*One (1) master pump house lighting switch</p> <p>*One (1) engine throttle control</p> <p>*One (1) relief valve control and open indicator light</p> <p>*One (1) primer control</p> <p>*All discharge controls</p> <p>*One (1) tank fill/pump bypass control</p> <p>*One (1) tank to pump valve control</p> <p>*One (1) pump ENGAGED indicator light</p> <p>*One pump certification plate</p> <p>*One liquid level meter with sensor in the water tank</p>		
<p>RUNNING BOARDS</p> <p>Running boards shall be provided on each side of the pump module and extend from the front of the side compartments forward to the back of the cab. Running boards shall be constructed of 1/8" aluminum diamond plate. The rear edge shall be formed upward 1-1/2" to provide a kick strip along the bottom of the pump panel. The outer edge shall be bent downward to provide a safety rail.</p> <p>Running boards are supported by 1.50" structural stainless steel tubing welded to the panel framing and shall be able to support a minimum of 500 pounds.(or approved equal) The running board stepping surface will comply with the latest version of NFPA 1901.</p>		
<p>PANEL LIGHTING</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The side mount pump panel shall be illuminated by four (4) TecNiq (model E10-W000-1) 6.00" LED lights with clear lens.</p> <p>Lights shall be mounted across the top of the gauge panel and shall be protected by a full width polished stainless steel shield.</p> <p>Lights are controlled by a master panel mounted lights switch.</p> <p>One (1) side pump panel light shall illuminated when the pump is shifted into gear form inside the cab, affording the operator illumination when first approaching the control panel.</p>		
<p>4.5" NOSHOK MASTER GAUGES</p> <p>The master intake and master discharge gauges shall be 4" diameter Noshok pressure gauges. Each gauge shall have a one-piece die-cast brass case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. Clear scratch resistant molded crystals with captive O-ring seals shall be used to ensure distortion free viewing and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40°F to +160°F. Each gauge shall meet ANSI B40.1 Grade 1A requirements with an accuracy of +/- 1% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.</p> <p>A polished chrome-plated brass bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauges shall be installed into decorative chrome-plated mounting bezels that incorporate valve-identifying verbiage.</p> <p>The master gauges shall be installed on the pump panel no more than 6 inches apart. The gauge on the left shall be the master pump intake gauge and display a range from -30 to 400 psi with Black graphics on a White background. The gauge on the right shall be the master pump discharge gauge and display a range from -30 to 400 psi with Black graphics on a White background.</p>		
<p>2-1/2" NOSHOK GAUGES</p> <p>The valve discharge gauges shall be 2 ½ " diameter Noshok pressure gauges. Each gauge shall have a one-piece die-cast brass case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. Clear scratch resistant molded crystals with captive O-ring seals shall be used to ensure distortion free viewing and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40°F to +160°F.</p> <p>Each gauge shall exceed ANSI B40.1 Grade B requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>joint and large tube base to increase the tube life and gauge accuracy. A polished chrome-plated brass bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauges shall be installed into decorative chrome-plated mounting bezels that incorporate valve-identifying verbiage and color labels. The gauges shall display a range from 0 to 400 psi with Black graphics on a White background.</p>		
<p>WATER TANK LEVEL GAUGE</p> <p>The apparatus shall be equipped with one (1) Class1 " Intelli-Tank " level gauge on the pump operators control panel. The tank level gauge shall indicate the water level on an easy to read LED display and show increments of 1/8 of a tank.</p> <p>The tank level gauge system shall include:</p> <ol style="list-style-type: none"> 1) A pressure transducer that is mounted on the outside of the tank in an easily accessible area. 2) A super bright LED 4-light display with a visual indication at nine accurate levels. 3) A set of weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power. 		
<p>FOAM TANK LEVEL GAUGE</p> <p>The apparatus shall be equipped with one (1) Class1 "Intelli-Tank" level gauge on the pump operators control panel. The tank level gauge shall indicate the foam level on an easy to read LED display and show increments of 1/8 of a tank.</p> <p>The tank level gauge system shall include:</p> <ol style="list-style-type: none"> 1) A pressure transducer that is mounted on the outside of the tank in an easily accessible area. Sealed foam tanks will require zero pressure vacuum vents. 2) A super bright LED 4-light display with a visual indication at nine accurate levels. 3) A set of weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power. 		
<p>TANK LEVEL GAUGE TAG, FOAM, STANDARD</p> <p>A foam tag shall be included with the Class 1 Intelli-Tank system</p>		
<p>WATER TANK</p> <p>The UPF Poly water tank shall be constructed of PT3™ polypropylene material. This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection. Tank shell thickness may vary depending on the application and may range from 1/2" to 1" as required. Internal baffles are generally 3/8" in thickness.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The tank shall have a capacity of 750 gallons and will be equipped with 4" vent/overflow</p>		
<p>TANK CONSTRUCTION</p> <p>The Poly water tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" PT3™ polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength. Tolerances in design allow for a maximum variation of 1/8" on all dimensions.</p>		
<p>CAPACITY CERTIFICATION</p> <p>All water tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly-Tank® III is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight.</p>		
<p>TANK LID</p> <p>The tank cover shall be constructed of 1/2" thick polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions. A minimum of two lifting dowels shall accommodate the necessary lifting hardware.</p>		
<p>TANK FILL TOWER</p> <p>The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a minimum dimension of 12" x 12" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe.</p>		
<p>OVERFLOW AND VENT PIPE</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The fill tower shall be fitted with an integral 4" ID schedule 40 P.V.C. combination overflow/vent pipe that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.</p>		
<p>TANK SUMP</p> <p>There shall be one (1) sump standard per tank. The sump shall be constructed of a minimum of 1/2" polypropylene and be located in the left front quarter of the tank, unless specified otherwise. On all tanks that require a front suction, a 3" schedule 40 polypropylene pipe shall be installed that will incorporate a dip tube from the front of the tank to the sump location. The sump shall have a minimum 3" N.P.T. threaded outlet on the bottom for a drain plug per NFPA.</p> <p>This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 3" above the inside floor.</p>		
<p>TANK OUTLETS</p> <p>There will be two (2) standard tank outlets: one for the tank-to-pump suction line, which shall be a minimum of 4" coupling and one for a tank fill line which shall be a minimum of a 2" N.P.T. coupling. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.</p>		
<p>WATER TANK MOUNTING</p> <p>The tank shall rest on the body cross members spaced a maximum of 22" apart, and shall be isolated from the cross members through the use of 1/4" to 1/2" rubber, 2-1/2" wide. The tank shall sit cradle-mounted using four (4) stainless steel corner angles 3" x 3" x 1/4" thick. Angles are welded directly to the body cross members. The angles shall keep the tank from shifting left to right or front to rear. The angles are also isolated from the tank through the use of 1/4" to 1/2" rubber. The tank is designed on the free-floating suspension principle and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The body or hose bed cross braces shall act as water tank retainers.</p>		
<p>BODY & COMPARTMENT CONSTRUCTION</p> <p>The complete apparatus body and sub frame shall be fabricated of 12 gauge type 304 grade stainless or extruded 3/16" of Aluminum construction.</p>		
<p>SUBFRAME</p> <p>A 1.50" x 3.00" tubular sub frame shall be fabricated to support the body and tank. Structural run the full length of the body across the top of the chassis frame rails. Appropriate cross members shall be utilized to ensure rigidity with cross members being space no more than 24" apart.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The complete body structure shall be secured to the chassis frame rails with high grade 5/8" diameter U-bolts.</p> <p>One inch x three inch heavy duty rubber sill will be installed between the body sub frame and chassis frame rails to prevent stress on the body and tank components. The rubber sill shall be retained by a full length stainless steel channel.</p>		
<p>STEPPING, STANDING, & WALKING SURFACES</p> <p>All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards.</p>		
<p>WHEEL WELLS</p> <p>12 gauge stainless steel wheel wells shall be an integral part of the body construction. (or approved equal)</p> <p>Wheel wells and cabinetry are to be designed so road debris will not be trapped on top of the cabinets.</p> <p>Full one piece circular, 24" deep stainless steel wheel well liners shall be installed.(or approved equal) The fender flares shall be bright polished stainless steel and are attached to the wheel well using stainless steel bolts.</p>		
<p>WIRING ACCESS PANELS</p> <p>Wiring access panels shall be provided in the body interior corner compartments. The panels shall be bolted in place to allow easy removal for service.</p>		
<p>FUEL TANK ACCESS</p> <p>If the apparatus is equipped with a rear frame mounted fuel tank a removable bolted on access panel will be provided in the rear compartment wall.</p>		
<p>REMOVAL OF BODY</p> <p>The completed body with all related parts will be able to be removed in its entirety and accompany the water tank when removed.</p>		
<p>FASTENERS</p> <p>All fasteners used in securing components to the body shall be type 304 stainless steel.</p>		
<p>COMPARTMENT VENTS</p> <p>Compartments shall have a minimum of two (2) 4" louvered stainless steel vents per</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
compartment. They shall be installed in the rear wall of each compartment in a fashion to prevent foreign matter and water from entering.		
COMPARTMENT DRAINS		
Duckbill type rubber floor drains will be installed in the corners of the lower compartment floors.		
RESCUE PUMPER COMPARTMENTS - FULL DEPTH & FULL HEIGHT LEFT AND RIGHT SIDE WITH ROLLUP DOORS		
L1: 72.00" High x 26.00" Deep x 48.00" Wide (or Approved Equal Size) Door Opening: 59.80" x 42.00" Wide		
L2: 40.00" High x 26.00" Deep x 64.00" Wide (or Approved Equal Size) Door Opening: 28.80" High x 56.50" Wide		
L3: 72.00" High x 26.00" Deep x 48.00" Wide (or Approved Equal Size) Door Opening: 59.80" High x 42.00" Wide		
RR: 28.00" High x 26.00" Deep x 46.00" Wide (or Approved Equal Size) Door Opening: 29.375" High x 43.50" Wide		
R1: 72.00" High x 26.00" Deep x 48.00" Wide (or Approved Equal Size) Door Opening: 59.80" x 42.00" Wide		
R2: 40.00" High x 26.00" Deep x 64.00" Wide (or Approved Equal Size) Door Opening: 28.80" High x 56.50" Wide		
R3: 72.00" High x 26.00" Deep x 48.00" Wide (or Approved Equal Size) Door Opening: 59.80" High x 42.00" Wide		
SQUARE BACK BODY DESIGN		
The rear side body compartments and the body side walls shall extend all the way to the rear of the apparatus and shall be squared off design.		
REAR BUMPER		
The rear bumper shall be fabricated of 1.50" x 1.50" and 1.50" x 3.00" structural tubing. The bumper shall be fully welded design and shall be welded to the rear side body compartments.		
The rear bumper shall be 12" deep and run full width of the vehicle (or Approved Equal)		
BUMPER STEP SURFACE		
The bumper step shall be covered with aluminum diamond plate with welded end caps. The		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
bumper stepping surface will comply with the latest version of NFPA 1901.		
<p>TRIM</p> <p>Any areas on the rear not covered with Chevron reflective stripping, shall be covered with Aluminum diamond plate.</p>		
<p>FRONT COMPARTMENT TRIM</p> <p>Front exterior wall of the front compartments shall be covered with Aluminum diamond plate.</p>		
<p>PUMP HOUSE TRIM</p> <p>The front of the pump house shall be covered with Aluminum diamond plate.</p>		
<p>EXTRUDED ALUMINUM RUB RAILS</p> <p>Rub rails shall be provided and installed below each side compartment. The rub rail assembly shall be constructed of 1.25" x 1.00" heavy-duty extruded aluminum tubing with 45 degree tapered poly end caps and will be DA finished. Rub rails shall be bolted to the lower exterior edge of the apparatus body, with 0.50" nylon spacers installed between the body and the rub rail.</p> <p>HOSE BED</p> <p>A stainless steel or aluminum hose bed with swirl finish shall be located above the water tank. The hose bed front and side walls shall be free of all sharp objects to prevent hose damage. There shall be two removable floor sections constructed of Ryerson fiberglass grating, model T-3500, 1" "T" bars with 35% open area. This will allow for proper ventilation and drainage of hose.</p>		
<p>FLUSH SIDE BODY PANELS</p> <p>Hose bed side walls shall extend to outside edge of the side compartments. Panel shall be constructed of 12 gauge 304 grade smooth stainless steel sheeting and be painted job color.(or approved equal)</p>		
<p>HOSE BED DIVIDERS</p> <p>Four (4) full length adjustable hose bed dividers shall be located in the hose bed area and shall be fully adjustable by means of stainless steel uni-strut tracking located at the front and rear of the hose bed.</p> <p>The dividers shall be of "one piece" 1/4" extruded aluminum construction with integral extruded bottom "T" bar which runs full length of the hose bed. A top 1/2" diameter smooth edge is provided to prevent damage to hose.</p> <p>The dividers shall be bolted in place with stainless steel fasteners and be easily adjusted from</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>side to side with simple hand tools.</p>		
<p>HOSE BED CAPACITY</p> <p>The hose bed shall be capable of holding the following hose:</p> <p>800 Feet of 2.50" DJ hose (300 feet Left pre-connect, 300 feet left pre-connect and 200 feet dead lay)</p> <p>1500 Feet of 5.00" LDH hose</p>		
<p>HOSE BED COVER</p> <p>An aluminum diamond plate two piece cover shall be installed over the main hose bed. The cover shall be reinforced and an be capable of supporting the weight of personnel walking on the cover.</p> <p>A bulkhead will be installed in the front of the hose bed to support the cover.</p> <p>The center section of the cover shall be raised 4.00 inches to allow for water runoff.</p> <p>The cover shall be hinged on each side of the body with full length 3/8" stainless steel piano hinges.</p> <p>Electric or Air operated power cylinders shall be provided each side at the front of the cover to automatically open the lid.</p> <p>Control switch shall be located in the operators panel and be properly labeled. A red hinged flip cover shall be provided over the switch to prevent accidental activation.</p> <p>Two (2) LED lights shall be provided under each cover/door and shall be automatically activated by setting the park brakes.</p> <p>Rear Black vinyl flaps shall be provided to retain the hose load.</p>		
<p>HAND RAILS</p> <p>Access hand rails shall be 1-1/4" in diameter extruded aluminum tubing with ribbed rubber inserts. Access rail escutcheons and brackets shall be chrome plated and attached with stainless steel bolts. Anchoring of posts and framing members for handrails of all types shall capable of withstanding a load of at least 225 pounds applied in any direction at any point along the rail.</p> <p>Hand rails and handholds shall be constructed so that three points of contact (two hands and</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
one foot, or one hand and two feet) can be maintained at all times while ascending and descending.		
VERTICAL HAND RAILS		
Two (2) 48" long hand rails shall be mounted vertically at the rear of the apparatus, one on each side of the rear compartment.		
HORIZONTAL HAND RAILS		
One (1) 72" long hand rail shall be mounted horizontally just below the hosebed.		
ACCESS STEPS		
There shall be a minimum of four (4) large steps, made of high strength die cast aluminum, with textured chrome plate finish shall be provided. Each step shall be mounted with an LED lighted backplate. Steps shall conform to NFPA-1901 requirements and shall be mounted with a maximum of 18" height between each step. Location: Rear of unit to allow easy access to the hose bed.		
SUCTION HOSE COMPARTMENT		
Compartments will be provided on left and right of the apparatus over the upper compartments. Each compartment will hold one (1) 6" x 10' suction hose and one (1) pike pole.		
COMPARTMENT DOORS		
Rear aluminum diamond plate suction hose access doors with twist lock latches will be provided for loading and unloading the equipment.		
ZICO QUIC-LIFT LADDER BRACKET		
A Zico model HLAS horizontal quic-lift horizontal ladder storage system will be provided and installed on the right side of the apparatus over the upper compartments. The right side center high side compartment width will be reduced by fifteen inches. Ladder mounting brackets will be designed to accommodate the roof ladder nested externally of the extension ladder on aluminum brackets. The Fresno ladder will be stored external of the other ladders. Clamps shall be designed so that when the Fresno ladder is removed for use, the other two ladders will be held in place. Ladders and hard suction shall automatically be lowered to a convenient height for safe and easy retrieval of the ladders and suction. The system is comprised of a electro-hydraulic lift system with built-in electric safety latch.		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>Control switch shall be mounted in the right side pump panel within view of the ladders.</p> <p>Flashing warning lights are provided on each end of the bracket. An audible alarm shall also be provided.</p> <p>Lights and beeper are activated when ladder bracket is in motion.</p> <p>Also the warning system will be wired to the Hazard warning light in the cab.</p> <p>The outward ends of the rack that protrude beyond the body of the apparatus shall have reflective material to indicate a hazard or an obstruction.</p>		
<p>AIR BOTTLE STORAGE COMPARTMENT (TRIPPLE COMPARTMENT)</p> <p>One (1) spare air bottle compartment shall be provided and located, in the front portion of the driver's side rear wheel well area. The compartment will be capable of holding three (3) spare air bottles. The compartment shall be fabricated of stainless steel(or approved equal) and lined to prevent vibration. The compartment shall have a drain hole in the floor.</p> <p>Each bottle position shall have a nylon strap with a loop to go over the valve of the bottle to prevent the bottle from coming out should the door not be secure.</p>		
<p>AIR BOTTLE STORAGE COMPARTMENT (SINGLE COMPARTMENT)</p> <p>One (1) spare air bottle compartment shall be provided and located, in the rear portion of the driver's side rear wheel well area. The compartment shall be fabricated of stainless steel(or approved equal) and lined to prevent vibration. The compartment shall have a drain hole in the floor.</p> <p>Each bottle position shall have a nylon strap with a loop to go over the valve of the bottle to prevent the bottle from coming out should the door not be secure.</p>		
<p>AIR BOTTLE STORAGE COMPARTMENT (TRIPLE COMPARTMENT)</p> <p>One (1) spare air bottle compartment shall be provided and located, in the front portion of the officer's side rear wheel well area. The compartment will be capable of holding three (3) spare air bottles. The compartment shall be fabricated of stainless steel(or approved equal) and lined to prevent vibration. The compartment shall have a drain hole in the floor.</p> <p>Each bottle position shall have a 1/2" nylon strap with a loop to go over the valve of the bottle to prevent the bottle from coming out should the door not be secure.</p>		
<p>FIRE EXTINGUISHER STORAGE COMPARTMENT (DOUBLE COMPARTMENT)</p> <p>One (1) fire extinguisher compartment shall be provided and located, in the rear portion of the officer's side rear wheel well area. The compartment will be capable of holding two (2) fire extinguishers, a 2 1/2 gallon water pressure and 20 lb. ABC. The compartment shall be fabricated of stainless steel(or approved equal) and lined to prevent vibration. The</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>compartment shall have a drain hole in the floor.</p>		
<p>COMPARTMENT DOOR(S)</p> <p>The wheel well compartment(s) where specified will have a vertically hinged painted stainless steel door(s) (or approved equal)with a twist lock latch. The door(s) shall be labeled: "SPARE SCBA CYLINDER"</p>		
<p>SHELF TRACKING, ADJUSTABLE</p> <p>A total of one (1) compartment shall be furnished with stainless steel(or approved equal) tracking installed to allow for installation of adjustable shelves. The tracking shall be installed vertically on the sides of the compartment walls.</p>		
<p>SHELVING - ADJUSTABLE</p> <p>A total of seven (7) adjustable shelves shall be provided and installed in customer specified location.</p> <p>Shelf construction where specified shall be rigid with 2" reinforcement on the front and rear, and fabricated of 3/16" aluminum.</p> <p>The shelving shall be adjustable by means of a threaded tightener that slide in a track to allow precise adjusting height.</p>		
<p>TRAYS - PULL OUT</p> <p>Two (2) slide out trays shall be provided and installed in customer specified location.</p> <p>Sliding tray where specified shall be mounted in a manner that provides for maximum clearance overhead.</p> <p>The tray shall have a capacity of 300 pounds in the fully extended position.</p> <p>The side mounted slides are to be equipped with ball bearings for ease of operation.</p> <p>Tray will lock automatically in the open and closed positions. Manual type locks will not be acceptable.</p>		
<p>VERTICAL PULL OUT TOOL BOARD</p> <p>A total of two (2) vertically mounted slide out tool boards shall be provided and installed in customer specified location.</p> <p>The tool board shall be fabricated of 3/16" aluminum pegboard sheeting with roller slides at the top and the bottom.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The tool board will lock automatically in the open and closed positions. Manual type lock will not be acceptable.</p>		
<p>FLOOR MATTING</p>		
<p>All compartment floors shall be lined with Black interlocking tiles with tapered edging at the front compartment opening.</p>		
<p>ROLLUP DOOR</p>		
<p>All compartments shall have AMDOR Roll-Up compartment doors with "satin" finish. (Or Approved Equal)</p> <p>Includes AMDOR magnetic door ajar and compartment light switch unit.</p>		
<p>ROLL UP DOOR DRIP PAN/SPLASHGUARD</p>		
<p>Each roller shutter door shall be equipped with a drip pan with built in splashguard. The drip pan shall attach to the pennant plate with spring pins to allow for easy removal and cleaning. The construction of the pan shall be a high strength aluminum alloy, and the splash guard and end cap are made from extruded and injection molded high-impact plastic.</p>		
<p>DOOR TRIM</p>		
<p>The trim around the roll up door shall have a satin finish.</p>		
<p>ELECTRICAL MANAGEMENT SYSTEM</p>		
<p><u>The apparatus shall be equipped with a multiplexed electrical system.</u> The multiplex system shall consist of all solid-state components contained inside aluminum extrusions referred to as nodes. Each node shall consist of (24) output channels and (24) input channels. All inputs and outputs will be configured into a scaleable electrical harness utilizing Duetsche connectors. The nodes must be waterproof and not require special mounting requirements.</p> <p>The system, at a minimum, shall be capable of performing the following functions: load management sequencing, switch loads, receive digital and analog signals, perform and report diagnostics, continuously report vehicle status and the system is expandable.</p> <p>“Real Time” data can be reported and displayed through several operator interface modules. The VFD is the display, user interface display. As an option the EL “Vista” provides a built-in, audible alarm and menu-driven, input switches.</p> <p>Placement of nodes throughout the apparatus enables a reduction in wire harness bundles, elimination of redundant harnesses and separate circuit boards, relay and circuit breakers, electrical hardware, separate electrical or interlock subsystems and associated electronics for controlling various electrical loads and inputs.</p> <p>The multiplex system shall be field-re-programmable and re-configurable by any authorized dealer or service center. This complete system shall eliminate the need for the following</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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separate components or devices: load manager, load sequencer, warning lamp flasher, headlamp flasher, door open notification system, interlock modules, separate volt meter and ammeter and temperature monitor.

The Base System Shall Include:

- Total Load Management
- Load Shedding Capabilities
- Load Sequencing Capabilities
- “On-Board” Diagnostics Readout
- Very Reliable, Solid-State Hardware
- Error Reporting
- Display Analog Data (pressure, temperature...)
- Continuous system monitoring and reporting
- Emergency warning lamp flasher
- Door Ajar System
- Field Configurable
- Expandability Capabilities
- Advanced PC Diagnostics

As-built wiring harness drawings and a master circuit list of electrical circuits that the apparatus builder installs shall be furnished in the delivery manuals. These schematics must show the electrical system broken down into separate functions, or small groups of related functions. Schematics shall depict circuit numbers, electrical components, harnesses, and connectors from beginning to end.

All wiring and electrical equipment shall meet N.F.P.A. 1901 (2009 edition) and SAE standards.

A master optical warning device switch that energizes all of the optical warning devices shall be provided.

The optical warning system shall be capable of two separate signaling modes during emergency operations. One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency and is calling for the right of way. The other mode shall signal that the apparatus is stopped and is blocking the right of way. Switching of modes shall be controlled by the parking brake.

All wiring harnesses and associated wiring shall be secured with nylon "ultra violet resistant" cable ties or bolted to the body with cable clamps.

Polyolefin "heat shrink" tubing with adhesive or Deutsch water tight connectors shall be used on all exterior wiring connections.

Flexible non-conductive polyurethane film shall be sprayed on all terminal studs, relays, starter, batteries, etc. To prevent corrosion.

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>JUNCTION BOX</p> <p>The electrical junction box for all 12 volt wiring shall be located in a convenient location. It will be recessed into the compartment wall not to protrude into the storage area. It shall have a removable access panel.</p> <p>The compartment shall be sealed and weather proof. All components in compartment shall have identification tags.</p>		
<p>CLEARANCE LIGHTS</p> <p>All required Clearance lights shall be provided at the rear and on each side of the unit to meet Federal regulations. <u>All lights will be (LED) Light Emitting Diode type with a five (5) year warranty.</u></p> <p>On apparatus 30 feet in length or longer, a Trucklite model 60072Y Amber LED turn signal light with stainless steel flange shall be mounted one (1) each side in rear wheel well area at approximately running board height.</p>		
<p>LED STEP AREA LIGHTING</p> <p>Four (4) step area lights shall be provided. One mounted each side on the front compartment face to illuminate the panel running board steps and two mounted at the rear of the unit to illuminate the rear tailboard step. These lights shall be activated when the parking brake is applied.</p> <p>Whelen 3SCOCD CR series 3.00" round LED lights shall be utilized. Depending on body application the lights will either be mounted in a rubber grommet or surface mounted with a chrome flange.</p>		
<p>HAZARD LIGHT</p> <p>A red flashing light shall be located in the driving compartment, and shall be illuminated automatically whenever the apparatus parking brake is not fully engaged and any passenger or equipment compartment door is open, any ladder or equipment rack is not in the stowed position, a stabilizer system is deployed, a powered light tower is extended, or any other device is opened, extended, or deployed that creates a hazard or is likely to cause damage to the apparatus if the apparatus is moved. The light shall be marked "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".</p>		
<p>LICENSE PLATE LIGHT</p> <p>One (1) Trucklite model 15055 LED license plate light and bracket shall be provided on the rear of the unit.</p>		
<p>EMERGENCY WARNING LIGHT SWITCH CONTROLS</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>All warning light switches shall be mounted in the cab in a readily accessible location.</p> <p>The master switch and individual switches furnished with custom chassis shall be utilized to allow preselection of lights. The light switches are to be "rocker" type with an internal indicator light to show when the switch is energized. All switches to be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches shall be done by either printing or etching on the switch panel.</p>		
<p>BACKUP LIGHTS</p> <p>Two (2) Whelen model 60C00VCR 600 series LED backup lights</p>		
<p>STOP/TAIL LIGHTS</p> <p>Two (2) Whelen model 60R00XRR 600 series MAX LED Brake/Tail lights</p>		
<p>DIRECTIONAL LIGHTS</p> <p>Two (2) Whelen model 60A00TAR 600 series LED arrow directional turn signal lights</p> <p>The backup lights, stop/tail lights, and directional lights along with rear lower level warning lights shall be installed on the lower rear face of the unit and shall be recessed in Cast polished aluminum housings.</p>		
<p>AMDOR COMPARTMENT LIGHTING</p> <p>AMDOR snap-in Luma Bar Integral LED lighting system. (or Approved Equal)</p> <p>Compartment lighting shall activate automatically by the opening and closing of the door.</p> <p>All main apparatus body compartments shall have door ajar switches.</p>		
<p>LED GROUND LIGHTING</p> <p>The apparatus shall be equipped with lighting capable of providing illumination at a minimum level of two (2) footcandle on ground areas within 30.00" of the edge of the apparatus in areas designed for personnel to climb onto the apparatus or descend from the apparatus to the ground level. Lighting designed to provide illumination on areas under the driver and crew riding area exits, which shall be activated automatically when the parking brake is set. Lights shall be installed in a manner that illuminates all walkways and steps for safe operation of the apparatus.</p> <p>TecNiq E10-WSOO-1 6.00" LED lights mounted in a stainless steel bracket shall be utilized.</p> <p>Two (2) lights mounted under the rear step. One (1) light located each side under the pump panel running boards.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>PUMP COMPARTMENT LIGHT</p> <p>One (1) SoundOff model ECVCSLLED10-10” LED pump compartment light shall be provided within the pump enclosure. The control switch shall be located on the pump operators panel.</p>		
<p>HOSE BED LIGHTS</p> <p>There shall be two (2) Whelen 3SCOCD CR series 3.00” round LED lights mounted at the front of the hose bed. The lights will be activated when the parking brake is applied.</p>		
<p>NFPA APPROVED UPPER LEVEL LIGHT PACKAGE</p> <p>ZONE A - FRONT UPPER</p> <p>A cab roof light bar will be furnished with the custom chassis.</p>		
<p>ZONE B & D - SIDE UPPER</p> <p>Two (2) Whelen 900 Series Super Red LED lights with chrome bezels will be mounted one each side on the upper front side corners of the body. The lights will have Clear lens.</p> <p>Two (2) Whelen 900 Series Super Red LED lights with chrome bezels will be mounted one each side on the upper rear side corners of the body. The lights will have Clear lens.</p>		
<p>ZONE C - REAR UPPER</p> <p>Two (2) Whelen 900 Series Super Red LED lights with chrome bezels will be mounted on the upper rear of the body. The lights will have Clear lens.</p>		
<p>ZONE C - REAR LOWER</p> <p>Two (2) Whelen 900 Series Super Red LED lights with chrome bezels will be mounted on the lower rear of the body. The lights will have Clear lens.</p>		
<p>WHELEN LOWER LEVEL LIGHTING</p> <p>ZONE A - LOWER</p> <p>Two (2) LED lights provided by chassis manufacture.</p>		
<p>ZONE B & D- SIDE LOWER</p> <p>One (1) LED lights provided by the chassis manufacture.</p> <p>Two (2) model 600 series Red Super LED with chrome bezel mounted one (1) each side in the rear body fender area. The lights will have Clear lens.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>ARROW STICK</p> <p>One (1) Whelen TAZ86 LED Traffic Advisor light shall be mounted center rear of unit. The TADCTL1 control head shall be mounted in the chassis cab. 1.74" high x 2.17" deep x 36.00" long</p> <p>The unit shall include eight (8) Linz6 LED lamps with amber lens.</p>		
<p>RECESS MOUNT DIRECTIONAL LIGHT</p> <p>The directional light shall be recess mounted for protection of the light.</p>		
<p>SIREN SPEAKER</p> <p>The siren speaker will be furnished with the custom chassis.</p>		
<p>SCENE LIGHTS - FEDERAL GHSCENE</p> <p>Six (6) Federal model GHSCENE halogen scene lights will be installed on the body.</p> <p>GHSCENE area lights feature two adjustable 20-watt halogen lamps which allow light to focus vertically and horizontally for maximum effectiveness.</p> <p>The durable polycarbonate housing provides protection to the vehicle's surface by minimizing galvanic reactions that may cause corrosion. In addition, all the electrical connections for GHSCENE light are inside the unit for added protection and durability. Each unit comes with a thick foam gasket to provide a tight seal against the vehicle's surface, even diamond plate.</p> <ul style="list-style-type: none"> • Two 20-watt halogen fixtures vertically and horizontally for maximum effectiveness • Internal electrical connections are protected from outside elements for increased service life • Thick foam gasket provides snug seal even on diamond plate surface • Replacement lamps are available at local hardware centers <p>Two (2) mounted each side of the body, one (1) at the front and one (1) at the rear, and two (2) on the rear face of the unit.</p> <p>Lights will be controlled by three individual switches located in the cab. Rear lights will also be activated when unit is put into reverse.</p>		
<p>CAB BROW SCENE LIGHT BAR</p> <p>A FireTech 72" scene light shall be provided and mounted below the emergency warning lights while still staying above the front face of the cab. This style of mounting allows for a streamlined installation that does not obstruct view of the warning light bar or take away from</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
the NFPA 1901 compliance.		
<p>HYDRAULIC DRIVEN AC ELECTRIC SYSTEM</p> <p>The generator shall be one (1) Hydraulic Driven Generator rated at 10,000 watts, 84/42 amps, 120/240VAC, 60Hz, 1-phase.</p> <p>The generator shall be designed and assembled by a company with no less than 20 years experience in the manufacture of hydraulic driven generators.</p> <p>The generator shall use a structural steel frame which affords protection to the components and provides a unitized mounting module.</p> <p>The generator shall use a cover consisting of NFPA approved diamond tread plate.</p> <p>The generator shall use a Self-Sealing Air Intake to prevent recirculation of exhaust air.</p> <p>The generator shall use a Twin Draft Air Duct for the alternator and heat exchanger; located on the same side of the generator.</p> <p>The generator shall be designed to utilize Dual-Fan Technology for cooling.</p> <p>The generator shall use a single heat exchanger to cool the hydraulic oil.</p> <p>The generator shall use an industrial type alternator with heavy-duty bearings and a brushless design.</p> <p>The generator shall use an axial piston hydraulic motor.</p> <p>The generator shall use an axial piston variable displacement hydraulic pump.</p> <p>The generator shall use a meter to monitor the frequency, voltage and amperage of each leg.</p> <p>The generator shall have top access to the oil filter, oil fill tube and electrical interface box.</p> <p>The generator shall not utilize electronic controls or a multiplex system to control the frequency.</p> <p>The generator shall be capable of producing the full nameplate power when driven from the vehicle PTO from idle to maximum engine speed.</p> <p>The generator shall be capable of being used while vehicle is either stationary or in motion.</p> <p>The generator shall be capable of normal operation using a commonly available premium hydraulic oil; Mobile DTE series or equivalent. All fluid service points shall be in close proximity to the reservoir for ease of scheduled maintenance.</p> <p>When properly installed, the generator shall be warranted for a period of not less than two (2) years or 2000 hours, whichever should come first.</p>		
<p>REMOTE START SWITCH FOR HYDRAULIC GENERATOR (CAB)</p> <p>There shall be a remote start switch installed in the cab for the hydraulic generator.</p>		
<p>120/240 ELECTRICAL SYSTEM</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>GENERAL</p> <p>All naked conductors shall be coated with liquid tape.</p> <p>Any fixed line voltage power source producing alternating current (ac) line voltage shall produce electric power at 60 cycles plus or minus 5 cycles.</p> <p>Except where superseded by the requirements of NFPA 1901, all components, equipment, and insulation procedures shall conform to NFPA 70, National Electrical Code (herein referred to as the NEC).</p> <p>Line voltage electrical system equipment and materials included on the apparatus shall be listed and installed in accordance with the manufacturer's instructions. All products shall be used only in the manner for which they have been listed.</p>		
<p>GROUNDING</p> <p>Grounding shall be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC.</p> <p>Ungrounded systems shall not be used. Only stranded or braided copper conductors shall be used for grounding and bonding.</p> <p>An equipment grounding means shall be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.</p> <p>The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.</p> <p>In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor.</p> <p>This conductor shall have a minimum amperage rating of 115 percent of the name plate current rating of the power source specification label as defined in Section 310-15 (Ampacities) of the NEC. A single conductor, properly sized to meet the low voltage and line voltage requirements shall be permitted to be used.</p> <p>All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.</p>		
<p>OPERATION</p> <p>Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence shall be permanently attached to the</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>apparatus at any point where such operations can take place.</p> <p>Provisions shall be made for quickly and easily placing the power source into operation. The control shall be marked to indicate when it is correctly positioned for power source operation.</p> <p>Portable Generator Installations shall comply with Article 445 (Generators) of the NEC.</p>		
<p>OVERCURRENT PROTECTION</p> <p>The conductors used in the power supply assembly between the output terminals of power source and the main overcurrent protection device shall not exceed 144 in. (3658mm) in length.</p> <p>For fixed power supplied, all conductors in the power supply assembly shall be Type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degrees F (90 degrees C).</p>		
<p>WIRING METHODS</p> <p>Fixed wiring systems shall be limited to the following: Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees F (90 degrees C), or Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees F (90 degrees C).</p> <p>Electrical cord or conduit shall not be attached to chassis suspension components, water or fuel lines, brake lines, hydraulic lines, exhaust system components, or low voltage wiring and shall be:</p> <p>Separated by a minimum of 12 in. (305mm) from exhaust piping or properly shielded, and separated from fuel lines by a minimum of 6 in. (152 mm) distance.</p> <p>Electrical cord or conduit shall be supported within 6" (152 mm) of any junction box and at a minimum of every 24 in. (610 mm) of run.</p> <p>Supports shall be made of nonmetallic materials or corrosion protected metal. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.</p>		
<p>WIRING IDENTIFICATION</p> <p>All line voltage conductors located in the main panel board shall be individually and permanently identified. The identification shall reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends shall be labeled showing function and wire size.</p>		
<p>WET LOCATIONS</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>All wet location receptacle outlets and inlet devices including those on hardwired remote power distribution boxes shall be of the grounding type, provided with a wet location cover, and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of NEC.</p> <p>All receptacles located in a wet location shall be not less than 24 in. (610 mm) from ground. The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees of vertical. No receptacle shall be installed in a face up position.</p>		
<p>DRY LOCATIONS</p> <p>All receptacles located in a dry location shall be of the grounding type.</p> <p>All receptacles shall be marked with the type of line voltage. (120 volts or 240 volts)</p>		
<p>ELECTRICAL SYSTEM TESTING</p> <p>The wiring and associated equipment shall be tested by the apparatus manufacturer or the installer of the line voltage system.</p> <p>The wiring and permanently connected devices and equipment shall be subjected to a dielectric voltage withstand test of 900 volts for 1 minute. The test shall be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switch in the circuit(s) closed. This test shall be conducted after all body work has been completed. Electrical polarity verification shall be made of all permanently wired equipment and receptacles to determine the connections have been properly made.</p>		
<p>OPERATIONAL TEST PER NFPA 1901 CHAPTER 19-14.4</p> <p>The apparatus manufacturer shall perform the following operation test and shall certify that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order.</p> <p>The prime mover shall be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.</p> <p>The power source shall be operated at 100 percent of its nameplate voltage for a minimum of 2 hours unless the system meets Category Certification as defined in NFPA 1901 chapter 19-14.5.</p>		
<p>LOAD CENTER</p> <p>A breaker box shall be provided with separate breakers for each light and/or outlet. Breakers will be rated to load demand. The load center shall be installed in customer specified location.</p>		
<p>CIRCUIT BREAKERS</p> <p>Individual breakers shall be provided for all online equipment to isolate a tripped breaker from affecting any other online item.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
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<p>TRANSFER SWITCH</p> <p>There shall be a transfer switch installed that will automatically switch from 120 volt shoreline power to 120 volt generator power when required and shall be wired to the electrical bar outlet.</p>		
<p>LED TELESCOPIC SCENE LIGHT</p> <p>Fire Research Spectra LED Scene Light model SPA530-J20 side mount push up telescopic light shall be installed. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 2 3/4" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.</p> <p>The lamphead shall have sixty (60) ultra-bright white LEDs, 48 for flood lighting and 12 to provide a spot light beam pattern. It shall operate at 240 volts AC, draw 1 amp, and generate 20,000 lumens of light. The lamphead shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall be no more than 5 7/8" high by 14" wide by 3 1/2" deep and have a heat resistant handle. The lamphead and mounting arm shall be powder coated. The LED scene light shall be for fire service use.</p> <p>Two (2) lights will be provided and mounted one each side on the front of the pump panels.</p>		
<p>HYDRAULIC RESCUE TOOL REEL</p> <p>An electric rewind hydraulic rescue tool reel with 100' of twin hydraulic line will be provided and mounted in the right front bumper. Twin hose shall terminate in R-1 compartment.</p> <p>Fire department shall install couplings.</p>		
<p>ELECTRIC CABLE REEL</p> <p>One (1) Hannay #ECR-1616-17-18 series electric cable reel with electric rewind, shall be provided on the apparatus. Reel shall have four (4) conductor wiring and four (4) fully enclosed collector rings. The reel shall be rated for continuous duty and installed to be easily accessible for removal, cord access, maintenance, and servicing.</p> <p>The power rewind cable reel spool areas shall be visible to the operator during the rewind operation, or the reel spools shall be encapsulated to prevent cable from spooling off the reel. Power rewind type reels shall have the control in a position where the operator can safely observe the rewinding operations. The rewind control or crank shall not be over 72 inches above the operator's standing position.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>The 12-volt electrical rewind supply cable shall be adequate size for reel capacity and protected with a circuit breaker sized for the cable and located at the power source. The rewind control shall be a Hannay #900-30 push sealed button with operational label next to button.</p>		
<p>REEL CAPACITY</p> <p>Reel shall be designed to hold 110 percent of the capacity needed for the intended cable length. The wire size shall be in accordance with NEC Table 400-5(A).</p>		
<p>LABELING</p> <p>A label shall be provided in a readily visible location adjacent to any permanently connected reel. It shall indicate the following: Current rating, Current type, Phase, Voltage, Total cable length.</p>		
<p>ELECTRICAL SUPPLY WIRING TO REEL</p> <p>The wiring shall terminate in a sealed conduit box at the reel with mechanical type connectors for quick removal of reel. The reel shall be wired to the breaker box and circuit breaker sized to wire size.</p>		
<p>ELECTRICAL CORD</p> <p>The reel shall be provided with one hundred fifty feet (200') of 10/4 yellow electrical cable, type SEO W-A, 30 amp, 240 volt wire.</p>		
<p>REEL MOUNTING LOCATION</p> <p>Reel to be mounted in compartment as directed by the Fire Department.</p>		
<p>CABLE ROLLER ASSEMBLY FOR REELS</p> <p>Hannay model #EH-678 captive type roller assembly shall be installed at the electric cord and hydraulic hose reel assembly. The rollers shall be mounted to permit the cable or hose to feed directly off the reel.</p>		
<p>CORD REEL JUNCTION BOX(ES)</p> <p>There shall be (1) back lighted electrical junction box(es), equipped with four (4) electrical receptacles, two on each side. Each receptacle shall be equipped with a spring loaded snap cover. A cord reel shall be prewired to the cast aluminum junction box to supply power to the four receptacles. An extension cord shall be connected to the junction box through a heavy duty water resistant strain relief and flexible extender. Each side of the junction box shall be fitted with polypropylene faceplates which are back lighted so that plug orientation to the</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
receptacles is quick and easy to align.		
<p>RECEPTACLE, JUNCTION BOX, DUPLEX, NEMA 5-20P</p> <p>There shall be two (2) Akron, Extenda-Lite, NEMA 5-20P duplex, household type receptacle(s) installed in the junction box. The receptacle shall be rated at 20 amps and 125 volts.</p>		
<p>RECEPTACLE, JUNCTION BOX, SINGLE, NEMA L5-20P</p> <p>There shall be two (2) Akron Extenda-Lite, NEMA L5-20P single, twist lock single receptacle(s) installed in the junction box. The receptacle shall be rated at 20 amp and 125 volts.</p>		
<p>120 VOLT TWIST LOCK RECEPTACLE(S)</p> <p>There shall be two (2) NEMA L5-20, 120 Volt 20 ampere rating Twist Lock type receptacle(s) wired to the generator. The receptacle(s) shall have a spring loaded weather resistant cover.</p>		
<p>240 VOLT TWIST LOCK RECEPTACLE(S)</p> <p>There shall be one (1) NEMA L14-30, 240 Volt 20 ampere rating Twist Lock type receptacle(s) wired to the generator. The receptacle(s) shall have a spring loaded weather resistant cover.</p> <p>The receptacle shall be located in R1 compartment.</p>		
<p>120 VOLT RECEPTACLE OUTLET BAR(S)</p> <p>There shall be one (1) outlets bar(s) installed on the apparatus. Each outlet bar shall have six (6) receptacles. The outlet bar(s) shall be wired directly to the shoreline.</p>		
<p>PAINT AND PREPARATION</p> <p>All metal surfaces will be properly sanded, prepared and finished ready for our Axalta Coating Systems pretreatment. This is done to insure optimum adhesion, corrosion resistance, and durability.</p> <p>After pretreatment, 1220S Axalta Coating Systems 5000 URO primer filler is applied designed to fill any minor surface defects and provide an adhesion layer between the pretreatment and the Imron Base Coat/Clear Coat. This is also applied to improve color gloss, retention, and durability of the paint (or other equal system/products).</p> <p>Next the URO primer will be sanded to a smooth prepainting surface. The surface will be decontaminated and prepared for application of High Solids Axalta Coating Systems Productive <u>Base Coat/Clear Coat finish</u> to complete the finished paint process.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>A full inspection is performed of Defects, Depth Imagery, Gloss, Film Build, Color Match and Texture, all to meet or exceed Axalta Coating Systems OEM fleet finish specifications.</p> <p>Body assemblies that cannot be finish painted upon assembly shall be painted prior to finish assembly. All doors are removed and painted separate from the body.</p> <p>Prior to reassembly and reinstallation of lights, handrails, door hardware, and any miscellaneous items; a gasket material or silicone sealant shall be applied to prevent damage to the finish painted surfaces and to protect against electrolysis between dissimilar metals.</p> <p>Touch up paint shall be provided for each color paint used.</p> <p>The complete apparatus body will be painted a single color. The cab shall be ordered painted White from the chassis supplier. The lower portion of the cab and cab door jambs will be painted to match the body color.</p> <p>Paint Break Line to be determined at Pre-Paint Inspection.</p> <p>Upper Body Color: Black - to match PPG Paint # FBCH 9000 Lower Body paint Color: Red - to match PPG Paint# FBCH71096 ALT</p>		
<p>LETTERING</p> <p>Lettering shall be provided. It shall be computer generated, reflective with a black border.</p> <p>Computer generated lettering configuration provides a proportional layout design and durable finish.</p> <p>Included will be a maximum of sixty five (65) three (3) inch letters.</p>		
<p>REFLECTIVE STRIPING</p> <p>A 1" - 4" -1" wide black reflective stripe shall be applied to the unit in a with a reverse Z on the L-1 and R-1 compartment.</p> <p>Per NFPA 15.9.3.1 this shall include at least 50 percent of the cab and body length on each side, excluding the pump panel areas, and at least 25 percent of the width of the front of the apparatus.</p>		
<p>REFLECTIVE CHEVRON - NFPA 15.9.3.2</p> <p>50 percent of the rear-facing vertical surfaces, visible from the rear of the apparatus shall be equipped with retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees. Each stripe shall be 6" in width.</p>		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
Stripe Colors will be diamond grade Red & Fluorescent Yellow.		
EQUIPMENT The following equipment shall be provided along with any necessary mounting brackets. All other NFPA required equipment shall be furnished and mounted by the purchaser.		
SUCTION HOSE Two (2) Maxi Flex 6" x 10' light weight PVC Suction hose with male and 6" long handled female couplers.		
SUCTION HOSE STRAINER One (1) Kocheck model LL60 6.00" low level strainer with jet siphon will be provided and mounted in customer specified location.		
14' ROOF LADDER One (1) Duo-Safety 775-DR, 14' roof ladder shall be provided. Ladder shall consist of a single section aluminum ladder with folding steel hooks on both ends of the ladder. Ladder shall meet or exceed the latest NFPA standards.		
24' EXTENSION LADDER One (1) Duo-Safety 900-A, 24' extension ladder. Ladder shall consist of 2 aluminum sections. Ladder shall meet or exceed the latest NFPA standards.		
FRESNO LADDER A Duo-Safety FRESNO Aluminum Attic Ladder model 12-701, 12' attic ladder specifically designed for indoor use where space is limited, they are particularly ideal for entering attics through ceiling trap doors and similar close-quarter situations. The "Fresno" Attic Ladder features strong, light weight channel construction and is only 13" wide, making carrying easier on narrow stairways where longer, bulkier ladders cannot be used. Ladder shall meet or exceed the latest NFPA standards.		
FLAT HEAD AXE One (1) 8 lb steel flat head axe with a fiberglass handle shall be supplied and mounted in customer specified location		
PICK HEAD AXE One (1) 8lb steel pick head axe with a fiberglass handle shall be supplied and mounted in customer specified location.		

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
<p>20LB ABC EXTINGUISHER</p> <p>One (1) Amerex model FE-423 w/#810 bracket, 20 LB ABC Stored Pressure Dry Chemical Extinguisher shall be provided and mounted in wheel well storage tube.</p>		
<p>2-1/2 GALLON PRESSURE WATER EXTINGUISHER</p> <p>One (1) Amerex model FE-240 w/810 bracket, 2-1/2 gallon pressure water extinguisher shall be provided and mounted in wheel well storage tube.</p>		
<p>WHEEL CHOCKS</p> <p>Four (4) Zico SAC 44 folding wheel chocks will be provided with Zico SQCH-44-H horizontal holders.</p> <p>The wheel chocks shall be mounted under the left front compartment and right front compartment</p>		
<p>FIRE VULCAN® LED</p> <p>There shall be two (2) Fire Vulcan LED hand lantern and chargers installed on the apparatus. The lights shall be wired direct to the chassis batteries.</p>		
<p>SURVIVOR C4 LED</p> <p>There shall be four (4) SURVIVOR C4 LED hand lights and chargers installed on the apparatus The lights shall be wired direct to the chassis batteries.</p>		
<p>SPANNER WRENCH SET W/HYDRANT WRENCH</p> <p>Two (2) sets of Red Head style 148-3 spanner wrenches shall be provided and mounted in customer specified location. Includes (1) 105 Hydrant wrench and (2) 101 spanner wrenches with mounting bracket.</p>		
<p>SPANNER WRENCH SET</p> <p>One (1) set of Red Head style 146-2 spanner wrenches shall be provided and mounted in customer specified location. Includes (2) 101 spanner wrenches with mounting bracket.</p>		
<p>SPANNER WRENCH - LDH</p> <p>Two (2) set of Snap-Tite model FSph1L - Set of four (4) storz wrenches w/holder will be provided and mounted in customer specified location.</p>		
<p>HEADSET SYSTEM</p> <p>A Firecom headset communication system for four (4) people shall be provided and installed. The system will include one (1) radio interface, two (2) under helmet wireless headsets, two</p>		

ITB# 6016 – TRIPLE COMBINATION PUMPER
SPECIFICATION CHECKLIST

CITY'S SPECIFICATION'S

BIDDER COMPLIE'S

	YES	NO
(2) hardwired under helmet headsets, and four (4) headset hangers.		
<p>SAFETY FIRE VEST</p> <p>The NFPA required Safety Vest will be supplied and installed by the purchaser before the truck is placed into service</p>		
<p>TRAFFIC CONES</p> <p>The NFPA required traffic cones will be supplied and installed by the purchaser before the truck is place into service.</p>		
<p>AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)</p> <p>The NFPA required AED will be supplied and installed by the purchaser before the truck is placed into service.</p>		
<p>BACKBOARD STORAGE</p> <p>There shall be a compartment constructed on the underside of the hosebed cover to house a backboard.</p>		

INSURANCE CHECKLIST

(Fire Dept. – Pumper Truck)

REQUIRED COVERAGE (marked by "x")

MINIMUM LIMITS

- 1. Worker's Compensation (proprietor/partners/executive officers exclusion not allowed) Statutory limits of Tennessee and Employer's Liability \$100,000/accident, \$100,000/disease, \$500,000/disease policy limit
- 2. Commercial General Liability (including Premises/Operations) \$1,000,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- 3. Automobile Liability & Owned/Hired/Non-Owned Vehicles \$500,000 BI/PD each accident, Uninsured Motorist
- 4. Independent Contractors \$1,000,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- 5. Products/Completed Operations \$1,000,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- 6. Contractual Liability \$1,000,000 CSL BI/PD each occurrence, \$1 Million annual aggregate
- 7. Personal and Advertising Injury Liability \$1,000,000 each offense, \$1 Million annual aggregate
- 8. Umbrella Liability \$1 Million Bodily Injury, Property Damage and Personal Injury
- 9. Per Project Aggregate
- 10. Professional Liability \$1 Million per occurrence/claim
 - a. Architects and Engineers \$1 Million per occurrence/claim
 - b. Asbestos Removal Liability \$2 Million per occurrence/claim
 - c. Medical Malpractice \$1 Million per occurrence/claim
 - d. Medical Professional Liability \$1 Million per occurrence/claim
- 11. Miscellaneous E & O \$1 Million per occurrence/claim
- 12. Motor Carrier Act End. (MCS-90) \$1 Million BI/PD each accident, Uninsured Motorist
- 13. Motor Cargo Insurance
- 14. Garage Liability \$1 Million Bodily Injury, Property Damage per occurrence
- 15. Garagekeepers Liability \$500,000 Comprehensive, \$500,000 Collision
- 16. Inland Marine-Bailee's Insurance \$ _____
- 17. Moving and Rigging Floater Endorsement to CGL
- 18. Dishonesty Bond \$ _____
- 19. Builder's Risk/Installation Floater Provide coverage in the full amount of contract
- 20. XCU Coverage Endorsement to CGL
- 21. Carrier Rating shall be Best's Rating of B++V or better or its equivalent
- 22. Notice of cancellation, non-renewal or material change in coverage shall be provided to City at least **30 days** prior to action. Worker's Compensation and/or non-payment of premium - notification may be **10 days** prior to action.
- 23. The City of Johnson City shall be named as Additional Insured on all policies except Worker's Compensation, Auto and Professional Liability. **Per Acord 25 (2009/01), policies must be endorsed; please submit copy of endorsement.** (Cert. Holder: City of Johnson City, Attn: Purchasing, P.O. Box 2150, Johnson City, TN 37605. Email: purchasing@johnsoncitytn.org.)
- 24. Certificate of Insurance shall show project number or other contract identifier used by the City.
- 25. OTHER INSURANCE REQUIRED: _____

INSURANCE AGENT'S STATEMENT:

I have reviewed the above requirements with the bidder named below. The bidder has coverage with this agency for all of the areas marked with the exception of the following numbers:

Comments: _____

- Is Professional Liability excluded under General Liability? Yes _____ No _____
- Is Contractual Liability excluded under Comm. General Liability? Yes _____ No _____
- Is Independent Contractors excluded under Comm. General Liability? Yes _____ No _____

Carrier ratings: Insurer A _____; Insurer B _____; Insurer C _____; Insurer D _____

AGENCY NAME: _____ AUTHORIZED SIGNATURE: _____

Date: _____

CONTRACTOR'S STATEMENT:

I have reviewed the above requirements with my insurance agent(s) and, if awarded a contract, will provide all coverage marked.

CONTRACTOR'S NAME: _____ AUTHORIZED SIGNATURE: _____

Date: _____

ITB Number: #6016

Bid or Project Name: **Triple Combination Pumper**

This form and the General Contract Form shall be signed and returned with the bid package. The Certificate of Insurance must be provided to Purchasing prior to contract award.

GENERAL CONTRACT FORM

The General Contract Form is included in every solicitation requiring insurance. The general requirements of the contract form are supplemented by items checked on the **Insurance Checklist that identify specific requirements for the bid or project.**

INSURANCE

Review this section carefully with your insurance agent or broker prior to submitting a bid or proposal. See Insurance Checklist (part of the Bid Forms) for specific coverage applicable to this contract. The term “Contract” as used in this section shall mean the Agreement covering the work that is entered into between the City of Johnson City, Tennessee and the Contractor.

1. General Insurance Requirements:

1.1 The Contractor shall not start work under this contract until the Contractor has obtained at its own expense all of the insurance called for hereunder and such insurance has been approved by the City; nor shall the Contractor allow any subcontractor to start work on any subcontract until all insurance required of the subcontractor has been so obtained and approved by the Contractor. Approval of insurance required of the Contractor will be granted only after submission to the Director of Purchasing of original, signed Certificate(s) of Insurance, General Contract Form, and Insurance Checklist or, alternately, at the City’s request, certified copies of the required insurance policies.

1.2 No acceptance and/or approval of any insurance by the City shall be construed as relieving or excusing the Contractor, or the surety, or its bond, from any liability or obligation imposed upon either or both of them by the provisions of the Contract Documents.

1.3 The City of Johnson City (including its elected and appointed officials, agents, and employees) is to be named as an additional insured under all coverage except Worker’s Compensation, Automobile Liability, and Professional Liability and the Certificate of Insurance or the certified policy, if requested, must so state. Coverage afforded under this paragraph shall be primary as respects the City, its elected and appointed officials, agents and employees. The following definition of the term “City” applies to all policies issued under the contract:

“The City of Johnson City, Tennessee together with all of its various departments, bureaus, and agencies, as well as any affiliated or subsidiary board, committee, or authority, including but not limited to the Johnson City Public School System.”

1.4 The contractor shall provide insurance as specified in the Insurance Checklist contained in this document.

1.5 The Contractor covenants to save, defend, hold harmless and indemnify the City of Johnson City, Tennessee together with its various departments, elected or appointed officials, employees, officers, counsel, agents, and any and all other persons or entities acting on behalf of the same (collectively the City) from and against any and all claims of any sort based upon any theory of liability whatsoever, for any and all harm, loss, damage, injury, cost (including court cost and attorney fees) charges, or other liability of any nature whatsoever, however caused, resulting from or arising out of or in any way connected with the contractors performance or non-performance of the terms of the contract documents or its obligations under the contract based upon any theory of liability whatsoever, including claims brought by third persons, and further covenants to discharge all of the aforesaid persons and entities and forever hold them harmless from the same. The foregoing obligation to indemnify and defend shall continue in full force and effect after the aforesaid contractor completes all of the work required under the contract, until such time as the applicable statutes of limitation or repose have expired.

1.6 The Contractor shall be responsible for the work performed under the Contract Documents and every part thereof, and for all materials, tools, equipment, appliances, and property of any description used in connection with the work. The Contractor assumes all risks for direct and indirect damage or injury to the property or persons used or employed on or in connection with the work contracted for, and of all damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the Contract, or in connection in any way whatsoever with the contracted work, until final acceptance of the work by the City.

1.7 Insurance coverage required in these specifications shall be in force throughout the Contract Term. If the Contractor fails to provide acceptable evidence of current insurance within ten days of written notice at any time during the Contract Term, the City shall have absolute right to terminate the Contract without any further obligation to the Contractor and the Contractor shall be liable to the City for the entire additional cost of procuring performance by another vendor and the cost of performing the incomplete portion of the Contract at time of termination. **Contractor** is required to provide the City with notice of cancellation, non-renewal, or material change in coverage at least thirty (30) days prior to cancellation, non-renewal, or material change in coverage.”

1.8 Contractual and other liability insurance provided under this Contract shall not contain a supervision, inspection or engineering services exclusion that would preclude the City from supervising or inspecting the project as to the end result. The Contractor shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors and any persons employed by the subcontractor.

1.9 Nothing contained in the specifications shall be construed as creating any contractual relationship between any subcontractor and the City. The Contractor shall be as fully responsible to the City for acts and omissions of the subcontractors and of persons employed by them as it is for acts and omissions of persons directly employed by the Contractor.

1.10 Precaution shall be exercised by the Contractor at all times for the protection of persons (including employees) and property. All existing structures, utilities, roads, services, trees and shrubbery shall be protected against damage or interruption of service at all times by the Contractor and its subcontractors during the term of the Contract, and the

Contractor shall be held responsible for any damage to property occurring by reason of its operation on the property.

1.11 If a Contractor can not meet the insurance requirements contained in a bid, proposal, or project description, alternate insurance coverage may be considered. Written requests for consideration of alternate coverage must be received by the Director of Purchasing at least ten working days prior to the date set for receipt of bids or proposals. If the City denies the request for alternate coverage, the specified coverage will be required to be submitted. If the City permits alternate coverage, an amendment to the Insurance Requirement will be prepared and distributed prior to the time and date set for receipt of bids or proposals.

1.12 All required insurance coverage must be acquired from insurers authorized to do business in the State of Tennessee, and acceptable to the City. The insurers must also have policyholders' rating of "B++" or better, and a financial size of "Class V" or better in the latest edition of Best's Insurance Reports, unless the City grants specific approval for an exception in the same manner as described in 1.11 above.

1.13 The City may consider deductible amounts as part of its review of financial stability. The Contractor shall assume all deductibles.

2. Contractor's Insurance – Occurrence Basis:

2.1 The Contractor shall purchase the following insurance coverage, including the terms, provisions and limits shown in the Checklist:

- **Commercial General Liability** – The Commercial General Liability policy shall include any or all of the following as indicated on the Checklist:
 - i. General aggregate limit is to apply per project;
 - ii. Premises/Operations;
 - iii. Action of Independent Contractors;
 - iv. Contractual Liability including protection for the Contractor from claims arising out of liability assumed under this contract;
 - v. Personal Injury Liability including coverage for offenses related to employment;
 - vi. Explosion, Collapse, or Underground (XCU) hazards.
- **Business Automobile Liability** including coverage for any owned, hired, or non-owned motor vehicles, Uninsured Motorists insurance, and Automobile Contractual Liability.
- **Worker's Compensation** – statutory benefits as required by the State of Tennessee, or other laws as required by labor union agreements, including standard Other States coverage; Employers' Liability coverage.

3. Commercial General or other Liability Insurance – Claims-made Basis:

If Commercial General or other liability insurance purchased by the Contractor has been issued on a claims-made basis, the Contractor must comply with the following additional conditions. The limits of liability and the extensions to be included as described in the Checklist remain the same. The Contractor must either:

- i. Agree to provide certificates of insurance evidencing the above coverage for a period of three years for Professional Liability; two years for CGL and other Liability, after final payment for the contract. Such certificates shall evidence a retroactive date, no later than the beginning of the Contractors or subcontractors' work under this contract, or
- ii. Purchase an extended (minimum three years for Professional Liability; two years for CGL and other Liability) reporting period endorsement for the policy or policies in force during the term of this contract and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself.

4. Alternative Coverage (Self Insurance)

Notwithstanding any of the above, the Contractor may satisfy its obligations under this section by means of self-insurance for all or any part of the insurance required, provided that the alternative coverage is acceptable to the City.

5. Limits of Liability Coverage

Specific limits of liability coverage on the Insurance Checklist may be adjusted according to project risk if the adjustment is deemed appropriate and the amended amount is approved by the City Manager.

6. Verification of Compliance

I have read this General Contract Form and agree to all the terms and conditions contained therein.

Contractor's Name: _____

EIN or SSN: _____

Signed by: _____

Title: _____

Date: _____

This form and the Insurance Checklist must be completed and returned with Certificate of Insurance, as specified, prior to contract award.



VEHICLE/EQUIPMENT DELIVERY & ACCEPTANCE PROCEDURES

ACCEPTANCE: DELIVERY DOES NOT MEAN ACCEPTANCE. ALL VEHICLES/EQUIPMENT ARE SUBJECT TO INSPECTION TO ESTABLISH CONFORMITY TO SPECIFICATIONS PRIOR TO ACCEPTANCE.

1. Prior to delivery (if applicable):
 - Tires are to be inspected to insure proper inflation levels.
 - All fluid levels to be checked and corrected as needed.
 - Remove any unnecessary manufacturer's tape, stickers, decals, labels or other items except for the itemized window sticker with e.p.a. fuel economy estimates.
 - Vehicle is to be test driven and all features are to be checked to insure proper operation.
 - Any final assembly or installation of features, equipment or any options must be completed prior to delivery.
 - All necessary repairs and/or adjustments must be made prior to delivery.
2. Vendor must give Fleet Management 24-hour notice prior to delivery (423) 975-2751.
3. Delivery shall be made during regular working hours, Monday through Friday, excluding Holidays.
4. Vehicle or equipment will not be accepted if delivered to the wrong address.
5. Vendor must bring original specification sheets with delivery and **MUST** provide certificate of origin when a vehicle is delivered.
6. Vendor must agree to sign the Acknowledgement of Receipt form (*sample form attached*) at time of vehicle/equipment delivery.
7. City has 48 hours (excluding weekends, Holidays, vacation leave) to inspect vehicle/equipment for specification compliance.



ACKNOWLEDGEMENT OF RECEIPT VEHICLE/EQUIPMENT DELIVERY

The City of Johnson City acknowledges receipt of the following described vehicle or equipment:

Year	Make	Model	VIN	Price

Above described property was delivered to the specified location.

The City, by accepting receipt of this vehicle(s) or equipment, does not provide insurance coverage on the vehicle(s) or equipment and further declares that inspection has not been completed to determine compliance with City specifications. The City shall take ownership of and provide insurance on vehicles and equipment only after the City ascertains that the vehicles or equipment comply with City specifications. The City reserves the right to reject any non-conforming tender or delivery of vehicles, goods, or equipment.

City Representative

Date

Vendor

Vendor Representative

Date



**SEALED SOLICITATION
GENERAL TERMS AND CONDITIONS
(Read Carefully)**

1. ACCEPTANCE, REJECTION AND POSTPONEMENT

Issuance of a bid/rfp/rfq does not commit the City to make an award. The City reserves the right to postpone or reject any or all bids/rfp's/rfq', to waive informalities and to accept the bid/rfp judged to be in the best interest of the City.

2. ADDENDA

Addendum's will be issued to all known interested parties and posted on the City's website (listed above). All addenda issued shall become part of the solicitation documents. It is the vendor's responsibility to determine and acknowledge any or all addenda's issued for a solicitation. No addenda will be issued less than two (2) working days prior to the solicitation opening as per TCA, Title 12, Chapter 4, Part 1, as amended

3. AWARD

An award, if made, shall be to the lowest responsible, responsive bidder(s) or best solicitation meeting quality and performance standards as described in the solicitation documents and whose bid/rfp is determined to be in the best interest of the City. The City also reserves the right to award this product/service based on other contracts in-place (state or cooperative contracts), as may be in our best interest.

4. AWARD PERIOD

The City shall have 60 days to issue a contract. Any contract past that period must be mutually agreed upon by both parties.

5. BID TABULATIONS/RFP/RFQ RESPONSES

Bid tabulations and RFP/RFQ respondent's lists will be posted and available the next business day on our above website. Select "awarded/opened solicitations".

6. BRAND NAMES

By referencing a brand name or equal, the City intends to establish a minimum level of quality by which alternate offers can be judged. If an alternate is offered, the vendor must include complete descriptive literature and specifications that clearly describe the item and how it differs from the referenced item. Vendor reference to literature previously submitted will not satisfy this provision. Unless specified otherwise, it is understood that the referenced product will be furnished. The City alone will determine whether an alternate is equivalent and meets the standards of quality and performance for the City's use. A sample or demonstration may be required at the expense of the vendor.

7. CONDITION STANDARDS

It is understood and agreed that any item offered or shipped as a result of this solicitation shall be new and unused and the manufacturer's latest model unless otherwise called for in the solicitation.

8. CONSTRUCTION DOCUMENTS

If a fee is required for bid documents then only those bidders of record with the issuing office are eligible to bid.

9. COOPERATIVE PURCHASING:

Bidders/Proposers are to indicate whether it is permissible for other governments in Tennessee to purchase these items or services at the same price. Freight charges can be adjusted to reflect differences in delivery costs.

10. DEFAULT

In case of contractor default or failure to provide material or service according to the solicitations, the City may cancel this contract and acquire from another source and may recover any excess cost by (1) invoice; (2) deduction from an unpaid balance due; (3) collection against the bid and/or performance bond; or (4) a combination of the aforementioned remedies or other remedies provided by law. All costs associated with default will be borne by the contractor. The City reserves the right to remove a company in default from the active vendor list for a time period to be determined by the Director of Purchasing.

11. DELIVERY

Delivery/completion schedule must be clearly identified and realistically stated, as this may be a determining factor in the award.

12. DISCOUNT AND PAYMENT

Payment terms are Net 30 following receipt of the material or service and a correct invoice unless otherwise stated in the solicitation document. Discounts for prompt payment will not be considered in the bid evaluation for award. Partial payment will be allowed only if addressed in the solicitation.

13. EQUAL OPPORTUNITY

It is the policy of the City of Johnson City to ensure compliance with Title VI of the Civil Rights Act of 1964; 49 CFR, Part 21; related statutes and regulations to that end that no person shall be excluded from participation in or be denied benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or any other funding source on the grounds of race, color, sex, national origin, or ancestry. By virtue of submitting a response to this solicitation, vendors agree to comply with the same non-discrimination policy.

14. EVALUATION

Bids/RFP's/RFQ's will be evaluated according to the criteria set forth in the document with the degree of importance determined by the City.

15. EXAMINATION OF BIDS/RFP'S/RFQ'S

Bids/RFP's/RFQ's and associated documents may be examined at the opening. They are closed for review and inspection during the evaluation period prior to award.

16. FOB (FREE-ON-BOARD) POINT

All prices quoted shall be FOB destination, freight prepaid and allowed unless otherwise stated in the solicitation document. The seller pays and bears the freight charges and owns the goods while they are in transit. Title passes at the designated City location.

17. INDEMNIFICATION

The vendor shall guarantee and certify by submitting a response to this solicitation that if successful, they shall indemnify and defend the City against any and all claims or legal actions arising as a result of their performance of the contract, whether or not such claims relate to damages or alleged damages sustained by physical injury to contractors personnel, subcontractors, city employees or other persons, or against any lawsuits arising from alleged or actual patent infringements, and shall hold the City, its various departments, employees, and any and all persons or entities acting on its behalf harmless from the same.

18. INSPECTION

All supplies or materials purchased as a result of this solicitation are subject to inspection and rejection by the City. Rejected materials will be returned at the vendor's expense.

19. INSURANCE

The contractor shall maintain, at their expense, such insurance as required by the solicitation. Such insurance shall protect the City for claims of damages which may arise during operations under this contract whether such operations be by the Contractor or by any subcontractor or anyone directly or indirectly employed by either of them. Any required insurances shall be maintained for the term of the contract and beyond the term of the contract when so required in the solicitation.

20. LICENSES, FEES, PERMITS

The contractor is responsible for furnishing the proper licenses, fees, and permits required by law to do business with the City of Johnson City in completion of the project. All work shall be done in accordance with the latest building codes, state and federal laws relative to the contract.

21. MULTIPLE ITEM BIDS

The City will determine the successful bidder(s) either on the basis of the individual line items or the total of all items. ALL OR NONE bids must be clearly identified on the bid form and will be considered only if in the City's best interest.

22. NON-COLLUSION AGREEMENT

By submitting this solicitation, the agent representing all officers, partners, owners, representatives, employees or interested parties of the vendor's firm certifies to the best of his/her knowledge and belief this bid/proposal to the City of Johnson City, Tennessee has not been prepared in collusion with any other seller, proprietor, or manufacturer of similar products or services. The agent also certifies that the prices, terms and conditions of said bid/proposal have been arrived at independently and have not been communicated by the submitter, nor by any of the aforementioned firm associate to any other seller, proprietor, or manufacturer of similar products or services and will not be communicated prior to the official opening of said solicitation. The agent further states that no official or employee of the City of Johnson City has promised any personal, financial or other beneficial interest, either directly or indirectly, in order to influence award of this solicitation.

23. PARTS AND SERVICE

The successful vendor must be able to provide adequate parts and service for all items awarded. Service location and ability to perform may be a consideration in the award.

24. PENALTIES

Vendors may be removed from our active vendor system for any of the following:

- ◆ Failure to respond to three consecutive solicitations
- ◆ Failure to meet delivery requirements
- ◆ Failure to furnish items as a result of a solicitation
- ◆ Failure to provide service or material as a result of the award
- ◆ Offers of gratuities or favors to any City employee

25. PRE-BID MEETING ATTENDANCE

If attendance is mandatory then only those firms whose names are listed on the pre-bid attendance roster are eligible to submit a solicitation.

26. PRICING

All pricing must appear in the spaces provided on the city's form (if applicable) and be in ink or typed. Changes or corrections by the bidder/proposer must be initialed in ink by the person signing. No corrections may be made in pencil. Unit prices will prevail in case of an extension error. The City will correct math computation errors (unit price & totals). No bid may be altered or amended after bid opening time. Obvious mistakes will be given special consideration upon receipt of written request and full disclosure or evidence regarding pricing error.

27. PROPRIETARY/CONFIDENTIAL INFORMATION

Vendors are hereby notified that all information submitted as part of, or in support of, bids/proposals will be available for public inspection after award in compliance with Tennessee Statutes.

28. PROTEST PROCEDURE

Any protest to the award of a contract by the City of Johnson City shall be submitted in writing to the Director of Purchasing with a copy to the City Manager and delivered not later than seven (7) calendar days from the date of the city's award decision. Such protest must include a protest bond in the amount of \$350 (cashier's check payable to the City of Johnson City or Cash) submitted to the Purchasing Director before the City will consider the protest. This protest bond will serve as a guarantee by the protester of the validity and accuracy of the protest. If the protest is denied by the City Manager the bond will be retained to cover costs associated with the protest.

29. QUESTIONS

Questions must be received by the City at least four (4) working days prior to the scheduled opening. No oral interpretations or instructions given by any city employee or any other person shall apply. Changes relative to any solicitation will be in writing, in the form of an addendum. ,

30. SAFETY STANDARDS

All manufactured items and fabricated assemblies shall comply with applicable requirements of OSHA/TOSHA and any related standards thereto.

31. SAMPLES

Samples will be furnished at no charge to the City. They will remain in the Purchasing Department for testing and evaluation until an award is made. Vendors are responsible for picking up their samples within two (2) weeks after the award. Samples not collected after that time shall become the property of the City. Samples from the successful vendor will be held until delivery is received and accepted as being equal to the sample.

32. SEALED SOLICITATION OPENINGS

Bids/RFP's/RFQ'S (paper & electronic) will be read aloud at the specified date and time as stated in the document. All openings are public meetings. All bidders/proposers and interested persons are invited to attend. The City reserves the right to postpone any solicitation opening under circumstances warranting such action, including but not limited to instances when the City receives fewer than two responses.

33. SIGNATURE ON BIDS

When submitting a bid, other than electronically, the bid form must contain the full name and address of the company and be signed in Ink by a person authorized to bind that company to a contract. Submission of an electronic solicitation constitutes acceptance of all terms and conditions. Unsigned paper bids will not be considered, read or tabulated. They may not be signed during or after the bid opening, even if a representative is present.

34. SUBMITTAL OF SEALED BIDS/RFP'S/RFQ'S

Any forms furnished by the city must be completed and returned as specified in the solicitation, otherwise response will be considered as non-responsive. TELEPHONE, FACSIMILE OR E-MAIL RESPONSES WILL NOT BE ACCEPTED. Electronic receipt of bids/proposals is acceptable for those posted at: <https://purchasing.johnsoncitytn.org/bsa/>. **Paper bids shall be sealed in an envelope and may be required to include one (1) electronic (CD or flashdrive) copy of the entire submittal. The electronic version shall be an exact duplicate of the original, and the electronic version will become the official document.** No solicitation received after closing time shall be considered. The official time for paper submittals will be that of the date and time clock in the Purchasing Department. For electronic bids the official time is that posted on the website. Late submittals will not be accepted. The City of Johnson City shall not be responsible for technical difficulties experienced by vendors trying to register or submit their bid/rfp response electronically less than one hour prior to the bid/rfp opening time. If not offering a solicitation response, the vendor is encouraged to complete the "Statement of Decline" form and return prior to the opening.

35. TAXES

The City is exempt from Federal excise tax, State, and city sales tax. Contractors are not exempt from the use tax on materials and supplies used in the production of an item or in the performance of a repair or construction contract. Tax exemption certificates will be furnished upon request.

36. TERM OF CONTRACT

Unless otherwise stated, the City reserves the right to purchase like items at the same contract price for a period of one year from the award date subject to agreement of both parties. The City may cancel any contract for cause following written notification of intent.

37. WARRANTY

Unless otherwise specified by the City, all items shall be guaranteed for a minimum period of one (1) year against defects in material and workmanship.

REQUIREMENTS FOR BIDS, REQUESTS FOR PROPOSALS, AND CONTRACTS
BETWEEN THE CITY OF JOHNSON CITY
AND OTHER PARTIES

The City of Johnson City has established the following requirements for use in all bids and contracts between the City and any other person or entity. The following list is mandatory and modifies any bid, contract, or request for proposal, or conditions applicable to, signed by, or let by the City, notwithstanding anything contained in any particular conditions, contract, request for proposal, or bid to the contrary.

In general, the following provisions apply to all such contracts, bids, requests for proposals, contracts requiring bids, and bids containing contracts:

1. The City of Johnson City shall not answer to any contracting party for the furnishing of public records to a person requesting such in accordance with Tennessee law.
2. The City, while it may designate in writing a representative on a particular project, shall only be bound by a majority vote of the Board of Commissioners or by the limited authority delegated to the City Manager pursuant to City Ordinance. No personal representative of the City assigned to a particular project may bind it in excess of the dollar amounts granted to the City Manager by Ordinance, and no personal representative assigned to a particular project may bind the City for an amount equal to or less than the dollar amounts granted to the City Manager by Ordinance without the City Manager's approval.
3. The City shall not in any event waive or limit any claims for damages including but not limited to consequential damages in any contract for any reason or purpose.
4. No decision of an architect, engineer, or personal representative of the City shall be final and binding on the City, unless the City so agrees in any dispute with any

party including but not limited to an architect, a contractor, a subcontractor, an engineer, etc. If the City agrees to be bound pertaining to a dispute, then the monetary limits contained in the City's ordinances regarding the authority of the City Manager shall prevail, and any amounts exceeding the authority of the City Manager shall be referred to the Board of Commissioners for their consideration.

5. The City shall not participate in any mediation or arbitration regarding any agreement to which it is a party, and all matters left unresolved between the City and any other party, person, or entity shall be resolved in a court of competent jurisdiction in either Washington County, Tennessee, or in Federal District Court in Greeneville, Tennessee.

6. No party or other entity shall file a lien of any nature whatsoever against City property, real, personal, or mixed, no matter where that property is located. Should a party or entity contracting with the City or acting as a subcontractor or subsubcontractor file a lien against any property, real, personal, or mixed, owned by the City, then that party or entity shall take immediate steps at its own cost and expense to remove said lien, or the City shall take such steps as it deems necessary and hold the other party or entity liable for any costs and attorneys' fees associated with the lifting of said lien.

7. The City shall exercise its sole discretion before agreeing to any assignments of any contracts or subcontracts regarding any project in which the City is involved. No contract with the City shall be assignable without the City's sole, discretionary, absolute consent.

8. The City shall not be required to supply any information regarding its title to any property in which it has an interest for any purposes regarding the filing of liens.

9. The City shall not waive any claims it has in the making of final payment in any project in which it is involved. The City shall have the right to terminate any agreement to which this document is attached at any time in its sole discretion without

cause. In the event the City terminates without cause any agreement to which this document is attached, then in such event the City shall be liable only for the actual work and costs that have accrued at or before the date of the City's termination. In no event shall the City be liable for lost profits, consequential damages or incidental damages in the event it terminates a contract without cause.

10. Except to the extent allowed by law, the City shall not indemnify and hold harmless any other party, entity, person, their agents, employees, or anyone else in the world for any reason whatsoever.

11. The City shall not waive the rights of subrogation of its insurers or itself for any purpose whatsoever, and the City shall not cause any such endorsements to be placed on any policies to which it is a party.

12. Unless the City elects otherwise, the City shall not provide any "builders' risk" or an "all-risk" or equivalent policy for any reason whatsoever for any project in which the City has an interest, and the contractor or other such party shall assume this responsibility. That builder's risk policy provided by the contractor or other such interested party shall name the City as an additional insured. The City shall not provide boiler and machinery insurance, but shall require such insurance as applicable, depending on the parameters of whatever project is involved. The cost of boiler and machinery insurance shall be borne by the appropriate contractor, subcontractor, or other interested party. The City shall not insure the interests of any other person or entity, nor shall the City add any other person or entity as an additional insured to any of its policies.

13. The City shall not waive any rights regarding the loss of use of the City's property.

14. As to acts or failures to act or any causes of action by any party to a contract, whether that party be the architect, owner, contractor, City, etc., a cause of action shall accrue according to Tennessee law. No contract provision shall shorten the

statutes of limitations, statutes of repose, or the accrual of any causes of action which the City might have against another party or entity. No contract provision shall waive any warranties, express or implied, nor shall any contract limit the standard of care for any particular service or undertaking to that of the locality where those services or undertakings are performed.

15. Any interest to be paid by the City of Johnson City for late payments shall be at the rate of interest at which the City pays on its most recently issued bonds.

16. The City reserves to itself the right to approve the use of any tests, including but not limited to any borings, test pits, geotechnical work, environmental tests, and the like in its own sole discretion. All design professionals, consultants, subcontractors, or the like shall be duly licensed in the State of Tennessee, if licensure in the State of Tennessee is required for the work to be performed by such design professional, consultants, or subcontractors.

17. Notwithstanding any applicable choice of law or conflict of law provisions or decisions, the law of the State of Tennessee shall govern all contracts to which this document is attached.

18. The City of Johnson City shall not provide any legal advice, legal services, surveys, or procure the same for any other party.

19. Upon payment for services as rendered, all design documents and all instruments of service created by design professionals, including but not limited to architects, landscape architects, engineers, etc., shall become the property of the City of Johnson City, Tennessee. The City of Johnson City shall be allowed to use all design documents and instruments of service, including but not limited to bid drawings, shop drawings, reports, specifications, cost estimates, schematic designs, construction designs, and the like for future additions or alterations to the current project or for use in other projects. Any use of the aforementioned designs and construction documents shall be at

the City's sole risk and without liability to the design professional. The design professional's name and seal will be removed from all such design documents prior to the City's use thereof.

20. No person or entity shall respond to a request for bid or request for proposal with any terms or conditions that might change, alter, amend, or differ with the specifications, terms, or conditions originally provided by the City in its initial request for bids or proposals.

21. The City, as the owner of real property that is the subject of or in any way connected to any bid, request for proposal, or contract, hereby grants to the successful bidder/proposer/contractor the general management of the real property during the time that work is being performed, and the City agrees to transfer information specified in OSHA regulations at 29 CFR §1926.1203(h)(1), so that TOSHA/OSHA shall treat the successful bidder/proposer/contractor as the host employer when working in confined spaces. This paragraph applies only to those areas where the successful bidder/proposer/contractor has access to and performs work within confined spaces as defined in federal OSHA regulations. The successful bidder shall comply with all federal OSHA and state TOSHA regulations, including those regarding confined spaces.

January 6, 2016



STATEMENT OF SOLICITATION DECLINE City of Johnson City, Tennessee

NOTE: If you do not intend to respond to this solicitation, please complete and return this form on or before the stated deadline to Purchasing Department, P. O. Box 2150, Johnson City, TN 37605 or via e-mail or fax: purchasing@johnsoncitytn.org; 423-975-2712.

We value your feedback and ask that you complete the following:

Solicitation No.: # _____
Solicitation Name: _____

We, the undersigned, decline to submit on the above bid/proposal for the following reason(s):

- _____ Insufficient time to adequately prepare a response
- _____ Our company does not offer this product or service. Remove us from the vendor list
- _____ Our schedule will not permit us to perform in a timely manner
- _____ We are unable to meet bond requirements
- _____ We are unable to meet insurance requirements
- _____ We are unable to offer comparable product or service
- _____ We are unable to meet specifications (explain below)

We understand that if this statement is not completed and returned, our company may be deleted from the City's solicitation list for this commodity or service.

Company Name: _____
Address: _____
Signature: _____
Telephone: _____
E-mail: _____
Date: _____