



RETURN BID FORM TO:
 City of Carlsbad
 Attn: Purchasing Manager
 101 N. Halagueno Street (FED EX, UPS)
 P.O. Box 1569 (USPS)
 Room # 116
 Carlsbad, NM 88220

Invitation to Bid

Bid Title: Wildland Fire Apparatus

Bid Number: 2016-26

Formal Sealed Bid Opening

Place: City of Carlsbad Municipal Building
 101 N. Halagueno St., Room 204

Bid Closing Date: 9/9/16 **Time:** 2:30 p.m.

Bid Bond Required Yes No

If you have questions regarding this Invitation to Bid please email your questions to:
 Matt Fletcher, Purchasing Manager
 Email msfletcher@cityofcarlsbadnm.com

Bidder MUST complete and sign the following in order for Bid to be valid:

Company Name: _____
 Address: _____ City _____ State _____
 Telephone #: _____
 Federal Tax ID# _____
 Email Address: _____

Total Bid Amount \$ _____

Contractor License # (if applicable) _____

Resident Bidder/Veterans Business Certification # _____

Acknowledgment of Addendum (if applicable) 1. ___ 2. ___ 3. ___ 4. ___ (please check mark)

Signature: _____ Print or type name: _____

Title: _____

Additional Bidder Information

Applications for in-state preference will no longer be processed through the State Purchasing Division. All resident businesses, veterans, and contractors will have to obtain preference number(s) with the NM Department of Taxation and Revenue. In order for the appropriate preference to be applied to any solicitation, there must be no federal funds involved, and vendor must submit a copy of their preference certificate with each solicitation. Applications are available for download at:

<http://www.tax.newmexico.gov/Businesses/in-state-veteran-preference-certification.aspx>

Veterans Only: The Resident Veterans Preference Certification enclosed herein must be completed and returned with bid in order to receive the preference.

Instructions to Bidders

Bids, whether hand delivered at the time of the bid opening or mailed in, must be submitted in a sealed envelope with the bid number and opening date clearly indicated on front of the envelope.

Sealed bids will be received at the address shown on page 1 of this document, until the specified date and local time, then publically opened and read aloud at the bid opening location shown in the bid documents.

Bids received after the bid opening time and date listed cannot be considered and will be returned to the bidder unopened.

The City of Carlsbad reserves the right to reject all bids received if deemed to be in the best interest of the municipality.

Bids for products should include any applicable shipping, freight, delivery or installation fees.

Bidders claiming either the New Mexico Resident Bidders Preference or Veteran's Preference must submit a copy of the preference certification with their bid. Bid's received without this documentation will not be eligible to receive the preference.

When applicable, bids where State Wage Rates are in effect, the bidder must submit a copy of its current Dept. of Workforce Solutions Registration.

The Campaign Contribution form must be completed and signed and returned with the bid as required by State Statute. Bids received without this form may not be accepted. **Campaign Contribution form must be signed and returned even if you made no contributions.**

This Bid is subject to the "Terms and Conditions," listed below and "Additional Bidding Instructions" if any.

TERMS AND CONDITIONS

1. **General:** When the Purchasing Manager or designee issues a purchase order in response to the Vendor's bid, a binding contract is created.
2. **Variation in Quantity:** No variation in the quantity of any item called for by this order will be accepted unless such variation has been caused by conditions of loading, shipping, packing or allowances in manufacturing process and then only to the extent, if any, specified in this order.
3. **Assignment:**
 - a. Neither the order, nor any interest therein, nor any claim thereunder, shall be assigned or transferred by the Vendor, except as set forth in Subparagraph 3b or as expressly authorized in writing by the Purchasing Manager or designee. No such assignment or transfer shall relieve the Vendor from the obligations and liabilities under this order.
 - b. Vendor agrees that any and all claims for overcharge resulting from antitrust violations which are borne by the City as to goods, services, and materials purchased in connection with this bid are hereby assigned to the City.
4. **City Furnished Property:** City furnished property shall be returned to the City upon request in the same condition as received except for ordinary wear, tear and modifications ordered hereunder.
5. **Discounts:** Prompt payment discounts will not be considered in computing the low bid. Discounts for payment within twenty (20) days will be considered after the award of the contract. Discounted time will be computed from the date of receipt of the merchandise or receipt of the invoice, whichever is later.
6. **Inspection:** Final inspection and acceptance will be made at the destination. Supplies rejected at the destination for nonconformance with specifications shall be removed at the Vendor's risk and expense, promptly after notice of rejection.
7. **Inspection of Plant:** The Purchasing Manager or designee may inspect, at any reasonable time, the plant of the Contractor's, or any subcontractor's plant or place of business, which is related to the performance of this contract.
8. **Commercial Warranty:** The vendor agrees that the supplies or services furnished under this order shall be covered by the most favorable commercial warranties the vendor gives for such to any customer for such supplies or services. The rights and remedies provided herein shall extend to the City and are in addition to and do not limit any rights afforded to the City by any other clause of this order. **Vendor agrees not to disclaim warranties of fitness for a particular purpose of merchantability.**
9. **Taxes:** The unit price shall exclude all state taxes except on any associated labor costs for construction, assembly or installation fees.

10. Packing, Shipping, Invoicing and Payment Terms:

a. The City's purchasing document number (P.O. number) and the Vendor's name, and location shall be shown on each packing and delivery ticket, package, bill of lading and other correspondence in connection with the shipments. The user's count will be accepted by the Vendor as final and conclusive on all shipments not accompanied by a packing ticket.

b. The Vendor's invoice shall be submitted duly certified and shall contain the following information: purchase order number, description of supplies or services, quantities, unit price and extended totals. Separate invoices shall be rendered for partial shipments.

c. The City cannot accept invoices for goods or services not yet received. All invoices must be submitted after delivery of goods and/or performance of services.

d. Payment terms will be net 30 days from the date that invoice is approved for payment. Payments are generally approved within 15 days of receipt of the invoice. In the event that payment is not approved, the City will notify the vendor in writing within 15 days of receipt of the invoice as to the reasons that payment is not being approved and the desired resolution being sought. Once the issue is resolved, payment will be made within net 30 days from the date of resolution.

e. Invoices may be submitted by USPS mail to:

City of Carlsbad
Attn: Accounts Payable
P.O. Box 1569
Carlsbad, NM 88221-1569

Or

via Email to: invoices@cityofcarlsbadnm.com

11. **Default:** The City reserves the right to cancel all or any part of this order without cost to the City, if the Vendor fails to meet the provisions of this order and, except as otherwise provided herein, to hold the Vendor liable for any excess cost occasioned by the City due to the Vendor's default. The Vendor shall not be liable for any excess costs if failure to perform the order arises out of causes beyond the control and without the fault or negligence of the Vendor, such causes include but are not restricted to, acts of God or the public enemy, acts of the City, State or Federal Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and defaults of subcontractors due to any of the above, unless the City shall determine that the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Vendor to meet the required delivery schedule. The rights of the City provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under this order.

12. **Non-Collusion:** In signing this bid the Vendor certifies he/she has not, either directly or indirectly, entered into action in restraint of free competitive bidding in connection with this offer submitted to the City Purchasing Manager or his/her designee.

13. **Nondiscrimination:** Vendor doing business with the City of Carlsbad must be in compliance with the Federal Civil Rights Act of 1964 and Title VII of the Act (Rev. 1979) and the Americans with Disabilities Act of 1990 (Public Law 101-336).

14. **The Procurement Code:** Sections 13-1-28 through 13-1-199 NMSA 1978, imposes civil and criminal penalties for its violation. In addition the New Mexico criminal statutes impose felony penalties for bribes, gratuities and kickbacks.

15. **Condition of Goods:** All bid items are to be NEW and of most current production, unless otherwise specified.

16. **Payment for Purchases:** Except as otherwise agreed to: late payment charges may be assessed against the City in the amount and under the conditions set forth in Section 13-1-158 NMSA 1978.

17. **Workers' Compensation:** The Contractor agrees to comply with state laws and rules pertaining to Workers' Compensation benefits for its employees. If the Contractor fails to comply with Workers' Compensation Act and applicable rules when required to do so, this Agreement may be terminated by the contracting agency.

18. **Bid Submittals:** Bids must be submitted in a sealed envelope with the bid number and opening date clearly indicated on the front of the envelope and returned to the City of Carlsbad Purchasing Department. Failure to label bid envelope will necessitate the premature opening of the bid in order to identify the bid number.

19. **Contractor Personnel:** Personnel proposed in the Contractor's written proposal to the City of Carlsbad are considered material to any work performed under this Bid Agreement. Once a Purchase Order or contract has been executed, no changes of personnel will be made by the Contractor without prior written consent of the Procuring Agency. Replacement of any Contractor personnel, if approved, shall be with personnel of equal ability, experience, and qualifications. The Contractor will be responsible for any expenses incurred in familiarizing the replacement personnel to insure their being productive to the project immediately upon receiving assignments. Approval of replacement personnel shall not be unreasonably withheld. The Procuring Agency shall retain the right to request the removal of any Contractor's personnel at any time.

20. **Subcontracting:** The Contractor shall not subcontract any portion of the Price Agreement without the prior written approval of the City of Carlsbad. No such subcontracting shall relieve the Contractor from its obligations and liabilities under this Bid Agreement, nor shall any subcontracting obligate payment from the City of Carlsbad.

21. **Records and Audit:** The Contractor shall maintain detailed time and expenditure records that indicate the date, time, nature, and cost of services rendered during this Bid Agreement's term and effect, and retain them for a period of three (3) years from the date of final payment under this Bid Agreement. The records shall be subject to inspection by the City Purchasing Office and/or designee. The City shall have the right to audit billings, both before and after payment. Payment for services under this Bid Agreement shall not foreclose the right of the City to recover excessive or illegal payments.

22. The foregoing requirements for Contractor Personnel, Subcontracting, and Audit shall be inserted into all subcontracts from the prime contractor to the subcontractor.

Important Bidding Information

All Bidders must notify the City Purchasing Manager or his/her designee if any employee(s) of the City of Carlsbad have a financial interest in the Bidder:

(Check one) **No financial interest** **Yes financial interest**

If yes specify by name: _____

Bid tabulations will be posted to our website within 24 hours after bid opening date. To access go to <http://www.cityofcarlsbadnm.com/purchasing.cfm>, click on Bid Results.

Failure of Bidder to complete bidding documents, in accordance with all instructions provided, is cause for this office to reject their bid.

Brand names and numbers are for reference only; equivalents will be considered. If bidding "equivalent" bidders must be prepared to furnish "complete data" upon request, preferably with bid, to avoid delay in award.

Specifications on the bid are not to exclude any bidder or manufacture. Where a brand name or equal is indicated, it is for the purpose of describing the standard of quality, performance and characteristics desired and is not intended to restrict competition. "No substitute" specifications may be authorized ONLY if required to match existing equipment.

If any Bidder is of the opinion that the specifications as written preclude him from submitting a proposal on this bid, it is requested that his opinion be made known to the City Purchasing Manager or his/her designee, in writing, at least seven (7) days prior to the bid opening date.

Bidders must, upon request of the City Purchasing Manager or his/her designee, provide information and data to prove that the financial resources, production of service facilities, service reputation and experience are adequate to make satisfactory delivery of the materials and/or services. The City Purchasing Manager or his/her designee reserves the right to require a Bidder to furnish a Performance Bond prior to award, where the Bidder is unable to furnish the required information or data, or for other reasons which would insure proper performance by the Bidder.

Unless otherwise indicated in the bid specifications, samples of the items, when required, shall be free of expense to the City of Carlsbad. Samples not destroyed or mutilated in testing will be returned upon request, at Bidders expense. Each sample must be labeled to clearly show the bid number and item number that it pertains to. Unsolicited bid samples or descriptive literature, which is submitted at the Bidder's risk, will not be returned.

Awarding of Bids

Determination of Lowest Bidder- Following determination of product acceptability, if any is required, bids will be evaluated to determine which Bidder offers the lowest cost to the City in accordance with the specifications and terms & conditions set forth in the Invitation to Bid. The City Purchasing Manager reserves the right to award this Bid in total; by groups of items; on the basis of individual items; any combination of these which could result in a multiple award; or as otherwise specified in bid specifications; whichever, in his/her judgment, best serves the interest of the City of Carlsbad.

The City Purchasing Manager or his/her designee reserves the right to accept and/or reject any and all bids, to waive technical irregularities, and to award to the Bidder whose bid is deemed to be in the best interest of the City of Carlsbad.

Special Notice- To preclude any possible errors and/or misinterpretations, bid prices must be affixed legibly in ink or typewritten. Corrections or changes must be signed or initialed by Bidder prior to the scheduled bid opening; failure to do so will be just cause for rejection of bid.

Bids may be withdrawn upon receipt of written request, prior to scheduled bid opening for the purpose of making any corrections and/or changes; such corrections must be properly identified and signed or initialed by Bidder. Resubmittal must be prior to scheduled bid opening for consideration.

After bid opening, no modifications on bid prices or other provisions of bid shall be permitted. A low Bidder alleging a material mistake of fact after bids have been opened may be permitted to withdraw the bid upon written request prior to award at the discretion of the City Purchasing Manager or his/her designee.

F.O.B. Destination- Means goods are to be delivered to the destination designated by the user which is the point at which the user accepts ownership or title of the goods. Laws of New Mexico specifically prohibit acceptance of ownership of goods in transit. Any exception to F.O.B. Destination may cause bid to be declared nonresponsive.

Bid Agreement Terms and Conditions

Article I- Statement of Work

Under the terms and conditions of this Bid, the City of Carlsbad may issue orders for items and/or services described herein.

The terms and conditions of this Bid shall form a part of each order issued hereunder.

The items and/or services to be ordered shall be listed under Article IX - Price Schedule. All orders issued hereunder will bear a purchase order number. It is understood that no guarantee or warranty is made or implied by either the City of Carlsbad Purchasing Manager or the user that any order for any definite quantity will be issued under this Bid Agreement. The Contractor is required to accept the order and furnish the items and/or services in accordance with the articles contained hereunder for the quantity of each purchase order issued.

Article II-Term

The term of this Bid Agreement for issuance of orders shall be as indicated in specifications.

Article III -Specifications

Items and/or services furnished hereunder shall conform to the requirements of specifications and/or drawings applicable to items listed under Article IX - Price Schedule. Purchase Orders issued against this schedule will show the applicable price, item(s), and number(s); however they may not describe the item(s) fully.

Article IV- Shipping and Billing Instructions

Contractor shall ship in accordance with the instructions of this form. Shipment shall be made only against specific orders which the user may place with the contractor during the term indicated in Article II - Term. The Contractor shall enclose a packing list with each shipment listing the purchase order number, and the commercial parts number (if any) for each item. Delivery shall be made as indicated on the purchase order. If vendor is unable to meet stated delivery terms the City Purchasing Manager must be notified.

Article V- Termination

This Bid Agreement may be terminated by either party upon written notice to the other at least thirty (30) days in advance of the date of termination. Notice of termination of the Bid Agreement shall not affect any outstanding orders.

Article VI- Amendment

This Bid Agreement may be amended by mutual agreement of the City of Carlsbad Purchasing Manager or his/her designee and the Contractor upon written notice by either party to the other. An amendment to this Bid Agreement shall not affect any outstanding orders issued prior to the effective date of the Bid Award as mutually agreed upon, and as published by the City Purchasing Manager or his/her designee. Amendments affecting price adjustments and/or the extension of a Bid Agreement expiration date are not allowed unless specifically provided for in the bid and price agreement specifications.

Article VII- Issuance of Purchase Orders

Only purchase orders authorized by the Purchasing Manager are valid under this Bid Agreement.

Article VIII- Packing (if applicable)

Packing shall be in conformance with standard commercial practices.

Article IX- Price Schedule

Prices as offered in the bidding documents and recorded in the bid tabulation hereto attached are firm.

BID SPECIFICATIONS

(All bid specifications are considered minimum unless otherwise stated). Any variance from the bid specifications listed below must be explained in writing. Where the word Approximate (Approx) appears, slight variations from brand to brand will be acceptable if overall performance is not adversely affected. Please attach additional pages if necessary and provide the item number for each variance.

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Type 6 Wildland Fire Apparatus

Bid # 2016-26

****** Type 6 Fire Apparatus ******

Pre-Work Conference

A pre-work conference shall be held prior to construction to review contract specifications, materials requirements, delivery schedule, and payment procedures. The conference, which may be accomplished by conference call, shall include the Department representative(s) and apparatus manufacture representative(s), including the primary engineer working on this project. The date and time of the meeting, or conference call, will be scheduled by the Department representative(s) in consultation with apparatus manufacturer and any/all other needed parties.

Delivery Day(s)

Delivery of the finished apparatus shall occur within 270 days from the receipt of order.

Workmanship Requirements

The installation of hardware parts such as hinges, catches, handles, or knobs shall be accomplished to avoid damaging the hardware or the mounting surface. After fabrication, all parts shall be cleaned of the following: smudges, loose, spattered, or excess welding, metal chips or filings, or any other foreign material which might detract from the intended operation, function, or appearance of the apparatus or its equipment. This would include any particles which could loosen or become dislodged during the normal expected life of the equipment. Whenever possible, this cleaning shall take place before the parts are assembled.

Threaded parts or devices shall show no evidence of cross-threading, mutilation, or detrimental burrs. All screw type and rivet fasteners shall be tight to allow no relative movement between the attached parts. All bolts and screws shall not be tightened in excess of the SAE torque standard established for the grade, screw, and thread type.

Use of dissimilar metals shall be avoided whenever possible. In areas where dissimilar metal contact is unavoidable, a nonabsorbent closed cell neoprene insulator tape shall be placed between the metals. Caulking may be used in addition to the tape to provide addition protection. Wherever dissimilar metal contact occurs, measures shall be taken to avoid moisture from collecting in the contact areas. Wherever dissimilar metal contact occurs each surface shall be properly primed and painted (even if tape and other protectants are used). Wherever dissimilar metal contact occurs, fastener quantity shall be limited, and washers, gaskets, sleeves made of compatible material shall be used. Corrosion inhibiting materials (pastes, compound) shall be applied to all screws or bolts that are inserted into dissimilar metals.

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All welds shall be free of defects such as cracks, porosity, undercuts, voids, and gaps. There shall be no weld burn through. Fillets shall be uniform and smooth. There shall be no damage to adjacent parts resulting from the welding.

All wire shall be protected from tears, abrasions, cuts, etc. from loose items within compartment spaces, and from items present in the operating environment outside of the compartments. Special care shall be taken to conceal wiring and tuck it away to keep from hanging low prevent catching on brush, rocks, and various other items present in the off-road environment.

Guards, shields, or other protection shall be provided where necessary in order to protect personnel from injury from hot, moving or rotating parts during non-maintenance operations; to protect fragile equipment from becoming damaged when operation off road, and to protect from sharp edges or corners.

Components shall be located for ease of inspection, routine maintenance or removal. Drains, oil and fuel filters, filler plugs, grease fittings, air and water lines and etc. shall be located so that they are readily accessible and do not require special tools for servicing. Lube extensions, oil drain, fill extensions, or special tools required for minor chassis maintenance shall be provided by the contractor for each apparatus manufactured. Securing of air, water, fuel and/or electrical lines, looms or harnesses shall not utilize stick-on/adhesive backed fasteners; insulated metal clamps or clips shall be provided. Nothing shall be permitted to hang loose from apparatus.

Side Hill/Tilt Table Testing

Tilt Table testing requirements shall be in accordance with SAE J2180, and NFPA 1906 current edition. The apparatus shall be tested with the apparatus loaded with 250 lbs. for each seating position, the miscellaneous equipment weight allowance as outlined in the Carrying Capacity Section and all chassis fluids shall be full.

Documentation

Upon delivery a completed vehicle sticker/label shall be attached to the completed apparatus in the cab on the driver's side of the vehicle. The label shall be in compliance with the National Traffic and Motor Vehicle Safety Act, Section 114 and Federal Code of Regulations, Title 49. The apparatus shall be accompanied with a single container with the following items. The container shall be organized and configured identically and shall contain an inventory list of the items within the container affixed to the exterior of the container lid. One electronic file (USB DRIVE) and one hard copy of each item on the list shall be supplied.

- A. All applicable items listed in The National Fire Protection Association (NFPA) 1906 (current edition), *General Requirements/Data Required of the Contractor*.
- B. Record of construction details

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- C. Source list of components used in construction; list shall state manufacturer name, part number, contact information and web site.
- D. Copy of warranty outlining coverage on the apparatus
- E. Certificate of Origin for chassis (Original Certificate of Origin shall be mailed directly to the Department representative(s) after payment is complete).
- F. Detailed engineering as built drawings for the following views:
 - a. Driver side
 - b. Passenger side
 - c. Top
 - d. Rear
- G. Apparatus body frame and mounting details
- H. Complete wiring diagrams; understandable by the field user.
- I. Two (2) additional completed vehicle stickers/labels
- J. Certified weight slip(s) showing the completed vehicle weights with all fixed and portable equipment installed, all tanks full, and all personnel seating positions occupied with 250 pounds. The weight slip shall include tare weight, front axle weight, rear axle weights. Weight documents shall be provided from a certified scale.

Chassis

The apparatus shall be built on a new model Ford F-550 dual rear wheel (DRW), 4x4, Crew Cab chassis. The construction of the fire body frame shall be specially designed to fit this chassis.

Chassis shall be equipped with all standard OEM options for cold weather and any OEM options that increase weight capacity and ground clearance (such as Fire/Rescue Package, High Capacity Tow Package, Low Deflection Package, etc.).

Gross Vehicle Weight Rating

The chassis shall be equipped with a heavy duty payload package. Included in the package will be an upgraded frame, upgraded rear axle, upgraded rear spring, and increased GVWR to 19,500 lbs.

Dual Rear Wheels on Chassis

The chassis shall be equipped with dual rear wheels. Mud flaps shall be installed on the apparatus body aft of the rear wheels.

Wheelbase

The wheelbase shall be no greater than approximately 179 inches.

Cab-to-Axle

The cab-to-axle measurement shall be approximately 60 inches.

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Motor

The chassis shall be equipped with an electronically controlled turbo diesel engine. It shall be EPA compliant. The engine shall be rated at a minimum of 300 horsepower and 660 ft.-lbs. of torque.

Motor Air Intake and Filtration

The chassis shall be equipped with a heavy duty air cleaner.

Options on the Motor

The following items shall be equipped by the Original Equipment Manufacturer, after market alternatives will not be accepted.

- Motor shall be equipped with dual alternators totaling 357 amps
- Motor shall be equipped with an OEM engine block heater.

Battery

Two (2), 78 Amp, 12 volt maintenance free batteries totaling 750 cold cranking amps.

High Idle, Engine Speed Control

An NFPA 1906 compliant Engine Speed Control Device shall be installed to allow an increase in engine speed while the vehicle is parked.

Transmission

OEM 6-speed automatic transmission with Overdrive and Tow/Haul mode.

Transfer Case

An electric shift-on-the-fly transfer case including auto locking front hubs with manual override will be provided in place of standard transfer case.

Suspension

The front suspension shall be coil spring with heavy duty gas shock absorbers. The front suspension shall have a minimum rating of 7,500 lbs. The rear suspension shall have a minimum 14,706 lbs. rear leaf suspension with shocks.

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Axles

The front drive axle shall have a minimum ground rating capacity of 7,000 pounds. The rear drive axle shall have a minimum ground rating capacity of 14,706 pounds. A manually controlled rear differential lock shall be installed if available from the OEM chassis manufacturer.

The axles shall each have a 4.88 axle gear ratio. Chassis shall be equipped with Low Deflection Package that includes 2 inch spacer blocks.

Wheels and Tires

The chassis shall be equipped with factory steel 19.5 inch wheels and 225/70R19.5 max traction tires. A full size matched spare tire with rim shall be included.

Fuel Tank

The chassis shall be equipped with a 40 gallon fuel tank. The tank shall meet all federal regulations. The tank shall have an OEM steel skid plate designed to prevent trapping common grasses and other small debris which may ignite.

Cab

The cab shall be configured as a four (4) full doors.

Interior

All interior upholstery/hardware including seating, dashboard, floor coverings, steering wheel, dash components, sun visors and all trim and door panels shall be Ford OEM supplied vinyl and color coordinated.

- OEM courtesy lamps
- OEM instrument cluster
- Speedometer
- Tachometer
- Oil pressure
- Coolant temperature
- Fuel level
- Voltmeter
- Engine hour meter
- Trip odometer
- High headlight beam indicator
- Turn signal indicators
- Adjustable back light

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Exterior

The following Ford OEM supplied exterior hardware shall be included; addition items are also listed in this section.

- Front fender vents
- Black grille
- Halogen headlights
- 3-blink lane change signal
- Roof clearance lights
- Solar tinted glass
- Fixed rear window
- Black door handles
- Under hood service light
- Intermittent wipers and integrated washer

Safety

- Engine only traction control
- Driver/Front passenger frontal, side and curtain airbags and any additional OEM supplied airbag protection available
- Passenger side airbag deactivation switch
- Color-coordinated 3-point safety belts in all seating positions with front outboard height adjustment.
- SOS post-crash alert system
- Electric horn

Mirrors / Cab Door Locks and Windows

The mirrors shall be the OEM manual telescoping trailer tow mirrors remotely adjustable, heated glass, heated convex spotter mirrors, integrated clearance lights and turn signals.

Cab Door Locks and Windows

Chassis shall be equipped with power windows and door locks.

Seating

All seating positions shall have aftermarket certified **red** seat belts.

- **Front** - OEM Supplied 40/20/40 split bench with center portion removed for console.
- **Rear** - OEM Supplied Three (3) person bench seat

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Steering Wheel

The chassis shall be equipped with a tilt steering wheel/column.

Cruise Control

The chassis shall be equipped with OEM cruise control feature.

Air Conditioning and Heating

The chassis shall be equipped with OEM air conditioning and heating. A stainless steel ember separator shall be installed at the intake port for the cab air.

Stereo

The chassis shall have an OEM factory installed electronic AM/FM/CD radio with auxiliary input port. Radio shall include a minimum of four (4) speakers.

The chassis shall be equipped with SYNC Technology option. The technology will allow the occupants of the chassis cab to utilize their cell phones with voice-activated hands-free calling and control the audio features of the chassis with steering wheel controls.

Regeneration Control

The Ford chassis shall be equipped with the Fire / Rescue Prep package. This package shall include the following features:

- Operator Command Regeneration
- Dual Heavy-Duty Alternators
- 7,000 lbs. Front Axle Rating

This prep package will allow the end user to place the chassis into "forced" regeneration at a minimum of 30 percent. The prep package will also allow the end user to operate that chassis on an empty diesel exhaust fluid (DEF) tank for an extended period of time.

Summarized directions for regeneration operations shall be on a sticker that is affixed to the visor on the driver's side so that it is visible/readable when the visor is folded down.

Tow Package

Chassis shall be equipped with an OEM High capacity trailer tow package, 7-wire trailer tow harness with relays, blunt cut and labeled. Includes trailer brake wiring kit, upgraded springs, increased Gross Combination Weight, trailer brake controller.

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Trailer Hitch

A Class V trailer hitch shall be mounted to chassis frame at the rear of the apparatus. The hitch shall extend to the leading edge of the rear bumper allowing for improved access. The use of a "stinger" or extension shall not be prohibited to meet this requirement.

A seven pin (blade) RV style trailer plug shall be located on the rear tail skirt centered between the driver side red DOT light and center red DOT light. The trailer plug shall be installed at least 3 inches above the rear bumper skin.

Tow Points

Two (2) front tow eyes rated for 1.5 times the chassis GVWR shall be integrated into the heavy duty replacement front bumper.

Two (2) rear tow eyes rate for 1.5 times the GVWR shall be provided and mounted to the chassis frame. The tow points shall extended through the rear panel just above the rear bumper and shall not interfere with the bumper during the normal twisting of the apparatus.

All tow eyes shall be large enough to attach a threaded clevis but shall not be large enough to pass a tow strap through. All tow eyes shall be powder coated black and be free of rust and/or chips in the powder coating.

Chassis Component Protection

The chassis shall be equipped with a Baja Fabrication aluminum lower radiator skid, engine skid plate, transfer case skid plate, exhaust skid plate, and DEF skid plate. All exterior surfaces of each skid plate shall be coated with a 1-2 mm (minimum) flat black powder coated finish. These guards and shields shall be designed to prevent trapping common grasses and other small debris which may ignite. Reasonable component protection will be provided as manufacturer deems necessary for typical Wildland operations, (easily damaged electrical components, driveline, cooling system, or suspension components). The intent of the shielding is to assist in the protection of the undercarriage components from impact during off road operations.

General Wiring Specification

A single Original Equipment Manufacturer (OEM) battery system shall be installed consisting of matching batteries to operate both the chassis and package electrical system. A single on/off switch shall be supplied by the body builder. This switch (Body Master) shall mount separately or as a part of the master console. When in the "off" position, all electrical power to the apparatus fire package shall be off. The batteries shall be installed in an accessible location.

The apparatus electrical system shall remain independent of the OEM system unless there is authorization from the OEM chassis manufacturer.

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The apparatus body, modules of the apparatus body (i.e. pump house) and chassis shall be individually wired as independent modules and connected as a completed unit at the final assembly via waterproof electrical connectors located in the electrical compartment. The intent of this is to be able to remove portions of the completed apparatus for major service and repair without requiring the electrical system to be cut. Seals shall be provided on each individual wire and the assembly as a whole. All GXL/SXL wiring for the apparatus body shall be within a temperature resistant harness rated at a minimum of 280 degrees. All wires in each harness must be color and function coded. Wiring shall be run along structural rails and tied in a neat and orderly manner. Wiring passing through compartments shall be protected from tears, abrasions, and cuts caused by loose items moving in the compartment space. Wiring shall comply with OEM / component manufacturers' recommendations and standards.

The completed body shall be grounded to the chassis with a minimum "0" gauge wire with crimped and soldered lugs. The lug shall be bolted to the chassis after the removal of all paints, rust, etc. Additionally a minimum 3/4" braided ground strap shall be furnished between the body and chassis. The ground strap shall have soldered tabs on each end and attached to the chassis as above except that stainless steel star washers shall be used between the ground strap tab and bolt. After attachment, all ground connection points shall be sprayed (soaked) with non-hardening battery terminal sealer. A ground strap shall also be installed from the pump engine to the apparatus body.

Electrical Components and Ratings

Electrical Components

All electrical components such as solenoids, speakers, motors, etc. shall be environmentally rated to a minimum of IP67 and shall be MIL-STD 810 compliant for temperature, humidity, vibration, altitude, shock, sand and dust, immersion, contamination by fluids, humidity and solar radiation.

Wire Grade

GXL or SXL Grade Rated from 60-260 F.

Connections Terminations

Connections shall be environmentally sealed to prevent corrosion.

Loom and Ties

All wire loom and wire ties shall be rated to a minimum of 260 F.

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Fire Wrap

See section "FIRE WRAP" section found elsewhere in this specification.

Multiplexed Electrical System

The electrical system shall be equipped with a Class 1 ES-Key multiplex solid state management system. The system shall be capable of performing load management functions, system monitoring and reporting, system data recording, remote or at the vehicle diagnostics without the use of additional modules, and be fully programmable. The system shall be programmed to discontinue functions, by priority, when the apparatus 12 volt electrical system voltage drops below 11.9 volts.

A single enclosed electrical junction compartment for all apparatus modules, connections, relays, circuit breakers, etc., shall be located inside the cab, in a protected location that does not interfere with available floor space. Wire length within the box shall be sufficient to allow a minimum of two (2) inches of slack to allow for secure connections and ease of service. All wire shall be installed in an organized fashion and located so that they cannot be disturbed when loading personnel or equipment.

Supernode II

The Supernode II shall be installed with the modem and data recorder functionality. Shall be mounted in a weather / dust protected compartment. The compartment shall be separate from an equipment storage compartment.

ES-Key Diagnostic Connector and Diagnostic Cable with Pin

One (1) diagnostic RJ9 female receptacle shall be mounted within six (6) inches of the Supernode II. The receptacle shall be mounted so that it is easily identified and a phone line can easily be plugged into it.

Indicator / Warning Light(s)

The following indicator lights are described in greater detail elsewhere in this specification:

- Battery On: There shall be a green LED indicator light visible to the driver which illuminates when the master body switch is activated. The light shall be labeled "BODY MASTER". The LED light shall be mounted adjacent to the master switch, in a position that will help reduce glare within the cab during night operations; this light may be programmed to dim when the headlights are on.
- Door Ajar "DO NOT MOVE APPARATUS": Red LED indicator light shall be provided in the cab and shall flash automatically when the ignition switch is "ON" and a lighted compartment door is "OPEN" or a chassis cab door is "OPEN".

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- Pump Running: Amber LED indicator light shall be provided in the cab that shall illuminate whenever the pump is running.
- Low Voltage Alarm: Red LED indicator light shall be provided in the cab. The light shall flash when the apparatus 12 volt electrical system voltage drops below 11.9 volts. The LED light shall be mounted in a position that will help reduce glare within the cab during night operations.

Low Voltage Alarm

A low voltage alarm shall be provided at the pump panel. It shall provide an audible and visual indication when the apparatus' 12 volt electrical system voltage drops below 11.90 volts.

Perimeter Lights

Two (2) 4 inch diameter round LED step lights shall be mounted on the front panel, one on each side of the body at a level that illuminates the chassis cab step area. These lights shall be mounted in stainless steel bezels. These lights shall function as ground lights for the cab door and shall be activated when the cab doors are opened and/or when the "STEP LIGHTS" switch is "ON".

Two (2), one (1) per side, Maxxima model number MWL-10SP-SM, 2 inch mini bracket mount LED work lights shall be installed on the rear cab guard. The lights shall be positioned on the angled posts of the cab guard in an effort to provide illumination focused on the compartment tops. The lights shall be mounted on a small tap and shall include a quick disconnect feature. The lights shall be wired to the "STEP LIGHTS" button on the SPS panel.

Front Off-Road Lights

Two (2) PIAA LP550 series LED off-road driving lights shall be mounted off-center of the grille guard portion of the replacement front bumper. The lights shall be recessed into the front bumper to aid in protecting the lights and include stone guards. The lights shall be wired to the switch panel located inside the chassis cab.

Back Up Alarm

One (1) self-adjusting back up alarm shall be installed at the rear of the apparatus and have a minimum of 87 dB rating. It shall be energized automatically when the apparatus is placed into "REVERSE" gear. The alarm shall automatically adjust to maintain a minimum of 5 dB (A) above ambient noise level to maximum rated output.

Map Light

One (1) Federal Signal LED flexible goose neck map light shall be provided on the officer's side, passenger side, of the cab center console. The switch for the map light shall be located on the light and shall include a diffuser to prevent glare at night. The map light shall feature white and blue light(s).

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Antenna Base

One (1) antenna mount with coaxial cable shall be supplied and installed in the roof of the cab. The components shall consist of a brass $\frac{3}{4}$ inch New Motorola (NMO) style Antenna Mount and Double Shielded Coaxial Cable soldered to the base. The coaxial cable shall terminate in the cab console and have a minimum of four (4) feet of additional cable. The cable shall be routed from the chassis/cab headliner to the console in a concealed manner. All cables shall be labeled as to where they are installed on the roof. A protective rain cap shall be installed on each NMO antenna mount.

Pre-Wire Chassis Cab for One (1) Customer Radio

The chassis cab interior shall be wired with one (1) wiring bundle for connecting agency mobile radio.

The bundle shall terminate in a Deutsch brand connectors. The antenna wire(s) shall remain separate from the connector. A pigtail shall be included for each bundle, if multiple radios, for connecting the agency radio into the wiring harness. Each bundle including antenna wires shall be labeled RADIO 1 or RADIO 2, if equipped. In addition the individual wires in each pigtail shall be labeled (Battery Power, Ground, PA Input, etc.). The pig tails and antenna wires shall be a minimum of 3 feet.

All connections shall be made to the battery. Blade style fuse holders using the same size and fuse type as the chassis shall be installed in the pigtails for the Constant Power wires but no fuses shall be installed.

The location for the radio installation and radio wiring bundles shall be determined in conjunction with the NFEP, overhead (roof mounting) shall not be acceptable.

Wiring bundle for RADIO 1 shall consist of:

Harness side connector: DT06-08SA

Pigtail side connector: DT04-08PA

- One (1) Red 10 gauge constant power to the battery. This shall split into two (2) 14 gauge wires going into the cavities 1 and 2 on the connector.
- One (1) Red with Black Stripe 12 gauge connected to the chassis ignition, supplying power when either the vehicle ignition is in the Auxiliary or Run position. This shall split into two (2) 14 gauge wires going into the cavities 3 and 4 on the connector.
- One (1) Black 10 gauge ground wired direct to the battery. This shall split into two (2) 14 gauge wires going into the cavities 7 and 8 on the connector.
- One (1) set of 18 gauge wires connected to the radio audio input for the PA system consisting of two (2) Light Blue wires going into the cavities 5 and 6 on the connector. If

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polarity is needed with the audio input for PA System the positive shall be solid (cavity 5) and the negative shall have a White Stripe (cavity 6)

- One (1) antenna lead which shall be labeled coiled and secured near the Radio 1 Connector

Carlsbad Fire Department Radio Model: Bendix King GMH 5992

Emergency Lighting Package General Information

The apparatus shall be equipped with an emergency warning light package that meets or exceeds all recommendations of NFPA 1906 "Wildland Fire Apparatus" and the requirements for intermediate emergency vehicles given in SAE J2498 "Minimum Performance of the Warning Light System Used on Emergency Vehicles."

Light Emitting Diode (LED) Lighting shall be used for all add-on illumination and indicator lighting whenever the option is available, excluding the replacement of Chassis OEM supplied lighting, for all interior and exterior lighting. The smallest NFPA 1906 current edition approved lights available from the selected manufacture, and the required bezel/mounting hardware, shall be used.

All LED lighting shall consist of clear or colored lenses, unless prohibited by law or specified otherwise, with the specified color or clear Diodes. All lenses shall be replaceable, sealed from the environment, and able to withstand constant vibration, extreme heat, and substantial impact with branches and other obstacles found in the Wildland environment.

Electrical system tests shall be performed in accordance with Section 6.13 of NFPA 1906. At the time of delivery, documentation outlined in Section 6.14 of NFPA 1906 shall be provided.

The Emergency Warning Light Package shall be wired to operate without the Body Master switch turned "ON".

State Specific Compliant

The apparatus shall be fully compliant for the State of New Mexico.

Electronic Siren

One (1) Whelen siren control head shall be mounted in the chassis cab in a location convenient to the driver. The siren control head shall have an electronic air horn, public address mode, wired noise canceling microphone, and contain siren tones of wail, yelp, and Hi-Lo. The siren control head shall be back-lit for easy night operations.

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Speaker

One (1) Federal Signal 100 watt siren speaker will be mounted behind the bumper and connected to the siren head. The speaker shall be mounted in a shielded location and be protected by a 14 gauge stainless steel guard to protect it from damage due to branches or brush.

Light Bar

The front and front side zones shall be covered by one (1) Whelen Justice series 56 inch long LED light bar mounted on the cab guard approximately 2 inches above the cab roof to provide good visibility to the front and sides of the vehicle. The light bar shall have approximate dimensions of 56 inches long, 2-1/4 inches high without mounting feet, and 12 inches wide. The LEDs shall be red/white/red. The white section of the light bar shall be wired so that it turns off when the parking brake is set, to meet the NFPA requirements for blocking mode.

The light bar wiring shall incorporate a quick disconnect feature to allow for the removal/replacement of the light bar in the event the OEM cab must be removed for repairs.

Lower Zone A Warning Lights

Two (2) Whelen M2 Series wide-angle, model number M2WR, red LED flashers, with chrome mounting flanges, shall be provided at on the front of the apparatus, forward facing, one (1) per side, in the factory grille.

Zone B/D Warning Lights

Two (2) Whelen M2 Series wide-angle, model number M2WR, red LED warning lights, with a chrome mounting flange, shall be provided on the front corners of the apparatus, one (1) per side, for use as "intersector" lights.

Aft Zone B/D Warning Lights

Two (2) Whelen M2 Series wide-angle, model number M2WR, red LED warning lights, with a chrome mounting flange shall be provided on the sides of the apparatus chassis on the body fenders, side facing, and one (1) per side. The wiring for the lights shall be routed in a manner that protects it from foreign debris. The lights shall be wired to the "EMERGENCY MASTER" switch located on the cab center console.

Lower Zone C Warning Lights

Two (2) Whelen 700 series red LED light heads shall be provided on the lower rear of the apparatus, rear facing, and one (1) each side. The lights shall be located in the top position of the four-position bezel at the rear of the body with the DOT lights.

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"Do Not Move Apparatus" Warning

A red LED light shall be located in the cab console and shall flash automatically whenever the ignition switch is on and a compartment or cab door are open. The compartment open light circuit shall be wired to all cab and compartment doors. The light shall be labeled "Do Not Move Apparatus". The light shall be programmed to illuminate in dim mode during hours of darkness. An audible buzzer shall be provided and activate when the open compartment light circuit is activated and the transmission is engaged (out of park). The buzzer/alarm shall be equipped with an override to disengage it in the case of a faulty switch.

Placard and Labels

APPARATUS FLUID TYPES AND QUANTITIES

A permanently-mounted label, showing the recommended fluid types and quantities for the apparatus chassis and associated components, shall be provided in the apparatus cab interior near the driver's seating position.

This label shall list the recommended fluid types and quantities for the following components:

- Chassis Engine Lubricant
- Chassis Engine Coolant
- Chassis Power Steering Fluid
- Chassis Transmission Fluid
- Chassis Transfer Case Lubricant
- Chassis Drive Axle Lubricant
- Pump Gearbox Lubricant
- Chassis Brake Fluid

SEATING CAPACITY

The completed apparatus shall be designed to have a fully enclosed seat with an approved seat belt for each occupant. The term "fully enclosed" shall mean four sides, a top and a bottom, with an appropriate door for easy entrance to and exit from the seating position.

A warning label, listing the seating capacity of the completed apparatus, shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

This apparatus shall have a seating capacity of two (2) personnel in front, and three (3) personnel in the rear for a total seating capacity of five (5).

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SEATING

The center portion of the 40/20/40 split bench seat shall be removed to accommodate the installation of the center console.

SEAT BELT WARNING

A warning label, stating: "**DANGER- Personnel Must Be Seated And Seat Belts Must Be Fastened While Vehicle Is In Motion Or DEATH OR SERIOUS INJURY MAY RESULT,**" shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

VEHICLE HEIGHT WARNING

A warning label, listing the overall height, width, length and GVWR of the completed apparatus, shall be provided in the apparatus cab interior. This label shall be located so that it is visible from the driver's seating position.

FINAL STAGE MANUFACTURER VEHICLE CERTIFICATION

A Final Stage Manufacturer vehicle certification label shall be provided and installed in the apparatus cab driver's door jamb.

NOISE HAZARD WARNING

A warning label, stating: "**WARNING: Noise Hazards Occur During Siren Operation**", shall be provided and installed in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

AIR FILTER EMBER PROTECTION SCREEN WARNING

A warning label, stating: "**This apparatus is equipped with an air filter ember protection screen; routine inspection is required**" shall be provided and installed in the apparatus cab interior. This label shall be located so that it is visible from the driver's seating position.

The Chassis engine air intake (air-box) cover shall be equipped with a Warning label/placard (approved by the COR prior to installation) that depicts the following information:

WARNING! Prior to removing cover:

1. Remove Ignition Key
2. Disconnect Mass Air Flow Sensor
3. Reassemble completely prior to Starting

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DO NOT CLEAN FILTER WITH COMPRESSED AIR!

Console

A Troy Products center console shall be installed between the front seats. The console shall be modular and allow for the placement of mounted items to be moved by the end-user. The following components/accessories shall be installed:

All electrical loads requiring protection for the switch panel shall be protected by circuit breakers or fuses that are easily accessible within the cab console. Protection shall be rated for 125% of the Max load.

The following controls and switches shall be positioned from forward to aft on the center console as follows:

- One (1) mini-water level indicator
- One (1) flexible map light
- One (1) radio specific faceplate
- Three (3) microphone clip brackets (one for the siren and one on each side of console for the department's radio)
- One (1) switch panel with sixteen (16) switches
- One (1) electronic siren controller
- One (1) 2 position cup holder
- One (1) 4 position 12V power outlet
- One (1) six inch storage compartment

SPS Panel Layout / Programming

All accessory and emergency lighting shall be controlled by a master electrical control module mounted in a location within the cab that is easily accessible by driver and operator. The module shall consist of a multiplex smart programmable switch (SPS) module of eight (8) double throw lighted rocker switches. The module shall have back lighted identification plates on a non-glare panel face illuminated when the master switch is "ON".

The function and layout of the eight (8) double throw switches are as follows with the first switch located at the far left of the panel.

Switch 1 Upper: EMR LIGHTS:

- Description: Activates all emergency or hazard lights
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": No

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Switch 1 Lower: PUMP MASTER:

- Description: Provides power to the pump, hose reel, operator's panel, foam system, water/foam level indicators
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

Switch 2 Upper: UPPER CANCEL:

- Description: Deactivates all upper zone emergency or hazard lights
- Function: Switch is press on press off
- Indicator: Indicator light flashes when activated
- Requires Body Master to be "ON": No

Switch 2 Lower: LOWER CANCEL:

- Description: Deactivates all lower zone emergency or hazard lights
- Function: Switch is press on press off
- Indicator: Indicator light flashes when activated
- Requires Body Master to be "ON":

Switch 3 Upper: HIGH IDLE:

- Description: Activates/Deactivates the high idle function of the chassis motor. This function shall only function if the chassis transmission is in "PARK" or "NEUTRAL" and the parking brake is set. The function deactivates if any of the following happen; the chassis transmission is shifted out of "PARK" or "NEUTRAL", brake pedal is pressed, parking brake is released, or the switch is pressed again.
- Function: Switch is press on press off
- Indicator: Indicator flashes when activated
- Requires Body Master to be "ON": Yes

Switch 3 Lower: UNUSED

- Description:
- Function:
- Indicator:
- Requires Body Master to be "ON":

Switch 4 Upper: PERIMETER LIGHTS:

- Description: Activates/Deactivates the step lights on the apparatus body and rear bumper
- Function: Switch is press on press off
- Indicator: No Indicator light shall be observed
- Requires Body Master to be "ON": Yes

Switch 5 Upper: COMPARTMENT LIGHT MASTER:

- Description: Activates/Deactivates the LED strip lighting in the compartments
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

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Switch 6 Upper: LEFT SCENE:

- Description: Activates/Deactivates the left side scene light
- Function: Switch is press on press off
- Indicator: No Indicator light shall be observed
- Requires Body Master to be "ON": Yes

Switch 6 Lower: REAR SCENE:

- Description: Activates/Deactivates the rear scene lights
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

Switch 7 Upper: RIGHT SCENE:

- Description: Activates/Deactivates the right side scene light
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

Switch 7 Lower: HORN / SIREN:

- Description: Designates whether the chassis horn toggles the siren or sounds the electrical horn
- Function: Switch is press on press off
- Indicator: Illuminates solid in siren mode
- Requires Body Master to be "ON": No

Switch 8 Upper: HOSE REEL:

- Description: Activates/Deactivates the hose reel rewind feature
- Function: Switch is momentary when pressed
- Indicator: Indicator flashes when activated
- Requires Body Master to be "ON": Yes

Switch 8 Lower: ALARM CANCEL:

- Description: Cancels the audible alarm that alerts a compartment door is open when the parking brake is released or the vehicle has a low voltage condition. This alarm cancel function shall reset with any of the following conditions: the chassis ignition is turned off, the parking brake is set, or the switch is pressed again.
- Function: Switch is press on press off
- Indicator: Indicator light flashers when activated
- Requires Body Master to be "ON": No

Front Bumper / Brush Guard

The chassis shall be equipped with a Go Industries custom heavy duty plate style front bumper/grill guard. The front bumper/grill guard shall meet the requirements of NFPA 1906 current edition. The front bumper/grill guard shall be designed so that it does not affect the chassis manufactures warranty. The front bumper/grill guard shall be designed so that it does not negatively affect the chassis approach angle. The front bumper/grill guard shall be equipped with provisions for winch

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mounting. The front bumper/grill guard shall be equipped with two (2) precut holes/grates to accommodate off-road driving light in a protected location. The front bumper/grill guard shall be equipped with two (2) integrated external tow eyes with a rated capacity sufficient to extricate the apparatus if necessary. Each tow eye shall be equipped with bolt-on D-Shackles with a rated capacity sufficient to extricate the apparatus if necessary. The weight of the front bumper/grill guard shall not exceed 175 lbs. All exterior surfaces of the entire grill guard assembly shall be coated with a minimum 1-2 mm flat black powder coated finish. The front bumper shall contain a license plate mounting position with holes or a bracket for mounting.

Winch

One (1) Warn electrically operated 16,500 pound 12 volt winch with hook, 90 foot cable, and 12 foot remote control shall be provided.

Rear Bumper

The rear bumper shall be 3 inch tall by 8 inch deep and extend across the entire width of the apparatus. The bumper shall be fabricated from heavy duty steel tubing and shall be powder coated black. The top of the bumper shall be a 4F stainless steel CNC punched and perforated non-skid resistant surface.

Mud Flaps

One (1) pair of flexible rubber mud flaps shall be provided on both sides of the apparatus body behind the rear wheels. The mud flaps shall attached the backside of the rear bumper, between the body and bumper, via a mounting plate that shall be welded to the bumper.

The mud flaps shall extend down far enough to be effective, but shall not allow the mud flaps to become entangled with the rear tires when the apparatus is backing up.

Ember Separator Screens

The chassis air intake shall be protected by an ember guard of 18 mesh, 0.017 inch wire diameter, and a maximum mesh opening of 0.039 inches. The ember guard shall be sized to fit the intake opening. An additional ember guard shall be installed on the "pre-heater" side of the chassis air filter box. This guard will require the OEM foam filter to be modified by neatly cutting the foam filter off at the point it begins to ramp downwards. The guard shall utilize the same wire mesh screen described for the main intake opening on the air filter box.

The cabin air filter shall be protected by an ember guard with a maximum mesh opening of 0.039 inches.

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Chassis Component Protection

The chassis shall be equipped with a Baja Fabrication aluminum lower radiator skid plate. All exterior surfaces of each skid plate shall be coated with a 1-2 mm (minimum) flat black powder coated finish. The chassis shall be equipped with OEM supplied factory skid plates that shall include the transfer case, diesel exhaust fluid tank, and diesel fuel tank.

The intent of the shielding is to assist in the protection of the undercarriage components from impact during off road operations.

Apparatus Body Construction

The apparatus body shall be designed for fire/rescue service operations and shall be constructed to withstand off-road use. The body shall be of sufficient design to be capable of withstanding the twisting and abnormal flexing, stresses, and other occupational hazards caused by traveling on unimproved mountainous and rangeland roads.

The installation of hardware parts such as hinges, catches, handles, or knobs shall be accomplished to avoid damaging the hardware or the mounting surface. After fabrication, all parts shall be cleaned of the following: smudges; loose, spattered, or excess welding; metal chips or fillings; or any other foreign material which might detract from the intended operation, function, or appearance of the apparatus or its equipment. This would include any particles which could loosen or become dislodged during the normal expected life of the equipment. Whenever possible, this cleaning shall take place before the parts are assembled.

Threaded parts or devices shall show no evidence of cross-threading, mutilation, or detrimental burrs. All screw type and rivet fasteners shall be tight to allow no relative movement between the attached parts. All bolts and screws shall not be tightened in excess of the SAE torque standard established for the grade, screw, and thread type.

The entire body shall be removable in its entirety without the disassembly of any compartments, flooring, or other structural components.

The body shall be designed to be approximately as wide as the outside wheel track on the rear axle. This will allow the apparatus to maneuver more easily in off-road environments. The body shall be approximately 95 inches wide form side to side at the rear of the apparatus.

Each compartment shall have a 3/4 inch drain located in the rear of the compartment fitted with an easily removable rubber grommet closure.

The top of the apparatus shall have a nonskid surface across the entire area. The non-skid shall be consistent along the tops of the body and be free of any dirt, grease, or foreign material. There surface directly under the independent body modules shall be a smooth gel coated finish to allow for

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a better seal between the bottom of the independent body modules and top of the body. Additionally the top of the apparatus body shall support, without distortion, a walking person weighing up to 300 lbs.

The entire apparatus body shall be an independent structure fabricated from bonded and molded fiber reinforced composite panels and compartments. The resin shall be thermoset and shall not be subject to distortion or loss of structural integrity at temperatures at minimum of 350° Fahrenheit (176 Celsius). This shall provide a strong, lightweight, corrosion free structure that will withstand extremely high temperatures.

All fiberglass used in the construction of the body shall be grade "E" or "S," and the resin to glass ratio shall be a 30/70 ratio average or higher. The glass reinforced polyester shall not be less than 3/16" thick at any point on the body. Additionally, all coring materials shall have a minimum covering of 1/8" thick glass and resin on either side. All coring for bulkheads, partitions, floors, compartments, and doors shall be either PVC-based, rigid, closed cell structural foam, or composite material. Wood is not acceptable. The apparatus manufacturer shall determine the proper thickness and foam density for each particular application.

The fiber composite body shall allow for up to 30° flex off-center without causing body fatigue or component failure.

Apparatus Frame Construction

The apparatus body and compartments shall be supported with a frame of channel or tubular aluminum members. The frame shall extend under the wheel well areas at the front and rear and shall be attached to the compartments. The cross-members in the support system shall be spaced so that there is no more than 1/4" of vertical deflection per 256 square inches when 250 lbs. is evenly distributed over 40 square inches. All tubular aluminum shall have a minimum wall thickness of 3/16" and any channel shall be a minimum of 1/4" thick. The frame shall be constructed to become an integral portion of the apparatus body.

The channel or tubular aluminum deck and compartment support frames shall be strong enough to support 5000 lbs. in the bed area and 1000 lbs. of equipment in each side compartment (the actual load capability of the completed apparatus may be limited by the GVWR).

Flexible Mounting

A spring loaded body mounting system shall be used to mount the body to the chassis. This system shall be designed to allow independent movement between the body frame and the chassis frame. The design shall also isolate and protect the body module from the stresses and twisting rendered by the flexing of the chassis frame rails.

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The body front will be mounted utilizing springer mounts and rear mounting brackets, including bumper mounting brackets, shall all be pre-engineered for their intended use. All of the mounting hardware, i.e. nuts, bolts, washers, required for complete body installation shall be Grade 8 for sizes 1/2 inch and smaller and Grade 5 for sizes larger than 1/2 inch. All of the mounting hardware shall be plated to reduce corrosion. All nuts will be self-locking style

All mounting brackets shall be powder coated black.

Vertical Surfaces

The entire vertical surfaces at the front and rear of the body shall be covered with a minimum 1/8 inch thick polished aluminum tread plate for appearance, wear, and enhanced visibility at night. The tread plate shall be designed so that joints are minimized and shall cover the entire vertical surface area. The tread plate shall also incorporate protection of the outboard corners and serve as corner scuff guards.

If the customer's graphics package requires rear chevron striping, the rear panel of the apparatus body shall be covered with 1/8 inch thick smooth aluminum for the application of the chevron striping.

Apparatus Body Trim

All outside vertical edges (on the four outer corners) shall be equipped with stainless angle trim pieces fabricated to fit tightly and sealed with silicone for added protection and visual appeal.

Outside horizontal edges along the bottom of each side shall be equipped with stainless angle fabricated to fit tightly and sealed with silicone for added protection and visual appeal.

There shall be a stainless steel liner attached to the underside of the rear compartments to aid in protecting the body in the event of a blown tire. Each of these sheets shall be attached with stainless steel bolts with self-locking nylon nuts. The use of rivets shall not be acceptable.

Steps and Grab Handles

Two (2) NFPA compliant fold down steps shall be mounted at the rear of the apparatus passenger side to provide easy access to the top of the apparatus. The steps shall be arranged in a manner that provides easy climbing access from the rear bumper to the top of the apparatus. The steps shall be constructed from heavy duty cast aluminum with spring assisted folding hinges. The top of the steps shall have an integral diamond point skid resistant surface what allows water to flow off the step without forming ice in the cold weather use.

Handrails shall be mounted near the steps to assist with accessing the top of the apparatus. The handrails shall be constructed from a single 1-1/4 inch diameter polished aluminum extrusion. Rubber inserts shall be fitted into grooves on each quadrant of the circumference to provide a superior slip resistant grabbing surface. The handrail shall be then mounted in smooth, polished

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aluminum mounting pedestals with rounded end caps. The final mounting location shall be determined during the pre-work conference.

One (1) warning plate shall be affixed to the rear of the apparatus body in a conspicuous location. The warning plate shall read "WARNING: DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION. DEATH OR SERIOUS INJURY MAY RESULT."

Compartmentation

Side compartments with flush doors shall be provided on both the driver and passenger sides for storage of equipment such as long handled hand tools, power tools, hoses/ fittings, fuel, camping gear, and other supplies. Compartment interiors shall be completely open except for latch and shelving hardware, (obstructions caused by body framework, lighting mounts, or other structural features shall not be accepted. The clear inside depth for each compartment shall be no less than 19 inches behind the closed door excluding latch hardware.

Each storage compartment shall be sealed to prevent the entry of water, dust or other foreign matter during operations, there shall be no compartment venting holes (unless specified for fuel storage). To prevent water entry, compartment openings shall be equipped with rubber weather stripping door seals. Hardware attachments to any portion of a storage compartment shall be completely sealed with weatherproof silicon. Compartment seams shall be completely sealed with weatherproof silicon.

Compartments shall be able to successfully pass a weatherproof test. In order to pass, the interior of the compartment shall remain dry after water from a typical garden hose has been applied to the exterior of each compartment top and side door area for two (2) minutes. t top and side door area for 2 minutes.

Driver Side Storage Compartment(s)

The driver's side lower module of the apparatus body shall have approximate overall dimensions as specified. It shall consist of three (3) compartments, each with specified approximate clear depth behind the door when the door is shut. Each compartment shall have a "flow through" vent provided to supply air flow and minimize moisture unless designated as fuel storage.

Lower module dimension:	108" W x 19-1/2" D
Clear Depth:	19"

One (1) rescue style compartment shall be provided forward of the rear wheels, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have approximate clear door opening as specified.

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Compartment dimension: 36" W X 41" H X 19-1/2" D
Clear door opening: 30" W X 33-3/4" H

One (1) compartment shall be provided center above the rear wheels, with approximate inside dimensions as specified. The door shall be a horizontally hinged, drop-down door, and have an approximate clear door opening as specified.

Compartment dimension: 40" W X 22" H X 19-1/2" D
Clear door opening: 37" W X 14-3/4" H

One (1) compartment shall be provided aft of the rear wheels, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have an approximate clear door opening as specified.

Compartment dimension: 30-1/2" W X 41" H X 19-1/2" D
Clear door opening: 23-1/2" W X 33-3/4" H

Passenger Side Compartment(s)

The passenger's side lower module of the apparatus body shall have approximate overall dimensions as specified. It shall consist of three (3) compartments, each with specified approximate clear depth behind the door when the door is shut. Each compartment shall have a "flow through" vent provided to supply air flow and minimize moisture unless designated as fuel storage.

Lower module dimension: 108" W x 19-1/2" D
Clear Depth: 19"

One (1) rescue style compartment shall be provided forward of the rear wheels, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have approximate clear door opening as specified.

Compartment dimension: 36" W X 41" H X 19-1/2" D
Clear door opening: 30" W X 33-3/4" H

One (1) compartment shall be provided center above the rear wheels, with approximate inside dimensions as specified. The compartment shall be accessible from two (2) sides. The passenger's side door shall be a horizontally hinged, drop-down door, and have an approximate clear door opening as specified. The rear door shall be a horizontally hinged, drop-down door, and have an approximate clear door opening as specified.

Compartment dimension: 71" W X 21-1/2" H X 19-1/2" D
Passenger side door opening: 66" W X 13-1/2" H
Rear door opening: 12-1/2" W x 6" H

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One (1) compartment shall be provided aft of the rear wheels, below the upper horizontal compartment, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have an approximate clear door opening as specified.

Compartment dimension: 30" W X 18" H X 19-1/2" D
Clear door opening: 24" W X 14-1/4" H

Suction Hose Compartment

A horizontally hinged, drop-down door, shall be located at the upper rear facing portion of the passenger side pack. The door shall be positioned as high as possible and shall have a small rubber bumper placed on the outside of the door to prevent contact with the fold down step when in the "OPEN" position. Three (3) aluminum square tubes shall be mounted as high as possible and transect the passenger side front compartment and passenger side long horizontal compartment. The tubes shall be mounted in a manner that allows each suction hose to be easily remove or stored with the foot valve and strainer attached.

Compartment Door Construction

Each closed cell door shall be sized to provide easy access to all interior areas of the cabinet. All door closures shall be weatherproof. The interior surface of the cabinet doors shall be a gel coat surface of a quality and uniformity equal to that of the service body's exterior surface. The doors shall be cored with closed cell PVC foam. Each door shall be rigid and maintain contact with all points of the weather stripping. Weather stripping shall be bulb type, attached to the opening flange of the cabinet opening, and used to cover any rough edges. All hardware shall be corrosion resistant and suitable for its intended use. All nuts and bolts shall be stainless steel.

Red/white reflector DOT striping shall be installed on the interior surface of all vertically hinged doors.

Door Latches

Door latch assemblies shall be a stainless steel removable large locking "D" ring type for easy hand insertion. Door locking mechanisms shall be an automotive design to allow for easy opening and closing by slamming the door shut. Latches which require the turning of the latch to shut are not permitted. The locking mechanism shall not be exposed to interior of cabinet. Compartments wider than 44 inches require two (2) latches; all other body compartments shall be equipped with a single latch. Each door shall be keyed the same (# 1250), tumblers shall have the same orientation, either all horizontal or all vertical, when unlocked and the same direction of rotation for locking.

Door Hinges and Retainers

All vertically-hinged, outward-opening compartment doors shall be provided with an over center door check to hold the door in the desired position. The door check shall be attached to the top of the door

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and fastened to a stainless steel plate bolted into the body and door. The passenger side front compartment shall utilize a gas shock as the door opening device. This is used due to the full length shelf pertaining to the hard suction hose compartment.

All vertically-hinged, outward opening compartment doors shall be capable of being closed with one hand, allowing a free hand to hold equipment or supplies.

Each horizontally hinged door shall be equipped with add-a-link style (removable) retainers and small rubber bumpers installed on the body fenders to allow full 180 degree opening for improved access into the compartment. A piece of black heat shrink shall be utilized over the crimp.

All horizontally-hinged, overhead lift-up, outward opening compartment doors shall be provided with two (2) extending, gas cylinder type hold open devices, one (1) mounted vertically on each side of the compartment door opening. The pressure rating of the gas cylinders shall be carefully matched to the size and weight of the compartment door, and shall hold the compartment door securely open to a greater than 90° angle without additional support. The gas cylinder hold openers shall dampen the upward movement of the compartment door while opening, and shall permit the closing of the compartment door without the need to release any type of manual locking devices.

All horizontally-hinged, overhead lift-up compartment doors shall be capable of being closed with one hand, allowing a free hand to hold equipment or supplies.

Adjustable Shelving Track

Vertically-mounted composite shelving tracks shall be provided and installed in all enclosed body compartments, except passenger's side lower rear compartment and independent modules, for the current or future installation of infinitely-adjustable shelving, slide out trays or equipment brackets. The composite tracks shall allow for the shelves to be adjustable every two inches vertically utilizing nylon reinforced composite shelving standards with embedded stainless lock nuts.

Shelving Construction and Layout

Each shelf shall be constructed of protruded fiberglass and shall be capable of supporting a minimum 250 pounds unsecured load without being damaged or permanently distorted.

The shelf locations shall be as follows:

- Three (3) in the driver's side compartment forward of the rear wheels
- One (1) in the driver's side center compartment
- Three (3) in the driver's side aft compartment
- Three (3) in the passenger's side compartment forward of the rear wheels
- One (1) in the passenger's side center (long horizontal)
-

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- Three (3) aluminum square tubes shall be mounted as high as possible and transect the passenger side front compartment and passenger side long horizontal compartment. The tubes shall be mounted in a manner that allows each suction hose to be easily removed or stored with the foot valve and strainer attached.

Compartment Vents for Fuel Storage and Chainsaw

Three (3) compartments shall contain exterior vents. Each of these compartments shall have one (1) vent in the door face and one (1) vent in the rear wall to allow air circulation to aid in reduction of fumes caused by fuel storage and chain saws. A label noting "FUEL STORAGE COMPARTMENT" shall be installed on the outside of the door in plain sight.

The compartment(s) that shall be vented are:

- Driver Side Center
- Driver Side Rear
- Chainsaw Compartment (integrated into tank)

A permanent warning label shall be affixed to the exterior surface of the passenger side rear compartment. The label shall read "DANGER: Do Not Store Flammable Liquid or Combustible Material in this Compartment". See placard below.



Removable Drip Torch Tray

A drip torch tray capable of securely holding two drip torches upright shall be installed in the driver side rear compartment. The drip torch tray shall be constructed from aluminum or stainless steel. The design of the drip torch tray shall include a "wrap around" holder to secure the torches on rough terrain. The wrap around holder shall have the following dimension: diameter of 6.5 inches, height of 9 inches, with a slot opening of 2.5 inches, approximately 45 degree, to allow access to the drip torch handle. The tray shall act as a catch pan for spilled fuel and be removable to drain the spilled fuel. There shall be a retention system to allow the tray to be transferred from the designated fuel compartment to the rear bumper on the driver side, to allow the tray to be used temporarily from the bumper position during fire suppression efforts. In addition to the "wrap around" holder, the tray shall have a spring holder retention system to secure the drip torches to the tray, both in the stored configuration and the deployed configuration (i.e. torch wand and wick deployed).

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Compartment Floor Mats

All enclosed side body compartments shall have floor mats installed in them, custom cut to fit the compartment floors. The floor mats shall be black in color and shall be easily removable to allow the compartment to be cleaned. The floor mats shall be designed to provide ventilation to the equipment stored in the compartment, and to protect the stored equipment from direct contact with the compartment floor surfaces.

Pump Area Cover (Walk-Over) with Hinged Access

The apparatus shall be equipped with a removable plumbing area cover. All materials used in the construction and mounting of the cover shall be non-corrosive. The cover shall be fabricated of 3/16 inch aluminum CNC punched walking surface with an aluminum 2 inch by 2 inch by 3/16 inch square tube support frame. The tube frame shall be fully removable for ease of pump system maintenance. The top of the cover shall be designed to provide a walkway access across the rear of the apparatus and provide shielding from the pump and plumbing manifold area. The cover shall open in the center, gull wing style, with stainless steel hinges on the outboard positions to allow easy access to the plumbing area without the use of tools. The cover shall be capable of supporting, without distortion, a walking person weighing up to 300 lbs. The walking surface shall comply with NFPA 1906. The hinged covers shall have hand railing on either side of the covers to aide in climbing and walking on top the vehicle. The cover shall be mounted and attached securely for travel in the off-road environment. There shall be a positive locking pins permanently attached, with stainless steel aircraft cable, to the structure to maintain closure.

Stainless Steel Railing Package

A stainless steel railing system shall be installed on the top of the side packs. The purpose for the railing is to prevent any equipment stored on top of the vehicle from sliding off as well as providing tie-down points for equipment. The rails shall be 1-1/4 inch diameter tubing. The top of the railing shall be approximately 13-14 inches high. The railing shall be capable of supporting up to 300 lbs. without distortion and shall be secured to the side packs in such a manner that using them as grab handles/rails shall not tear the uprights out of the side packs. The rails shall start at the cab guard, travel along the outer edges of each side pack.

Wheel Well Area

The wheel well panels shall be constructed as independent components of the apparatus body. They shall be attached with screws or bolts to allow easy replacement if necessary. Sufficient clearance shall be provided for the use of tire chains. The inside of each wheel well shall be lined with three (3) separate pieces of a minimum 16 gauge stainless steel sheet material to protect the underside of the entire body wheel well area against damage from rocks or broken snow chain links.

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Rear Cab Protection

There shall be a permanently mounted aluminum square tube cab window guard mounted at the front of the body directly behind the cab. The purpose of the guard is to protect the rear cab area and rear window, add structural integrity of the apparatus body, and provide mounting points for the apparatus' light bar and two (2) flood lights. The guard shall contain a means of concealing and protecting the wiring required to supply power to the lights. The mounting point of the apparatus light bar shall extend approximately 2 inches above the roof height of the cab and **shall be removable**. The guard shall be constructed in a manner that allows for clear vision into and out of the cab area by the use of an aluminum mesh window screen. The window screen shall be an integral part of the guard with the tube being slotted for installation of the screen. The window screen shall be welded to the tube to prevent vibration. This design shall protect the user from possible snagging of clothing or equipment on rough edges. There shall be drain holes in the bottom of the tubes to allow for water to exit. The cab shield assembly shall be powder coated black.

Roller Assembly on Compartment Tops

Two (2) polished aluminum roller assemblies shall be provided, one (1) on each side of the apparatus body on top of the independent compartments located 2" inboard from the leading edge. The rollers shall be designed to allow hose from the center mounted hose reel to be unloaded to either side of the vehicle without snagging equipment on the apparatus. The distance between the rollers shall not exceed the width of the hose reel. The roller assemblies shall be mounted to a smooth aluminum plate that will aid in protecting the body during deployment/rewinding of the booster hose.

Pump / Auxiliary Engine

A Darley 1-1/2 AGE fire pump, powered by a Kubota model D902, 24.8 HP four-cycle, water cooled diesel engine shall be provided and fixed mounted in the rear compartment. The pump shall be equipped with a 12V gear driven electric starter that is controlled from the pump operator's panel and a USFS-qualified spark arrestor.

The auxiliary pump/engine shall be equipped with an automatic water pressure and oil pressure safety systems.

The Water Pressure switch shall be designed to kill the pump engine when water pressure drops below 15 PSI. A toggled override switch located on the pump panel with cover shall be incorporated into the system for use during initial set up and/or drafting operations.

The Oil Pressure switch shall be designed to kill the pump engine when oil pressure drops below 10 PSI. This safety shall be a programmed feature within the LOFA Industries EP250 panel.

The pump engine shall be covered for protection. A warning plate shall be permanently affixed to the top of the pump engine cover that shall read, "**WARNING: NOT A STEP.**"

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PUMP SPECIFICATIONS

As installed on the apparatus, the pump shall be capable of delivering 50 GPM minimum at 250 PSI output pressure from a 5 ft. lift through 24 ft. of 2 inch suction hose with a strainer and also from the apparatus water tank.

In addition, the pump manufacturer shall certify that the pump can deliver the following capacities as measured at the pump head and at net pump pressure from draft under test conditions listed:

Capacities:

- 115 GPM @ 150 PSI net pump pressure
- 70 GPM @ 250 PSI net pump pressure
- 40 GPM @ 300 PSI net pump pressure

Tested under the following conditions:

- An elevation of not more than 2000 ft. above sea level
- Through a single intake with 20 ft. of 3" suction hose equipped with a suction hose strainer
- With a lift of 5 ft.
- At 29.9" Hg atmospheric pressure (corrected to sea level)
- At a water temperature of 60°F

Pump Panel Gauges and Controls

All pump engine controls and indications described elsewhere in these specifications shall be contained in a stainless steel pump panel located at the rear of the apparatus. The pump panel shall be positioned so that the controls are easily operated by a person standing on the ground at the rear of the unit. The panel shall be structurally capable of holding a 300 lb. person standing on the top when installed on the unit. The rear of the panel shall be partially enclosed for added protection from the environment. The panel shall be equipped with a swing out access door that opens out, towards the pump operator, for easy field access to wiring and other components. The panel shall be able to swing open to a minimum of 90 degrees for service and inspection. The panel shall be constructed from 14 gauge 4F "satin" finish stainless steel.

Panel Lighting

The panel shall be illuminated by two (2) LED lights under a hood formed by the top of the pump panel. The lights shall have a quick disconnect so that they can be removed from the panel top easily for replacement.

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One (1) OnScene Solutions 18 inch LED light strip shall be installed on the back of the pump operator's panel running vertically and serve as plumbing lights. The LEDs and electronics shall be enclosed in a 5/8" diameter Lexan tube that is sealed at both ends with rubber caps to create a waterproof environment and be suitable for mounting in a wet location. The LEDs shall be in a row one inch apart and have a beam angle of 120 degrees. The tube shall rotate to adjust the beam direction as required. The light shall fit in a 20" space and be secured with two (2) molded nylon mounting clips.

The panel lights and plumbing lights shall be controlled by the same switch at the pump panel, which requires the "PUMP MASTER" switch to be "ON".

The operator's panel shall contain the following controls and gauges:

- A. Water pressure gauge
- B. Electronic water level indicator
- C. Electronic foam level indicator
- D. Panel light switch
- E. Master drain handle
- F. Discharge manifold drain control
- G. Foam system controls
- H. The pump primer controls
- I. By-pass control
- J. Throttle
- K. Winterization air inlet
- L. LOFA panel with the following
 - 1. Tachometer
 - 2. Hour meter
 - 3. Oil pressure gauge
 - 4. Water Temperature gauge
 - 5. Voltmeter
 - 6. Glow plug light
 - 7. Engine "ON/OFF/START" and glow plug switch/light
 - 8. Low water pressure override switch, labeled "PRESSURE OVERRIDE"

All gauges, controls, discharges and suctions shall be labeled. All knobs on all valve handles shall have Loctite in place to prevent them from coming loose during off-road operation.

Horn/Siren Activation Switch

A switch shall be located on the pump panel to activate the chassis horn or the siren system air horn/siren. The switch shall be marine style sealed momentary switch with a chrome button protector ring to aide in the prevention of accidental impact. The switch shall be labeled "HORN". Adjacent to

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the switch, behind the swing out panel, in an easily identifiable location, the circuit for this switch shall be fused and labeled in order to disable the horn in the event of a switch failure.

Plumbing Construction

The main suction and discharge plumbing shall be welded stainless steel pipe or high pressure flexible hose with appropriate fittings designed to withstand the normal operating pressures of the pump. Victaulic couplings shall be used where appropriate to allow easier disassembly for maintenance. The stainless welds shall be cleaned and polished. Deck mounting of the plumbing components shall be maximized to the greatest extent possible to eliminate hanging fixtures and minimize component shifting, loosening, etc. Sweeping elbows and tees shall be used to improve flow. All high pressure hose shall be installed with a swivel or Victaulic coupling on at least one end of the hose. Pump-to-Plumbing vibration isolation shall be provided by using either flexible hose connections or two (2) Victaulic couplings on the intake and discharge of the pump. The nominal sizes of all of the plumbing supplying the pump and discharges shall be as follows:

- Main suction – 2 inch NPSH
- Discharges - Stainless steel pipe to be 2 inches and reduced to 1-1/2 inch NH at the valves
- Hose reel - 1 inch NH

All discharges and intakes shall have brass chrome rocker lug style bleed caps with stainless steel jacketed air craft cable.

Elkhart Valves

All fire service vales shall be Elkhart Brass fire service, swing out style with self-adjusting seats for sizes one (1) inch and larger where applicable, quarter turn valves. All valves shall be locally controlled at the valve. Valve handles shall be oriented to the direction of flow in line with plumbing when "OPEN" and perpendicular to the flow when "CLOSED".

Master Drain

The apparatus shall be equipped with a Waterous master drain valve shall be plumbed to the pump, suction plumbing and discharge plumbing as required to fully drain the piping and pump to prevent damage from freezing. The drain valve and associated plumbing will be designed to withstand pressures of 600 PSI. The master drain shall be labeled "NO 11 PUMP AND PLUMBING DRAIN".

A "DISCHARGE MANIFOLD" drain shall be supplied for those discharges that are "foam capable" to prevent the potential of cross-contamination. The drain shall be located on the operator's panel and controlled by a quarter turn valve. The valve shall be labeled "NO. 11 DISCHARGE MANIFOLD DRAIN".

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Truck Identification and Pump Performance Plate

A durable identification plate shall be provided and installed on the pump operator's panel. The plate shall state the name and address of the apparatus manufacturer, the serial number of the unit and the pump performance test results. The plate shall provide flow performance information at 5 foot lift with 24 feet of suction hose with suction strainer at the following pressures:

- 150 PSI
- 250 PSI
- 300 PSI

Pump Operating Instruction Plate

An identification plate shall be provided on the pump operator's panel with which indicates valve position ("O" = open, "X" = close) for the following operations:

Tank to Fire
Suction to Fire
Suction to Tank
Drain Plumbing
Drain Tank and Plumbing
Prime

Winterization Port

A winterization air inlet port shall be provided at the operator's panel. This port shall provide a means to attach an air hose to the plumbing to low water out of the entire plumbing system. It shall have a check valve and be capable of withstanding high pressure from both the air supply system and the water pump on the apparatus.

Valve Labeling System

Each valve shall be labeled as to its function immediately adjacent to the valve control. The valves shall be labeled in accordance with the U.S. Forest Service valve numbering system in common use with off-road firefighting agencies. The labels shall be bolted to the mounting plate and the mounting plates shall have rounded corners. A placard with an identification key shall be affixed at the rear of the apparatus visible to the operator(s).

Discharge Pressure Gauge

One (1) 4 inch liquid filled pressure gauge shall be supplied for the pump discharge. It shall be marked in pounds per square inch (PSI) with an indicating range of -30" HG to 0 to 400 PSI. The gauge shall be located on the pump operator's panel. The gauge shall be equipped with a freeze protection diaphragm and shall be equipped with a drain cock (vent) at the gauge connection line drain.

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Pump Cooling Line

A 1/4 inch by-pass cooling line with check valve and 1/4 turn ball valve shall be provided. The valve shall be labeled "open" and "closed" and a warning label shall be affixed near the valve that states "pump damage can occur if valve is closed." The valve handle position shall be vertical when open and horizontal when closed. This line shall provide sufficient cooling for the pump under all operations while minimizing the pressure loss in the line. This line shall be plumbed from the discharge side of the pump to the tank fill piping at the tank.

Electronic Water Level Indicator(s)

One (1) Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

One (1) Fire Research TankVision model WLA305-A00 miniature tank indicator shall be installed in the cab. The indicator shall show the volume of water in the tank on five (5) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be manufactured of aluminum and have a distinctive blue label. The miniature tank indicator shall be dimmable.

The miniature indicator shall receive input information over a single wire from a Fire Research TankVision model WLA300-A00 tank primary indicator.

The indicator shall be calibrated at the time of inspection.

Electronic Foam Level Indicator

Fire Research TankVision model WLA360-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, a 10' sensor cable and a tank vent. The indicator shall show the volume of Class A foam concentrate in the tank on nine (9) easy to see super

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bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive green label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a datalink to connect remote indicators. Low foam warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the foam tank near the bottom. No probe shall place on the interior of the tank. The foam tank vent shall be installed on the foam fill tower. Wiring shall be weather resistant and have automotive type plug-in connectors. **The location of the transducer shall be easily accessible.**

In addition, one (1) external site glass shall be provided at the rear of the apparatus to show the foam level of the tank.

Priming Pump

One (1) Hale positive displacement, oil less, rotary vane, electric motor-driven priming pump, conforming to the NFPA requirements, shall be provided and installed above the lower edge of the frame rail on the driver's side of the chassis. The primer pump body shall be fabricated from heat-treated anodized aluminum for wear and corrosion resistance.

The primer pump electric motor shall be of a 12 VDC totally enclosed design. The priming pump shall not require lubrication from an external source. The priming pump shall be operated by a single push-pull control valve mounted on the pump operator's panel. The control valve shall be of all bronze construction.

The primer valve handled shall be labeled "NO 6 PRIMER VALVE".

Suction Side Plumbing

All suction side plumbing shall be 2 inch in diameter unless otherwise noted.

One (1) 2 inch tank-to-pump valve shall be provided. It shall have a locally controlled fire service valve located at the rear of the apparatus within operator's reach when standing on the ground.

One (1) 2 inch diameter rear suction shall be provided. The suction shall be directed towards the rear of the unit. The valve shall be easily accessible from the rear of the apparatus. It shall have a fire service valve with NPSH treads, a polished chrome rocker lug cap, and jacketed stainless steel aircraft cable retainer.

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Stainless Intake Strainer

The pump intake shall have a stainless steel Y-strainer provided to filter out foreign material and keep debris from entering the pump. The strainer will have a chrome rocker lug cap, and jacketed stainless steel aircraft cable retainer, to allow easy cleaning of the filter element in the field. The plumbing will also have a four (4) bolt quick disconnect flange and one (1) Victaulic coupling between the strainer and the pump for ease of service on the pump.

Discharge Side Plumbing

All main discharge plumbing shall be 2 inch and reduced to 1-1/2 inch at the valves.

One (1) 1-1/2 inch pump-to-tank, or tank fill, labeled "NO. 2 PUMP TO TANK", shall be supplied. The line shall have an Akron Brass fire service valve. The valve shall be accessible from the operator's position with an Akron Brass swing handle. A check valve shall be positioned in the refill line beyond the valve and adjacent to the tank.

One (1) 1-1/2 inch discharge, labeled "NO. 3 DISCHARGE", shall be supplied. The discharge shall be directed towards the rear of the unit. The discharge shall have an Akron Brass service valve locally controlled by an Akron Brass swing handle. The discharge shall terminate with a 1-1/2 inch male NH threads with a chrome rocker lug cap and jacketed stainless steel aircraft cable retainer.

One (1) 1 inch central single hose reel control with valve shall be provided. The valve shall be easily accessible from the standing position at the rear of the apparatus. For additional details, see the hose reel section of this specification.

Vehicle Protection Line

One (1) locally controlled 1-1/2 inch discharge valve and 90 degree swivel with male NH threads shall be provided at the rear of the apparatus adjacent to the plumbing area, passenger side. A hose tray with a minimum capacity of 50 feet of 1-1/2 inch hose shall be included adjacent to the end of the swivel. This shall serve as a pre-connected engine protection line. This option does not include hose.

Discharge on Front Bumper

One (1) 1-1/2 inch front discharge shall be provided on the passenger's side of the heavy duty replacement front bumper. The discharge shall be controlled at the rear of the rear of the apparatus with a fire service valve labeled "FRONT DISCHARGE". A second fire service valve shall be installed on the specified side of the front bumper to control the discharge pressure. The valve shall have a brass swivel adapter, polished chrome camp with a stainless steel jacketed aircraft cable retainer. The valve/swivel shall be positioned inside the brush guard for protection and shall not block the chassis headlight. There shall be drains installed at the low points in the plumbing and be petcock

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drains installed along the stainless steel pipe running to the front of the apparatus to allow the manifold to drain.

Hose Reel

The apparatus shall be equipped with one (1) center mounted Hannay polished aluminum super booster hose reel. The hose reel shall be mounted in the center between the top of the front driver's side compartment and the front passenger's side compartment, top of the tank. The hose reel shall be equipped with the following features:

- Hose reel frame and drum shall be fabricated of polished aluminum, with a sprocket being chrome plated to minimize maintenance.
- The inlet connection shall be 1 inch.
- The outlet connection shall be 1 inch NPSH thread
- Bottom feed, counterclockwise wind.
- Open stainless steel rollers with aluminum brackets, steel bushings, mounted low to the driver side of the reel. The side rollers shall be approximately the width of the reel drum to allow full use of the drum to roll hose onto.
- An additional set of rollers shall be mounted to the passenger side of the reel, high. This set shall have identical dimensions and features as the driver side rollers.
- Hose capacity of a minimum of 150 feet of 1 inch hard line.
- A manual rewind port with removable handle, mounted vertically.
- An adjustable brake.
- One 2/3 HP electric motor.

The hose reel shall be controlled by a locally controlled valve at the rear of the apparatus. The connection between the valve and the reel shall be with high pressure 1 inch flexible hose. The reel shall have two (2) rewind switches installed, one (1) on each side of the apparatus body, in a location to allow a fire fighter to hold the booster hose while pushing the rewind button. These switches shall be marine style sealed momentary switches with a chrome button protector ring to aide in the prevention of accidental impact. A third switch shall be installed at the hose reel next to the 70 amp breaker. The switch shall be a momentary switch that is sealed from the environment. Additionally, there shall be a separate momentary switch on the master electrical control module for the driver to control the rewind of the reel while the apparatus is in pump-and-roll operations.

Booster Hose

Two hundred (200) feet of 3/4" Mercedes Textiles Boostlite booster hose with 1 inch NH threaded aluminum pin hole couplings shall be supplied and installed on the specified booster reel. Each section shall be 50 feet in length.

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Nozzle Cups / Hose Clamps

Two (2) Ziamatic Corporation durable neoprene rubber cups shall be mounted on the driver side and passenger side front bulkhead, one (1) per side. Two (2) hose clamps shall be installed above each of the rubber cups to aid in securing the nozzle, one (1) per side. The components shall be installed on a piece of aluminum Unistrut to allow the end use to adjust the cup or clamp height.

Waterous Aquis 1.5 Foam System

The apparatus shall be equipped with an electronic, fully automatic, variable speed, direct injection, and discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrate. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. The system shall be equipped with a control module suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flow meter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump. A paddlewheel-type flow meter shall be installed in the discharge system specified to be "foam capable." A brass wye strainer with a removable/cleanable screen shall be installed in the foam pump supply line.

The control module shall be mounted to the pump panel and enable the pump operator to:

- Activate the foam proportioning system
- Select proportioning rates from 0.1% to 1.0%. See a "low concentrate" warning light flash when the foam tank runs low and in two minutes, if foam concentrate is not added to the tank, shut the foam concentrate pump down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity shall be 1.0 gpm at 200 psi with a maximum operating pressure up to 400 psi. The system will draw a maximum of 30 amps @ 12 VDC. The motor shall be controlled by the microprocessor mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 hp (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream. A full flow check valve shall be provided in the discharge piping to prevent foam contamination of fire pump and water tank. A 5 psi opening pressure check valve shall be provided in concentrate line.

Components of the complete foam proportioning system as described above shall include:

- Operator control module
- Paddlewheel flow meter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch

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- Foam tank
- Foam injection check valve
- Main waterway check valve
- Brass wye strainer

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

All water discharges shall be supplied with foam solution except the pump to tank. No foam shall be allowed to enter the water tank.

Pump Performance Test and Certification

Upon completion, the apparatus shall undergo a complete pumping test that conforms to the requirements of NFPA Standard 1906 (latest edition) for the size and type of pump provided. The test shall consist of a continuous one-half hour test pumping at rated capacity and rated net pump pressure, a vacuum test of the primer system and plumbing, a tank discharge flow test, a pressure test of the apparatus piping and a water tank usable water volume test. The chassis engine and transmission, the pump and other components of the apparatus shall show no undue heating, leaks, or other defect. The results of the test shall be documented to establish the performance of the apparatus and to further insure that the unit shall perform satisfactorily when placed into service. The test results shall be certified in writing, with the certification provided to the purchaser for their records at the time of delivery of the completed apparatus.

As installed in the engine, the pump shall be capable of delivering 50 GPM minimum at 250 PSI output pressure from a 5 ft. lift through 24 ft. of suction hose with a strainer and also from the apparatus water tank when installed on the apparatus. This shall be measured through both the #19 and #3 rear discharges.

Water / Foam Tank(s)

Water Tank

The water tank shall be fabricated from 1/2" thick black protection series III copolymer polypropylene. The tank shall be designed to be completely independent of the body structure and compartments. All joints and seams shall be nitrogen-welded inside and out. All exposed edges on the tank and fill tower shall be rounded off to a 1/4" radius.

The baffles shall be fabricated from 1/2" protection series III polypropylene and be designed for maximum airflow throughout the tank. The baffles shall be internally connected to the top, sides, end and bottom.

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The tank shall have a rated capacity of 300 U.S. gallons. The tank manufacturer shall mark the tank and furnish notice that indicates proof of warranty. The top of the tank shall have recessed boxes built into it described elsewhere in this specification. A 10 inch square combination vent and manual fill tower with stainless steel hinged lid for the water tank shall be provided and an easily seen label stating "WATER" by engraving the letters into the top of the lid. The vent shall also serve as an overflow and shall have a minimum I.D. of 3 inches. The overflow shall discharge excess spillage forward the rear axle by use of internal piping within the tank. The overflow shall have a plastic tab to prevent the entry of a fill hose into the overflow during overhead fill operations. A removable screen shall be located in the fill tower around the overflow. The tank shall have a means to permit cleaning of the tank. The tank shall be mounted according to the tank manufacturer's requirements for tank support.

The water tank is to be equipped with one deep primary tank floor sump. The sump shall be constructed to supply water to the pump when the apparatus is on a 20% slope in any direction. The primary sump shall be the lowest point on the tank. The primary sump shall be equipped with an anti-swirl baffle plate.

A quarter turn drain valve shall be located at the tank sump for drainage. The 1-1/2 inch valve shall be labeled "TANK DRAIN".

Foam Cell

The water tank shall have an integral seven (7) gallon foam tank constructed of the same material. The foam tank shall meet all applicable NFPA standards. The foam tank shall have a manual fill tower labeled "FOAM" by engraving the letters into the top of the lid and be equipped with a basket strainer. The fill tower shall be equipped with a minimum 8 inch by 10 inch opening, stainless steel hinged cover and stainless steel over center latches. Four (4) 3/4 inch male NP thread outlets shall be provided at the lowest point on the forward wall of the foam tank:

- 1) Foam supply to the foam injection unit
- 2) Foam level sensor
- 3) Foam drain
- 4) Foam low level sensor

Component Mounting Points

The tank assembly shall include mounting points for the pump engine, deck mounted plumbing components, foam proportioner, pump control panel, and center mounted hose reel. The center mounted hose reel mounts can also be used for lifting eyes to allow for removal if necessary.

Tank Placard

There shall be an aluminum placard located inside the water fill tower that shall display the following information:

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- a) Tank Manufacture Name
- b) Tank Manufacture Warranty Phone Number
- c) Tank Serial Number
- d) Tank Date of Manufacture
- e) Water Tank Capacity
- f) Foam Tank Capacity

Spare Tire Storage

A storage compartment for one (1) spare tire shall be provided on the rear deck attached to the water tank. It shall be located towards the right side of the apparatus beside the pump. The storage compartment shall store the tire flat. The tire compartment shall have approximate dimensions of 36.25 inches wide by 14 inches tall by 36.50 inches deep. The compartment shall have a door constructed from polypropylene and all associated hardware shall be stainless steel. The compartment door shall utilize a stainless steel D-Ring latch and shall be lockable using the same key number described elsewhere in this specification (1250).

A mounting system shall be installed in the compartment to secure the 12 ton hydraulic jack and lug wrench / breaker bar.

Chainsaw Compartment

The tank assembly shall include an integrated lockable chainsaw compartment at the rear of the vehicle, below the operator's pump panel. The compartment shall have approximate inside dimensions of 14 inches high by 14 inches wide by 46 inches deep. The compartment interior shall require a means of protecting the poly construction from the teeth of the chain saw, which may cut the poly during placement, removal, and storage. There shall be a retention mechanism to secure the saw into place once the saw has been stowed. The compartment shall be vented on the driver side of the wall of the compartment. The compartment door shall utilize a stainless steel D-Ring latch and shall be lockable using the same key number described elsewhere in this specification (1250). The door shall **seal** the compartment from all outside elements. The floor area of the compartment shall be equipped with a removable stainless steel drip pan to house the power head of the saw. The drip pan shall be designed to avoid damage to the bar/chain of the saw.

Gear Storage Box at Front of Water Tank

One lockable storage box constructed from black polypropylene shall be provided as an integral part of the water tank at the front of the apparatus. The storage box shall have approximate dimensions of 47 inches long and 18 inches wide. The box shall be recessed into the tank to a depth of approximately 15 inches. The box shall protrude above the tank to a height equal to the top of the rear window guard/headache rack, approximately 15 inches.

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The box shall have an overlap style lid constructed from black polypropylene with over-center latches. The compartment door shall pivot on a full length stainless steel continuous hinge with a pin diameter of not less than 3/16 inch. A drain shall be provided in the bottom of the box that allows any moisture to drain through the tank to the ground.

The hinged compartment door shall be equipped with two (2) gas cylinders to hold the door open and closed, and two (2) lockable stainless steel latches.

Ice Chest Storage

The top deck of the tank assembly shall have an integrated storage space for a standard 48 quart ice chest. The approximate dimensions of the space shall be 6 inches in height by 15 inches wide by 26 inches deep with eyelets to attach tie down straps. The space shall be designed to allow the user to drain the ice chest without removing the ice chest from the storage space. The drained liquids shall exit the apparatus through the tank similar to the gear storage compartment drain.

Taillight Assembly

One (1) four taillight assembly shall be mounted on each side of the rear panel, two (2) assemblies total, as low as possible without affecting the functionality of the rear bumper and bumper skin. Each assembly shall consist of a Whelen 700 series red LED stop/tail light, a Whelen 700 series amber LED arrow turn signal light, a Whelen 700 series emergency flasher described elsewhere in this specification, and a Whelen 700 series high intensity back up light. Each light shall be approximately 7 inches wide by 3 inches tall. All four (4) lights shall be mounted together in a polished aluminum four light surface mount vertical bezel.

Taillight Assembly Layout:

- Red Emergency LED Flasher
- Red LED Stop/Tail Light
- Amber LED Arrow Turn Signal
- Back Up Light

Rear License Plate Mount

Two (2) bolts shall be appropriately spaced to accept a standard agency/department furnished license plate on the driver side rear of the apparatus. The bolts shall be securely fastened to the rear panel and two (2) addition nylon locking nuts shall be supplied on the bolts to secure the license plate. One (1) LED license plate light shall be provided directly above the mounting location to illuminate the license plate.

DOT / Clearance Lighting

Clearance lights shall be provided and mounted on the vehicle in compliance with FMVSS. Each light shall be LED and sealed from the environment. All light shall be easily replaceable in the event of

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failure or damage. Each light shall be constructed from high impact-resistant plastic to prevent damage from gravel and other debris.

Moveable/Adjustable Work Lights

Two (2) Betts LED flood lamps with toggle switch and a mounting bracket which has full 360 degree rotation both in a horizontal and vertical axis shall be mounted at the right and left sides of the cab rear window guard. The mounting height will be compatible with a person standing on the ground and will not block the view of the light bar. These lights shall be painted to match the unit color. These lights shall be controlled by a switch located on the switch panel.

Compartment Lighting

Each compartment shall have continuous LED light strips. The LEDs and electronics shall be enclosed in a 5/8" diameter Lexan tube that is sealed at both ends with rubber caps to create a waterproof environment and be suitable for mounting in a wet location. The tube shall rotate to adjust the beam direction as required. The lighting shall be secured with molded nylon mounting clips. The lighting in all compartments shall start at the bottom of the compartment and extend up the sides and across the top in order to provide lighting around the perimeter of the compartment. Placement of the light strips shall be such that they are protected from being impacted by compartment contents or during removal/placement of equipment. The purpose of the LED strip lighting is to provide even lighting throughout the compartment while minimizing shadows and dark zones caused by shelving or equipment stored in the compartment. The lighting shall carry a five (5) year warranty.

Each side compartment shall have a door switch installed to activate compartment lighting, and activate the "Do Not Move" light in the cab when any door is opened. A separate switch located in the cab shall be installed as an override to turn the strip lighting "OFF" when not needed (i.e. daylight hours). The switch shall be labeled "Compartment Light Master".

NFPA 1906 Electrical System Testing

The fire apparatus low voltage electrical system shall be tested as required by this section and the test results shall be certified by the apparatus manufacturer. The certification shall be delivered to the Government with the documentation for the completed apparatus. The tests shall be performed when the air temperature is between 0°F and 110°F (18°C and 43°C).

TEST SEQUENCE

The three (3) tests defined below shall be performed in the order in which they appear. Before each test, the chassis batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. The failure of any of these tests shall require a repeat of the test sequence.

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RESERVE CAPACITY TEST

The chassis engine shall be started and kept running until the chassis engine and engine compartment temperatures are stabilized at normal operating temperatures and the chassis battery system is fully charged. The chassis engine shall be shut off and the minimum continuous electrical load shall be applied for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the chassis engine. The chassis battery system shall then be capable of restarting the chassis engine. The failure to restart the chassis engine shall be considered a failure of this test.

ALTERNATOR PERFORMANCE TEST AT IDLE

The minimum continuous electrical load shall be applied with the chassis engine running at idle speed. The chassis engine temperature shall be stabilized at normal operating temperature. The chassis battery system shall be tested to detect the presence of a chassis battery current discharge. The detection of chassis battery current discharge shall be considered a failure of this test.

ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be applied with the chassis engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. The activation of the electrical system load management system shall be permitted during this test. The activation of an alarm due to excessive chassis battery discharge, as detected by the system required by NFPA (current edition), or an electrical system voltage of less than 11.8 VDC for a 12 VDC nominal system, for more than 120 seconds, shall be considered a failure of this test.

LOW VOLTAGE ALARM TEST

Following the completion of the tests described above, the chassis engine shall be turned off. With the chassis engine turned off, the total continuous electrical load shall be applied and shall continue to be applied until the excessive battery discharge alarm activates. The chassis battery voltage shall be measured at the battery terminals.

The test shall be considered to be a failure if the low voltage alarm has not yet sounded 140 seconds after the voltage drops to 11.70VDC for a 12 VDC nominal system. The chassis battery system shall then be able to restart the chassis engine. The failure of the chassis battery system to restart the chassis engine shall be considered a failure of this test.

DOCUMENTATION

The apparatus manufacturer shall provide the results of the low-voltage electrical system performance test, certified in writing, with the documentation provided to the Carlsbad Fire Department at the time of delivery of the completed apparatus.

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The test results shall consist of the following documents:

- (1) Documentation of the electrical system performance tests.
- (2) A written electrical load analysis, including the following:
 - a) The nameplate rating of the alternator.
 - b) The alternator rating under the conditions specified in NFPA 1906 (current edition).
 - c) Each of the component loads specified that make up the minimum continuous electrical load.
 - d) Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load.
 - e) Each individual intermittent electrical load.

Paint and Finish

Each cab/chassis shall be painted by the Original Equipment Manufacturer and the apparatus body shall be painted to match the chassis paint color exactly.

Chassis Color: **Race Red**

Paint and Finish General

The finished apparatus and chassis shall be presented in as new condition. Any dents, scratches, rust spots, or blemishes of any kind on the apparatus will not be accepted. All exposed ferrous metal surfaces that are not plated or stainless steel shall be cleaned and prepared and shall be painted or coated. The paint or coating, including primer, shall be applied in accordance with the paint or coating manufacturers' recommendations. The paint shall be applied by individuals who have been certified by the paint manufacturer.

Apparatus Body Exterior

All exterior body, metal, smooth surfaces are to be sanded, cleaned, etched and primed, according to the paint manufacturer. The highest quality, state of the art, low V.O.C. acrylic urethane finishing system shall be utilized (Sikkens, DuPont, PPG or equal). The finish coat shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish. The paint shall be warranted by the paint manufacturer.

The outer finish of a fiberglass composite body shall be pigmented gel coat one (1) color to match the ordered chassis paint color exactly.

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Apparatus Body Interior

All Fiberglass surfaces inside cabinets shall be painted with white Zolatone or equal.

Other Metal item Finish

All aluminum and stainless steel shall remain unpainted unless specified otherwise. Metal parts that are painted shall be gloss black acrylic automotive grade enamel.

Powder-Coating Standard

Items that are specified to be Powder Coated shall have a minimum 1-2 mm flat black powder coated finish.

Anti-Slip Surface

Horizontal walking surfaces specified to have an anti-slip coating shall meet or exceed OSHA and NFPA 1906 (current edition) requirements. Coating shall be durable and last the life of the apparatus.

Striping and Graphics

A rendering displaying the as striping requirements shall be supplied to the department for approval prior to striping proceeding.

Body General

All stripes are per NFPA standards and ASTM D 4965, "Standard Specifications for Retro-reflective Sheeting for Traffic Control" unless otherwise specified. Finish of the striping and emblems shall be void of air pockets, and other blemishes, and edges shall be smooth.

Sides

A reflective stripe shall affixed to the perimeter of the apparatus. Striping on the engine sides shall cover at least 50% of the cab and body length, following the natural contour of the apparatus body in a 1 inch stripe, 1/2 inch space, 3 inch stripe, 1/2 inch space, and 1 inch stripe horizontal pattern.

Rear

At least four inches, not to exceed eight inches, of chevron striping, red and fluorescent yellow, shall be provided on the vertical rear facing surface of the apparatus body; the edge of the bumper shall be included. The pattern shall slope downward and away from the centerline of the vehicle at an angle

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of 45 degrees. If a single 4 inch wide vertical surface is unavailable, multiple strips may be used. Chevron striping shall cover as much of rear surface as practical.

Reflective DOT Red and White Striping for Doors

A 2 inch white and red reflective stripe shall be installed on the interior cab and compartment door edges per NFPA 1906.

Unit / Vehicle Lettering and Numbering

All lettering and numbering shall be in block bold font and black in color. All lettering and numbering shall be reflective in nature and conform to the minimum requirements of ASTM D 4956, *Standard Specification for Reflective Sheeting for Traffic Control*, Type 1, Class 1, or Class 3. Finish of the lettering and numbering shall be void of air pockets, blemishes, and the edges shall be smooth.

Door

The apparatus shall have a Carlsbad Fire Department logo centered on the front driver and passenger doors.

Sides

The apparatus shall have 6 inch reflective numbers placed on the front compartment doors of the package "E-62". The numbers shall not be placed in an area that reduces visibility, across door seams, or reflectors and lights.

Front

The apparatus shall have 4 inch reflective number "E-62" placed on the driver side of the front bumper. The numbers shall be centered horizontally and read left to right.

The wings of the front bumper shall be equipped with reflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees. Each stripe in the chevron shall be a single color alternating between red and yellow.

Rear

The apparatus shall have 4 inch reflective number "E-62" placed on the upper driver's side of the apparatus body.

A smooth aluminum plate shall be affixed to the spare tire door on the water tank. This plate shall be large enough to display the department's logo.

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Top

The apparatus shall have a minimum 18 inch reflective numbers "E-62" centered on the top of the cab of the chassis. The numbers shall be placed to read from the rear of the vehicle and visible from above. The number shall not be placed under the engine lighting package or antenna bases.

Compartment Numbering

Each compartment shall have 1 to 1-1/2 inch lettering cut from illuminating tape. The compartment lettering scheme, from the driver side compartments shall be, D1 through D3 starting from the front of the apparatus body working toward the rear. The compartment lettering scheme for the passenger side compartments shall be, P1 through P3 starting from the front of the apparatus body working toward the rear. The labels shall be located in the forward upper corner of the compartment.

12 Ton Hydraulic Bottle Jack

One (1) 12 ton hydraulic bottle jack shall be supplied with the completed apparatus. The jack shall be located in the passenger side rear compartment.

Fire Extinguisher

One (1) 5 lb. Class B & C fire extinguisher with a heavy-duty metal mounting bracket shall be supplied with the completed apparatus. The fire extinguisher and mounting bracket shall be located in the passenger side front compartment.

Safety Triangle Reflectors

A three (3) triangle vehicle warning kit shall be provided. The kit shall include three fold out reflective triangles that snap into position easily and quickly. Each triangle shall be attached to a heavy four pound weighted base. The triangle shall be made of tough plastic with reflective red and fluorescent orange on each side. The kit shall include a plastic carrying case. The kit shall be placed in the passenger side rear compartment.

Tow Strap and Clevis

One (1) tow/lifting strap and two (2) threaded clevis fasteners rated at a minimum of 40,000 lbs. shall be supplied with the completed apparatus. The strap and clevis shall be placed in the passenger side front compartment.

Spare Fasteners

A bag of miscellaneous stainless steel fasteners used in the construction of the apparatus shall be supplied in the plastic delivery box.

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Compartment Stickers

The completed apparatus shall be supplied with two (2) stick on "FIRST AID" stickers and two (2) stick on "FIRE EXTINGUISHER" stickers. The stickers shall be approved by the Contracting Officer Representative (COR). The stickers shall be placed in a 9 inch by 12 inch brown clasped envelope and shipped in the plastic delivery box.

Suction Hose and Foot Valve / Strainer

Three (3) 8 foot long sections of 2 inch clear PVC suction hose shall be supplied with the completed apparatus. The suction hose shall be fully assembled with all the applicable hardware to connect to the overboard draft, as either an 8 foot section or combined to form a 24 foot section, sized to match the main pump inlet.

One (1) Cascade Fire Equipment foot valve and strainer shall be attached to one (1) section of suction hose. The threads shall be NPSH.

Wheel Chocks

One (1) pair of Zephyr brand wheel chocks shall be provided, one (1) per side of the apparatus. The chocks shall be yellow in color and shall be mounted in a quick release mounting bracket on the outboard corners of the side packs. The mounting brackets shall have a coating applied to prevent vibration noise and serve as surface protection for the mounting bracket.

Apparatus Operations and Maintenance Manuals

The following specified materials shall be provided with the completed apparatus:

One (1) OEM supplied printed chassis operator manual shall be provided with each apparatus. The chassis manual, including OEM window sticker, shall be located in the chassis glove compartment.

Two (2) printed copies and one (1) electronic copy of all the documents specified below.

- A. Two (2) complete sets of standard chassis operation, parts and service manuals.
- B. Manufacturer's Record of Construction
- C. Warranty Registration and Information
- D. Operator Safety Information
- E. Pump Operation and Troubleshooting Instructions
- F. Foam System Operation Instructions
- G. Vehicle Exterior Maintenance Instructions
- H. Maintenance and Lubrication Information & Charts
- I. Complete Electrical Diagrams
- J. Component Literature (i.e.: siren, PTO, hose reel, etc.)
- K. Pump Test Certificate, Weight Certificate, Service Parts Replacement List

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Warranty

Chassis Original Equipment Manufacturer (OEM)

Vehicle shall retain the OEM chassis warranty which shall in no way be diminished or voided by the final manufacturer. If at any time the OEM chassis warranty is voided the final manufacturer shall be responsible for repairs.

The contractor shall be responsible for insuring that all chassis manufacture warranty items, service bulletins, and recalls corrections are made prior to delivery.

The contractor shall be responsible for contacting the chassis manufacturer and start the chassis warranty period from the date of acceptance.

Vendor Warranty Items

General Warranty

Apparatus manufacturer shall warrant all services performed under this contract shall, at the time of acceptance, be free from defects in workmanship and materials and conform to the requirements of this contract for a minimum period of twelve (12) months.

Design Warranty

Apparatus manufacturer shall warrant the design of the apparatus and all components constructed and/or designed by the contractor to be free from malfunctions due to improper design, manufacturing defects, defects in manufacturer supplied materials, or factory workmanship for a period of ten (10) years.

If multiple units with like construction begin to have similar failures in any system including, wiring, body/frame/structure/mounting components, that is determined to be due to a flaw in the manufactures design, selected materials, or construction of the apparatus, any and all cost associated with correcting the malfunction shall be the responsibility of the apparatus manufacturer.

Corrosion Warranty

The apparatus, under normal use and with normal maintenance, shall remain free from corrosion for a period of ten (10) years from the date that the apparatus is first placed in service. A body shall be considered to have "corrosion defects" if it is found by the end user to have perforation caused by corrosion under normal use and with normal maintenance.

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Other/Add On Item Warranty

All warranties provided by major component and equipment manufacturers shall be found in the apparatus manual(s). Additionally, apparatus manufacturer shall facilitate warranty repairs with add on equipment manufactures whenever deemed necessary.

Water Tank Warranty

The polypropylene water tank that is specified to be supplied with this apparatus shall be warranted by the water tank manufacturer for a "lifetime" period from the date that the apparatus is put into service. The manufacturer shall repair, at no cost to the purchaser, any problems caused by defective materials and/or workmanship. The warranty shall cover the reasonable costs of removing the water tank from the apparatus and reinstalling it after the completion of the covered warranty repairs, but shall not cover any liability for the loss of service or downtime costs of the apparatus.

Delivery of Apparatus

The completed apparatus shall be delivered by driving from manufacturing facility to Carlsbad, New Mexico. The apparatus shall be clean and ready for inspection/acceptance upon arrival at the purchaser's location.

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Pursuant to the Procurement Code, Sections 13-1-28, et seq., NMSA 1978 and NMSA 1978, § 13-1-191.1 (2006), as amended by Laws of 2007, Chapter 234, any prospective contractor seeking to enter into a contract with any state agency or local public body **for professional services, a design and build project delivery system, or the design and installation of measures the primary purpose of which is to conserve natural resources** must file this form with that state agency or local public body. This form must be filed even if the contract qualifies as a small purchase or a sole source contract. The prospective contractor must disclose whether they, a family member or a representative of the prospective contractor has made a campaign contribution to an applicable public official of the state or a local public body during the two years prior to the date on which the contractor submits a proposal or, in the case of a sole source or small purchase contract, the two years prior to the date the contractor signs the contract, if the aggregate total of contributions given by the prospective contractor, a family member or a representative of the prospective contractor to the public official exceeds two hundred and fifty dollars (\$250) over the two year period.

Furthermore, the state agency or local public body may cancel a solicitation or proposed award for a proposed contract pursuant to Section 13-1-181 NMSA 1978 or a contract that is executed may be ratified or terminated pursuant to Section 13-1-182 NMSA 1978 of the Procurement Code if: 1) a prospective contractor, a family member of the prospective contractor, or a representative of the prospective contractor gives a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process or 2) a prospective contractor fails to submit a fully completed disclosure statement pursuant to the law.

The state agency or local public body that procures the services or items of tangible personal property shall indicate on the form the name or names of every applicable public official, if any, for which disclosure is required by a prospective contractor.

THIS FORM MUST BE INCLUDED IN THE REQUEST FOR PROPOSALS AND MUST BE FILED BY ANY PROSPECTIVE CONTRACTOR WHETHER OR NOT THEY, THEIR FAMILY MEMBER, OR THEIR REPRESENTATIVE HAS MADE ANY CONTRIBUTIONS SUBJECT TO DISCLOSURE.

The following definitions apply:

“Applicable public official” means a person elected to an office or a person appointed to complete a term of an elected office, who has the authority to award or influence the award of the contract for which the prospective contractor is submitting a competitive sealed proposal or who has the authority to negotiate a sole source or small purchase contract that may be awarded without submission of a sealed competitive proposal.

“Campaign Contribution” means a gift, subscription, loan, advance or deposit of money or other thing of value, including the estimated value of an in-kind contribution, that is made to or received by an applicable public official or any person authorized to raise, collect or expend contributions on that official’s behalf for the purpose of electing the official to statewide or local office. “Campaign Contribution” includes the payment of a debt incurred in an election campaign, but does not include the value of services provided without compensation or unreimbursed travel or other personal expenses of individuals who volunteer a portion or all of their time on behalf of a candidate or political committee, nor does it include the administrative or solicitation expenses of a political committee that are paid by an organization that sponsors the committee.

“Family member” means spouse, father, mother, child, father-in-law, mother-in-law, daughter-in-law or son-in-law of (a) a prospective contractor, if the prospective contractor is a natural person; or (b) an owner of a prospective contractor.

“Pendency of the procurement process” means the time period commencing with the public notice of the request for proposals and ending with the award of the contract or the cancellation of the request for proposals.

“Prospective contractor” means a person or business that is subject to the competitive sealed proposal process set forth in the Procurement Code or is not required to submit a competitive sealed proposal because that person or business qualifies for a sole source or a small purchase contract.

“Representative of a prospective contractor” means an officer or director of a corporation, a member or manager of a limited liability corporation, a partner of a partnership or a trustee of a trust of the prospective contractor.

Name(s) of Applicable Public Official(s) if any:

Mayor Dale Janway
Councilman Edward T. Rodriguez
Councilman Wesley Carter
Councilwoman Leo Estrada
Councilman J.R. Doport
Councilman Lisa Anaya-Flores
Councilman Jason G. Shirley
Councilman Janell E. Whitlock
Councilman Richard W. Doss
Municipal Court Judge Janet Ellis

DISCLOSURE OF CONTRIBUTIONS BY PROSPECTIVE CONTRACTOR:

Contribution Made By: _____

Relation to Prospective Contractor: _____

Date Contribution(s) Made: _____

Amount(s) of Contribution(s) _____

Nature of Contribution(s) _____

Purpose of Contribution(s) _____

(Attach extra pages if necessary)

Signature

Date

Title (position)

--OR--

NO CONTRIBUTIONS IN THE AGGREGATE TOTAL OVER TWO HUNDRED FIFTY DOLLARS (\$250) WERE MADE to an applicable public official by me, a family member or representative.

Signature

Date

Title (Position)

New Mexico Resident Business Preference

The State of New Mexico Procurement Code mandates a New Mexico Resident Business Preference on all bids and request for proposals (RFP).

Qualified resident businesses will be given a 5% preference on all bids. When bids are evaluated, New Mexico Businesses registered with the Department of Taxation and Revenue, will have its bid reduced by a factor of 5%.

Qualified resident businesses will be given a 5% preference on all RFP's. When proposals are evaluated, New Mexico resident businesses that are registered with the Department of Taxation and Revenue, will receive an additional points equivalent to 5% of the total points possible for award.

As of October 5, 2011, applications for in-state preference will no longer be processed through the State Purchasing Division. All resident businesses, veterans and contractors will have to obtain a preference number with the NM Department of Taxation & Revenue. For additional information please call 505-827-0951.

Qualifications

A. To receive a **resident** business **preference** pursuant to Section 13-1-21 NMSA 1978 or a **resident** contractor **preference** pursuant to Section 13-4-2 NMSA 1978, a business or contractor shall submit with its bid or proposal a copy of a valid **resident** business certificate or valid **resident** contractor certificate issued by the taxation and revenue department.

B. An application for a **resident** business certificate shall include an affidavit from a certified public accountant setting forth that the business is licensed to do business in this state and that:

(1) the business has paid property taxes or rent on real property in the state and paid at least one other tax administered by the state in each of the three years immediately preceding the submission of the affidavit;

(2) if the business is a new business, the owner or majority of owners has paid property taxes or rent on real property in the state and has paid at least one other tax administered by the state in each of the three years immediately preceding the submission of the affidavit and has not applied for a **resident** business or **resident** contractor certificate pursuant to this section during that time period;

(3) if the business is a relocated business, at least eighty percent of the total personnel of the business in the year immediately preceding the submission of the affidavit were **residents** of the state and that, prior to the submission of the affidavit, the business either leased real property for ten years or purchased real property greater than one hundred thousand dollars (\$100,000) in value in the state; or

(4) if the business is a previously certified business or was eligible for certification, the business has changed its name, has reorganized into one or more different legal entities, was purchased by another legal entity but operates in the state as substantially the same commercial enterprise or has merged with a different legal entity but operates in the state as substantially the same commercial enterprise.

C. An application for a **resident** contractor certificate shall include an affidavit from a certified public accountant setting forth that the contractor is currently licensed as a contractor in this state and that:

(1) the contractor has:

(a) registered with the state at least one vehicle; and

(b) in each of the five years immediately preceding the submission of the affidavit: 1) paid property taxes or rent on real property in the state and paid at least one other tax administered by the state; and 2) paid unemployment insurance on at least three full-time employees who are **residents** of the state; provided that if a contractor is a legacy contractor, the requirement of at least three full-time employees who are **residents** of the state is waived;

(2) if the contractor is a new contractor, the owner or majority of owners has paid property taxes or rent on real property in the state and has paid at least one other tax administered by the state in each of the five years immediately preceding the submission of the affidavit and has not applied for a **resident** business or **resident** contractor certificate pursuant to this section during that time period;

(3) if the contractor is a relocated business, at least eighty percent of the total personnel of the business in the year immediately preceding the submission of the affidavit were **residents** of the state and that, prior to the submission of the affidavit, the contractor either leased real property for ten years or purchased real property greater than one hundred thousand dollars (\$100,000) in value in the state; or

(4) if the contractor is a previously certified contractor or was eligible for certification, the contractor has changed its name, has reorganized into one or more different legal entities, was purchased by another legal entity but operates in the state as substantially the same enterprise or has merged with a different legal entity but operates in the state as substantially the same commercial enterprise.

D. The taxation and revenue department shall prescribe the form and content of the application and required affidavit. The taxation and revenue department shall examine the application and affidavit and, if necessary, may seek additional information to ensure that the business or contractor is eligible to receive the certificate pursuant to the provisions of this section. If the taxation and revenue department determines that an applicant is eligible, the department shall issue a certificate pursuant to the provisions of this section. If the taxation and revenue department determines that the applicant is not eligible, the department shall issue notification within thirty days. If no notification is provided by the department, the certificate is deemed approved. A certificate is valid for three years from the date of its issuance; provided that if there is a change of ownership of more than fifty percent, a **resident** business or **resident** contractor shall reapply for a certificate.

E. A business or contractor whose application for a certificate is denied has fifteen days from the date of the taxation and revenue department's decision to file an objection with the taxation and revenue department. The person filing the objection shall submit evidence to support the objection. The taxation and revenue department shall review the evidence and issue a decision within fifteen days of the filing of the objection.

F. If, following a hearing and an opportunity to be heard, the taxation and revenue department finds that a business or contractor provided false information to the taxation and revenue department in order to obtain a certificate or that a business or contractor used a certificate to obtain a **resident** business or **resident** contractor **preference** for a bid or proposal and the **resident** business or contractor did not perform the percentage of the contract specified in the bid or proposal, the business or contractor:

(1) is not eligible to receive a certificate or a **preference** pursuant to Section 13-1-21 or 13-4-2 NMSA 1978 for a period of five years from the date on which the taxation and revenue department became aware of the submission of the false information or the failure to perform the contract as specified in the bid or proposal; and

(2) is subject to an administrative penalty of up to fifty thousand dollars (\$50,000) for each violation.

G. In a decision issued pursuant to Subsection E or F of this section, the taxation and revenue department shall state the reasons for the action taken and inform an aggrieved business or contractor of the right to judicial review of the determination pursuant to the provisions of Section 39-3-1.1 NMSA 1978.

H. The taxation and revenue department may assess a reasonable fee for the issuance of a certificate not to exceed the actual cost of administering the taxation and revenue department's duties pursuant to this section.

I. The state auditor may audit or review the issuance or validity of certificates.

J. For purposes of this section:

(1) "new business" means a person that did not exist as a business in any form and that has been in existence for less than three years;

(2) "new contractor" means a person that did not exist as a business in any form and that has been in existence for less than five years;

(3) "legacy contractor" means a construction business that has been licensed in this state for ten consecutive years; and

(4) "relocated business" means a business that moved eighty percent of its total domestic personnel from another state to New Mexico in the past five years.

History: 1953 Comp., § 6-5-32.1, enacted by Laws 1969, ch. 184, § 1; 1979, ch. 72, § 2; 2011 (1st S.S.), ch. 3, § 2.

Application of Preference

A. For the purposes of this section:

(1) "business" means a commercial enterprise carried on for the purpose of selling goods or services, including growing, producing, processing or distributing agricultural products;

(2) "formal bid process" means a competitive sealed bid process;

(3) "formal request for proposals process" means a competitive sealed proposal process, including a competitive sealed qualifications-based proposal process;

(4) "public body" means a department, commission, council, board, committee, institution, legislative body, agency, government corporation, educational institution or official of the executive, legislative or judicial branch of the government of the state or a political subdivision of the state and the agencies, instrumentalities and institutions thereof, including two-year post-secondary educational institutions, school districts, local school boards and all municipalities, including home-rule municipalities;

(5) "**resident** business" means a business that has a valid **resident** business certificate issued by the taxation and revenue department pursuant to Section 13-1-22 NMSA 1978; and

(6) "recycled content goods" means supplies and materials composed twenty-five percent or more of recycled materials; provided that the recycled materials content meets or exceeds the minimum content standards required by bid specifications.

B. When a public body makes a purchase using a formal bid process, the public body shall deem a bid submitted by a **resident** business to be five percent lower than the bid actually submitted.

C. When a public body makes a purchase using a formal request for proposals process:

(1) five percent of the total weight of all the factors used in evaluating the proposals shall be awarded to a **resident** business based on the **resident** business possessing a valid **resident** business certificate; or

(2) if the contract is awarded based on a point-based system, a **resident** business shall be awarded the equivalent of five percent of the total possible points to be awarded based on the **resident** business possessing a valid **resident** business certificate.

D. When a joint bid or joint proposal is submitted by both **resident** and nonresident businesses, the **resident** business **preference** provided pursuant to Subsection B or C of this section shall be reduced in proportion to the percentage of the contract, based on the dollar amount of the goods or services provided under the contract, that will be performed by a nonresident business as specified in the joint bid or proposal.

E. When bids are received for both recycled content goods and non-recycled content goods, the public body shall deem the bids submitted for recycled content goods of equal quality to be five percent lower than the bids actually submitted. A bid calculation pursuant to this subsection for a **resident** business shall not also receive the bid calculation **preference** pursuant to Subsection B of this section.

F. The procedures provided in Sections 13-1-172 through 13-1-183 NMSA 1978 or in an applicable purchasing ordinance apply to a protest to a public body concerning the awarding of a contract in violation of this section.

G. This section shall not apply when the expenditure includes federal funds for a specific purchase.

History: 1978 Comp., § 13-1-21, enacted by Laws 1979, ch. 72, § 1; 1981, ch. 104, § 1; 1988, ch. 84, § 1; 1989, ch. 310, § 1; 1995, ch. 60, § 1; 1997, ch. 1, § 2; 1997, ch. 2, § 2; 1997, ch. 3, § 1; 2000, ch. 41, § 1; 2011 (1st S.S.), ch. 3, § 1.

Resident Veterans Preference Certification

_____ (NAME OF CONTRACTOR) hereby certifies the following in regard to application of the resident veterans' preference to this procurement:

Please check one box only

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is less than \$1M allowing me the 10% preference discount on this solicitation. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is more than \$1M but less than \$5M allowing me the 8% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is more than \$5M allowing me the 7% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

"I agree to submit a report, or reports, to the State Purchasing Division of the General Services Department declaring under penalty of perjury that during the last calendar year starting January 1 and ending on December 31, the following to be true and accurate:

"In conjunction with this procurement and the requirements of this business' application for a Resident Veteran Business Preference/Resident Veteran Contractor Preference under Sections 13-1-21 or 13-1-22 NMSA 1978, when awarded a contract which was on the basis of having such veterans preference, I agree to report to the State Purchasing Division of the General Services Department the awarded amount involved. I will indicate in the report the award amount as a purchase from a public body or as a public works contract from a public body as the case may be.

"I understand that knowingly giving false or misleading information on this report constitutes a crime."

I declare under penalty of perjury that this statement is true to the best of my knowledge. I understand that giving false or misleading statements about material fact regarding this matter constitutes a crime.

(Signature of Business Representative)*

(Date)

*Must be an authorized signatory for the Business

The representations made in the boxes constitutes a material representation by the business that is subject to protest and may result in denial of an award or unaward of the procurement involved if the statements are proven to be incorrect.
