



Department of Administrative Services  
Purchasing and Contracts Division

**CONFIRMATION FORM  
for  
RECEIPT OF BID NO. 603291-14**

If you are interested in this invitation, immediately upon receipt please fax this confirmation form to the fax number provided at the bottom of this page.

***Failure to do so means you are not interested in the project and do not want any associated addenda mailed to you.***

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**SUPPLIER ACKNOWLEDGES RECEIVING THE FOLLOWING BID DOCUMENT:**

PROJECT NO.      BID NO. 603291-14      BID PAGES: 99

DESCRIPTION:    CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY  
RESCUES & TYPE 6 SQUAD UNITS

**SUPPLIER MUST COMPLETE THE FOLLOWING INFORMATION:**

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

City / State / Zip: \_\_\_\_\_

Name / Title: \_\_\_\_\_

Area Code/Phone Number: \_\_\_\_\_

Area Code/Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Please indicate the method you used to obtain this Bid Document:

\_\_\_\_\_ Internet      \_\_\_\_\_ Plan Room

**FAX THIS CONFIRMATION FORM TO: (702) 386-4914  
TYPE or PRINT CLEARLY**

## CLARK COUNTY, NEVADA

### INVITATION TO BID

**BID NO. 603291-14**  
**CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESCUES & TYPE 6**  
**SQUAD UNITS**

The bid package is available as follows:

- Internet – Visit the Clark County Purchasing and Contracts Division website at <http://www.ClarkCountyNV.gov/Purchasing>. Click on “Current Opportunities” and locate Document No. 603291-14 in the list of current solicitations.
- Mail – Please fax a request to (702) 386-4914 specifying project number and description. Be sure to include company address, phone and fax numbers.
- Pick up - Clark County Government Center, 500 South Grand Central Parkway, Purchasing and Contracts Division, Fourth Floor, Las Vegas, NV 89106.

A Pre-bid Conference will be held on **MAY 2, 2014** at **9:00 a.m.**, at the Clark County Government Center, 500 South Grand Central Parkway, Purchasing and Contracts Division, Fourth Floor, Las Vegas, Nevada 89106. If your firm is unfamiliar with the County Bid Submittal procedures and would like to obtain training on the submittal process for this Bid, please contact Sandra Mendoza, Purchasing Analyst, at (702) 455-4184 no later than **THURSDAY, MAY 1, 2014**, and a training session will be provided immediately following the pre-bid conference referenced above.

Bids will be accepted at the Clark County Government Center address specified above, on or before **MAY 9, 2014** at **3:00:00 p.m.** based on the time clock at the Clark County Purchasing and Contracts front desk.

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PLEASE PUBLISH THE INFORMATION PROVIDED ABOVE THE LINE.

PUBLISHED:  
Las Vegas Review-Journal  
APRIL 18, 2014

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# I – INSTRUCTION TO BIDDERS

BID NO. 603291-14

## CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESCUES & TYPE 6 SQUAD UNITS

### 1. INTENT OF INVITATION

In accordance with the terms and conditions provided in this bid document, it is the intent of this formal Invitation to Bid to receive bids from qualified Bidders for the items specified in this document.

### 2. DEFINITIONS

- A. **Addendum:** A written document issued by COUNTY, via the Purchasing and Contracts Division, prior to the submission of bids which modifies or clarifies the Bidding Documents by additions, deletions, clarifications, or corrections.
- B. **BCC:** The Clark County Board of County Commissioners.
- C. **Bid (Bidder):** An offer, in response to a solicitation by COUNTY, to supply goods or services at a specific price and within a specified time period.
- D. **Bid (COUNTY):** A competitive solicitation by COUNTY to procure goods or services in accordance with Nevada Revised Statutes (NRS) 332.
- E. **Bid Form:** Standard printed form given to Bidders that must be completed and submitted back to COUNTY with the required information for evaluation of the bid, in correct format and sequence. Bid pages are identified herein as "Bid Form" and contain a black line in the right margin.
- F. **Bid Submittal:** Bid Form pages, Bid Security (if required), and all required attachments.
- G. **Bidder(s):** A supplier who submits a bid to COUNTY.
- H. **Bidding Documents:** May include but are not limited to, the Invitation to Bid, Instructions to Bidders, General Conditions, Special Conditions, Technical Specifications, Contract Requirements and Forms, Bid Forms/Attachments, Exhibits, Specifications/Special Provisions and Drawings, and any Addenda issued prior to the date designated for receipt of bids, as applicable.
- I. **CONTRACT:** Contract documents include the Bidding Documents, SUCCESSFUL BIDDER'S Bid Form, all Addenda, SUCCESSFUL BIDDER'S bonds and insurance and Notice of Award letter.
- J. **COUNTY:** The term used throughout these documents to mean County of Clark, Nevada.
- K. **F.O.B. Destination:** Designates the seller will pay shipping cost and remain responsible for the goods until the buyer takes possession.
- L. **Governing Body:** Used throughout these documents to mean the Clark County Board of Commissioners.
- M. **Lot:** A group of items similar in nature and bought individually, all items in a lot must be bid on to be a responsible bidder considered for award.
- N. **Nevada Revised Statutes (NRS):** The current codified laws of the State of Nevada. Nevada law consists of the Constitution of Nevada (the state constitution) and Nevada Revised Statutes. The Nevada Supreme Court interprets the law and constitution of Nevada.
- O. **No Substitute:** Means there is only one brand name product that is acceptable to perform the function required by the using department.
- P. **Purchasing Administrator:** The Clark County Purchasing Administrator or their designee responsible for the Purchasing and Contracts Division.
- Q. **Purchase Order:** The formal authorization by COUNTY for seller to provide goods or services to COUNTY. The formal CONTRACT takes precedence over any conflicting terms and conditions contained in the purchase order.
- R. **Repair:** Corrective actions required to ensure proper operation of existing equipment, up to and including replacing of said equipment.

- S. **Rural:** Clark County has towns outside of the urban valley which include, but are not limited to: Laughlin, Moapa Valley, Sandy Valley, and Indian Springs.
- T. **SUCCESSFUL BIDDER:** Bidder who is the lowest responsive, responsible or best Bidder, to whom the Governing Body or the authorized representative has authorized the award of the CONTRACT.
- U. **Urban:** This includes the contiguous urban Las Vegas Valley.

### 3. DESIGNATED CONTACTS

For questions pertaining to this Invitation to Bid, please call Sandra Mendoza, Purchasing Analyst, telephone number (702) 455-4184 or the Purchasing and Contracts Front Desk at (702) 455-2897. After award, the designated contact will be Riccardo Terzo, Fire Automotive & Equipment Supervisor, Fire Department, telephone number (702) 455-7700.

### 4. CONTACT WITH COUNTY DURING BIDDING PROCESS

Communication between a Bidder and a member of the BCC, or between a Bidder and a non-designated COUNTY contact, regarding this bid is prohibited from the time the bid is advertised until the bid is recommended for award of a contract. Questions pertaining to this Invitation to Bid shall be addressed to the designated contact(s) specified above. Failure of a Bidder, or any of its representatives, to comply with this paragraph may result in its bid being rejected.

### 5. PRE-BID CONFERENCE

A pre-bid conference is being held for this bid. The intent of the pre-bid conference is to review the entire bid document and answer any questions Bidders may have.

### 6. ADDENDA AND INTERPRETATIONS

- A. If it becomes necessary to revise any part of this bid, a written Addendum will be issued by COUNTY. COUNTY shall not be bound by any oral representations, clarifications, or changes made in the written requirements or specifications by COUNTY'S employees, unless such clarification or change is provided by COUNTY in written addendum form from the Purchasing and Contracts Division.
- B. Bidder(s) shall take no advantage of any apparent error or omission in the Bidding Documents. In the event Bidder(s) discover such an error or omission, they shall immediately notify COUNTY. COUNTY will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Bidding Documents through the issuance of an Addendum.
- C. Addenda shall be available via mail, certified mail, fax, online or pick up by all prospective Bidders.
- D. Prior to submission of the bid, Bidder shall ascertain that it has received all Addenda issued. Bidder shall acknowledge receipt of each Addendum by completing the acknowledgement space provided on the Bid Form. Failure to acknowledge receipt of all addenda and use the correct bid form as required may result in rejection of bid.

### 7. DOCUMENT REVIEW

Bidders may visit the Purchasing and Contracts Division, during normal business hours, to review any current bid documents. This information is available for review provided the contents of the document have not been deemed confidential or proprietary as defined in the "Public Records" clause in the General Conditions section of this bid. Bids submitted in response to this invitation to bid may be reviewed after the formal bid opening has been completed. To review bid documents, an appointment must be made in advance to ensure that full consideration will be provided. Please call telephone number (702) 455-2897 and request the Purchasing Front Desk to schedule your appointment.

### 8. PREPARATION OF FORMS

All bids must be submitted on the Bid Form provided in this document. **All figures must be written in ink or typed.** Figures written in pencil or containing erasures are not acceptable and may be rejected. However, mistakes may be crossed out and corrections may be inserted adjacent thereto and initialed in ink by the person signing the bid form.

In the event there are unit price bid items provided in the Bid Form, and the total indicated for a unit price bid item does not equal the product of the unit price and quantity, the unit price shall govern and the total will be corrected accordingly. Mathematical errors in the Bid shall be corrected by COUNTY. If there is no cost for a unit price, the Bidder **MUST** enter "0" or write the words "NO COST."

### 9. BID DOCUMENTS NECESSARY FOR SUBMITTAL

Bid Form, all required attachments, and the bid security (if required) shall be included in the envelope containing the bid. These documents, together, comprise a bid. Omission of, or failure to complete, any portion of the required documents at the time of bid opening may be cause to reject the entire bid.

10. SUBCONTRACTOR INFORMATION

Bidders should submit with their bids a list of the Minority-Owned Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), Physically-Challenged Business Enterprise (PBE), Small Business Enterprise (SBE) and Nevada Business Enterprise (NBE) subcontractors for CONTRACT utilizing **Attachment 1**. The information provided in **Attachment 1** by Bidder is for COUNTY'S information only.

If there are any questions regarding **Attachment 1**, please contact Adleen Stidhum at telephone number (702) 455-7155.

11. DESCRIPTIVE LITERATURE

Bidder may be requested to provide the latest printed specifications and advertising literature on the product(s) offered on its Bid Form.

12. PRODUCTS

**New Product:**

SUCCESSFUL BIDDER shall guarantee that the product provided to COUNTY shall be new, and of the latest and most improved model of current production, and shall be of first quality as to workmanship and materials used in said units.

A new product is defined as a product that is made up completely of unused, genuine, original parts. The product shall not have been operated for any purpose other than routine operational testing. A demonstrator product does not meet this definition and is not acceptable.

13. BRAND NAMES "OR EQUAL"

Whenever, in this Invitation to Bid, any particular materials, process, or equipment are indicated or specified by patent, proprietary or brand name, or by name of manufacturer, such wording will be deemed to be used for the purpose of facilitating description of the material, process, or equipment desired and will be deemed to be followed by the words, "or equal." Proof satisfactory to COUNTY must be provided by SUCCESSFUL BIDDER to show that the alternative product is, in fact, equal to the product required in the specifications.

14. SUBSTITUTIONS

Specifications are intended to show kind and quality required, and are not intended to be restrictive. **Additional bids that are equal to, or exceed the requirements stated in this document are invited.** Bidders desiring to submit more than one bid for items other than those specified shall observe the following procedure:

Submit with the bid complete manufacturer's brochures of the actual items being offered, including pictures or dimensional drawings.

Proof, satisfactory to COUNTY, must be provided by Bidder to show that the product is equal to, or exceeds the bid specifications in design and performance.

Equivalent items may be subject to performance testing.

15. TEST MODELS

COUNTY may request, at no cost to COUNTY, that the apparent low Bidder provide a test model of the product offered. The performance, characteristics and components of the model submitted for inspection and testing shall be considered a representative model of the product proposed and intended for delivery. Any product tested and found not meeting the minimum requirements of these specifications will not be considered for award of this bid.

16. ORDER QUANTITIES AND UNIT PRICING

Unit pricing for the items listed in this bid shall be reflective of the unit of measure of "each." This bid expressly prohibits "minimum order quantity" practices. All invoices shall reflect the pricing for the exact quantities received.

17. DISCOUNT TERMS OF PAYMENT

Terms of payment, as listed on the Bid Form, shall be defined as the amount of discount offered by Bidder to COUNTY if payment is made within a specified time frame.

Examples:

Terms of Payment: 2%, Net thirty (30) Calendar Days.

A 2% payment discount will be deducted from the purchase price if the invoice is paid within thirty (30) calendar days of receipt of invoice or delivery of an acceptable product or service, whichever is later.

Terms of Payment: 0%, Net thirty (30) Calendar Days.

No payment discount is offered and payment is due within thirty (30) calendar days of receipt of invoice or delivery of an acceptable product or service, whichever is later.

**No prompt payment discount will be considered by COUNTY in the bid evaluation process unless the discount period offered by Bidder is thirty (30) calendar days or more.**

18. ADDITIONAL BIDS

Bidders may submit more than one bid as long as all such bids comply with, or exceed, the bid terms, conditions and specifications.

19. DEVIATIONS TO TERMS AND CONDITIONS OR SPECIFICATIONS

Any additional agreements, terms, conditions, or exceptions to the bid requirements or specifications that are submitted with Bidder's Bid Form may be considered substantial deviations from the bid requirements and be cause for rejection.

20. DURATION OF OFFER

All offers (bids) submitted in association with this Invitation to Bid shall be considered firm offers for a period of ninety (90) calendar days after the date of bid opening in order to allow COUNTY to evaluate and consider award, unless the offer is further extended in writing and agreed upon by both parties.

21. DEVIATIONS TO TECHNICAL SPECIFICATIONS

Any deviation taken at the time of or after bid submittal may render the bid non-responsive. If a Bidder is unable to meet the Technical Specifications, Bidder **MUST** complete the attached **Exhibit A** and submit it to the Purchasing Analyst at least five (5) business days prior to the scheduled **PRE-BID CONFERENCE**. It shall be the sole responsibility of the Bidder to ensure that the Purchasing Analyst has been properly notified, **PRIOR TO THE PRE-BID CONFERENCE** of the Bidder's deviation to the Technical Specifications.

22. BIDDER'S REPRESENTATION

**Each Bidder by submitting their Bid represents that:**

- A. Bidder has read and understands the Bidding Documents and asserts that its bid is made in accordance therewith and shall be considered a firm offer for a period of ninety (90) calendar days following the opening of bids. The Bidder's offer may expire at the end of the ninety (90) calendar day period.
- B. Bidder is familiar with the local conditions under which the work is to be performed.
- C. **Prior to submission of the bid, Bidder shall ascertain that it has received all Addenda issued; Bidder shall acknowledge receipt of each Addendum by completing the acknowledgment space provided on the Bid Form. Failure to acknowledge receipt of all addenda and use the correct bid form as required may result in rejection of bid.**

23. SUBMISSION OF BIDS

**All bids must be submitted in a sealed envelope plainly marked with the name and address of Bidder and the bid number and title.** Bidders are requested to submit one (1) original and one (1) copy of the Bid Form and one (1) copy of all requested attachments unless otherwise specified. No responsibility will attach to COUNTY, or any official or employee thereof, for the pre-opening of, post opening of, or the failure to open a bid not properly addressed and identified. Bids are time-stamped upon receipt. Bids time-stamped after 3:00:00 p.m. based on the time clock at the Clark County Purchasing and Contracts front desk will be recorded as late, remain unopened and be formally rejected. **FAXED OR ELECTRONICALLY SUBMITTED BIDS ARE NOT ALLOWED AND WILL NOT BE CONSIDERED.**

The following are detailed delivery/mailling instructions for bids:

HAND DELIVERY

U.S. MAIL DELIVERY

EXPRESS DELIVERY

Clark County Government Center  
Purchasing and Contracts Division,  
4th Floor  
500 South Grand Central Parkway  
Las Vegas, Nevada 89106

Clark County Government Center  
Attn: Purchasing and Contracts, 4th  
Floor  
500 South Grand Central Parkway  
P.O. Box 551217  
Las Vegas, Nevada 89155-1217

Clark County Government Center  
Attn: Purchasing and Contracts, 4th  
Floor  
500 South Grand Central Parkway  
Las Vegas, Nevada 89106

**Regardless of the method used for delivery, Bidder shall be wholly responsible for the timely delivery of its bid. Overnight Mail must use the EXPRESS DELIVERY instructions.**

**Any bids submitted via a third party courier must be sealed in a separate envelope from courier's packaging to allow for proper recording of receipt.**

**Bidders and other interested parties are invited to attend the bid opening.**

24. COST TO PREPARE AND SUBMIT RESPONSE

All costs incurred in the preparation and submission of responses to this Invitation to Bid shall be the responsibility of the Bidder.

25. WITHDRAWAL OF BID

A. Before Bid Opening

Bidders may request withdrawal of a posted, sealed bid prior to the scheduled bid opening time, provided the request for withdrawal is submitted to the Purchasing Analyst in writing, or a bid release form has been properly completed and submitted to the Purchasing and Contracts Division reception desk. Withdrawn bids must be re-submitted and time-stamped in accordance with this bid document in order to be accepted.

B. After the Bid Opening

All responsive and responsible bids received are considered firm offers for a period of ninety (90) calendar days. Bidder's offer will expire after ninety (90) calendar days unless the offer is further extended in writing by Bidder and agreed upon by both parties. If Bidder intended for award requests that its bid be withdrawn, that Bidder may be deemed non-responsible if responding to future invitations to bid or may be required to forfeit its bid bond (if applicable).

26. LOWEST RESPONSIVE AND RESPONSIBLE BIDDER

All bids will be awarded to the lowest responsive and responsible Bidder. The determination of the lowest responsive and responsible Bidder may be judged on all or some of the following factors: price, conformity to specifications, facilities and equipment, availability of repair parts, experience, terms of payment, qualifications, past performance, performance or delivery dates, quality and utility of services, supplies, materials or equipment offered and the adaptability of those services, supplies, materials or equipment to the required purpose of CONTRACT, and other objective and accountable factors which are reasonable. COUNTY has the option to accept additional promotional specials, discounts or trade-in allowances offered by SUCCESSFUL BIDDER during the term of CONTRACT but these offers will not be part of the determination for award of this bid unless otherwise specified.

In accordance with NRS 332.065.3, COUNTY may re-award CONTRACT if SUCCESSFUL BIDDER is found to be in breach of contract. Re-awarding the CONTRACT by COUNTY is not a waiver of any liability of the initial Bidder awarded CONTRACT.

27. REJECTION OF BID

COUNTY reserves the right to reject any and all bids received by reason of this request. COUNTY reserves the right to waive any minor informality or irregularity.

28. DISQUALIFICATION OF BIDDERS

Bidders may be disqualified and their bids may be rejected for any of, but not limited to, the following causes:

- A. Failure to use the specified Bid Form furnished by COUNTY.
- B. Lack of signature by an authorized representative.

- C. Failure to properly complete the Bid Form.
- D. Evidence of collusion among Bidders.
- E. Unauthorized alteration to content of the Bid Form.
- F. Failure to acknowledge all addenda issued.

29. TIE-BIDS

A tie-bid is defined as an instance where bids are received from two (2) or more Bidders who are the low Bidders, and their offers are identical. Bids must be identical in all evaluation areas; e.g., price, quality, delivery, terms, and ability to supply, etc. If any of these areas are not identical, it is not considered a tie-bid, and COUNTY can justify awarding to Bidder with the lowest responsive and responsible bid.

The procedure for tie-bids is to hold a public drawing and award the bid to the winner of the draw in accordance with the Method of Award clause in the Instruction to Bidders. When a drawing is necessary, Bidder(s) involved will be contacted with the time and place of the drawing. Attendance is not mandatory for the drawing. An impartial witness will be present at the drawing.

30. NOTIFICATION OF INTENT TO AWARD

COUNTY will issue to all Bidders a formal letter of "Notification of Intent to Award." This notice will confirm COUNTY'S determination of the lowest responsive and responsible Bidder.

31. PROTESTS

- A. Any Bidder who submits a bid and is allegedly aggrieved in connection with this solicitation or award of CONTRACT may protest. The letter of protest must, at a minimum, contain a written statement setting forth with specificity the reasons the person filing the notice believes that the applicable provisions of the law were violated and be accompanied by required bond. The protest must be submitted in writing to the Purchasing Analyst, within five (5) business days after COUNTY issued a "Notification of Intent to Award" letter. If a written protest is received within the time frame specified and is not resolved by mutual agreement, the Purchasing Analyst will issue a decision in writing to the protestor. Within three (3) business days of receipt of the decision, a protestor MUST submit to the Purchasing Administrator its written notice of intent to appeal the decision to the BCC. The Purchasing Administrator or their designee will notify the protestor of the date they may appear to present their appeal to the BCC. Protestor MUST submit to the Purchasing Administrator fifteen (15) copies of any documents protestor intends to present to the BCC and all documents MUST be submitted ten (10) calendar days prior to the BCC meeting. The decision of the BCC will be final. The BCC is not required to consider protests unless this procedure is followed.
- B. Bidder filing the protest shall be required, to post a bond with a good and solvent surety authorized to do business in this state, or submit other security, defined as a cashiers check, money order or certified check, to COUNTY who shall hold the bond or other security until a determination is made on the protest. A bond posted or other security submitted with the protest must be in an amount equal to the lesser of:
  - (1) 25% of the total value of the bid submitted by Bidder filing the notice of protest; or
  - (2) \$250,000
- C. The notice of protest filed in accordance with the provisions of this section operates as a stay of action in relation to the awarding of CONTRACT until the BCC makes a determination on the protest.
- D. A Bidder who submits an unsuccessful bid may not seek any type of judicial intervention until the BCC has made a determination on the protest and awards CONTRACT.
- E. Neither the BCC nor its authorized representative is liable for any costs, expenses, attorney's fees, loss of income or other damages sustained by a Bidder who submits a bid, whether or not the person files the protest pursuant to this section.
- F. If the protest is upheld by the BCC, the bond posted or other security submitted with the notice of protest must be returned to Bidder who posted the bond or submitted the security. If the protest is rejected by the BCC, COUNTY may make a claim against the bond or other security in an equal amount to the expenses incurred by COUNTY because of the unsuccessful protest. Any money remaining after the claim has been satisfied must be returned to the person who posted the bond or submitted the security.

32. METHOD OF AWARD

Award will be made to the lowest responsive and responsible Bidder on an item-by-item basis contingent upon the submission of all requested documents after award within the timelines specified, unless an extension is approved by the Owner.

33. LETTER OF AWARD

Award of this bid will be by "Letter of Award" issued by the Purchasing Analyst. CONTRACT shall include this Bid Document, any associated Addendums, and the Bid Form as signed by SUCCESSFUL BIDDER.

34. INITIAL TERM

The initial term of CONTRACT shall be from date of award through June 30, 2015, or the last availability of the Production Model year 2014 through subsequent model years(s) 2015 and 2016. Contract Renewal: Owner reserves the option to renew this contract for an additional two (2) one-year periods from its expiration date. Open-End Contract: It is understood that the successful Bidder shall consider this bid an open-end contract for the vehicle offered. In the event the Owner requires additional vehicles or replacement vehicles, it is understood that the successful Bidder agrees to furnish vehicles or replacement vehicles, it is understood that the successful Bidder agrees to furnish vehicles as per the terms of this bid from the date of award through subsequent model year(s) 2015 and 2016. Contract Extension: Owner reserves the right to temporarily extend this contract for up to three (3) months from its expiration date for any reason.

35. ADDITIONAL REQUIREMENTS

Although particular COUNTY departments may be identified in the solicitation, unless otherwise documented in CONTRACT, other COUNTY departments may utilize the resulting CONTRACT upon approval by COUNTY Purchasing and Contracts Division. Each COUNTY Department or Division will issue a separate identifying Purchase Order.

36. PRICE ADJUSTMENT REQUESTS

Commencing on date of award, prices shall not be subject to change during the initial first year term, thereafter, there may be price adjustments. All price adjustment requests, including suitable proof, shall be submitted, at least thirty (30) calendar days in advance of SUCCESSFUL BIDDER'S expectation of price increase commencement, to the Clark County, Nevada, Administrative Services Department, Purchasing Administrator, 500 South Grand Central Parkway, Las Vegas, Nevada 89155. Price increases shall not be retroactive. A price adjustment can only occur if SUCCESSFUL BIDDER has been notified in writing of COUNTY'S approval of the new Price(s). Only one written price adjustment request(s) will be accepted from SUCCESSFUL BIDDER per first year term. The reference months/period and indexes to be used to determine price adjustments will be the most recent published index between 14-16 months prior (using the final index) and 2-4 months prior (using the first-published index) to the anniversary date of the Contract, using the price index specified below.

Producer Price Index (PPI): New cars and trucks Series ID: CUSR000554501A will be used as the index for the price adjustments. The price adjustment per year may be the lesser of the percent of CPI or PPI change or three (3) percent for an increase or decrease.

Suitable Proof:

Print-out of PPI index and calculated increase, Letter from Manufacturer/ Distributor, and \_letter of request for increase.

Multiple Line Items

When multiple line items exist, the price adjustment must be justified on a line-by-line basis, not on the grand total.

37. STATE OF NEVADA LEGAL HOLIDAYS

SUCCESSFUL BIDDER is advised that below there are ten (10) firm legal holidays and eleven (11) when December 31st falls on Friday.

- Martin Luther King's Birthday
- Presidents' Day
- Memorial Day
- Independence Day
- Labor Day
- Nevada Admission Day
- Veteran's Day
- Thanksgiving Day and the Friday After
- Christmas Day
- New Year's Day

SUCCESSFUL BIDDER is required to verify dates with COUNTY'S representative prior to the commencement of work.

## II -GENERAL CONDITIONS

BID NO. 603291-14

### CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESCUES & TYPE 6 SQUAD UNITS

1. ASSIGNMENT OF CONTRACTUAL RIGHTS

SUCCESSFUL BIDDER will not assign, transfer, convey or otherwise dispose of CONTRACT or its right, title, or interest in, or to the same, or any part thereof, without previous written consent of COUNTY and any sureties.

2. AUDITS

The performance of CONTRACT by SUCCESSFUL BIDDER is subject to review by COUNTY to insure CONTRACT compliance. SUCCESSFUL BIDDER agrees to provide COUNTY any and all information requested that relates to the performance of CONTRACT. All requests for information will be in writing to SUCCESSFUL BIDDER. Time is of the essence during the audit process. Failure to provide the information requested within the timeline provided in the written information request may be considered a material breach of contract and be cause for suspension or termination of CONTRACT.

3. AUTHORITY

COUNTY is bound only by COUNTY agents acting within the actual scope of their authority. COUNTY is not bound by actions of one who has apparent authority to act for COUNTY. The acts of COUNTY agents which exceed their contracting authority do not bind COUNTY.

4. BIDS ARE NOT TO CONTAIN CONFIDENTIAL / PROPRIETARY INFORMATION

Bids must contain sufficient information to be evaluated without reference to any confidential or proprietary information. In accordance with NRS 239.010, Bidders shall not include any information in their bid that they would not want to be released to the public. Any bid submitted that is marked "Confidential" or "Proprietary," or that contains materials so marked, may be returned to Bidder and may not be considered for award.

5. CLARK COUNTY'S PROPERTY

All property owned by COUNTY and furnished to SUCCESSFUL BIDDER for the purpose of performance under this Bid will be identified and marked as COUNTY'S property and adequately insured by SUCCESSFUL BIDDER for COUNTY'S protection. In the event that COUNTY'S property becomes lost or damaged to any extent while in SUCCESSFUL BIDDER'S possession from any cause, including faulty workmanship or negligent acts by SUCCESSFUL BIDDER, its agents or its employees, SUCCESSFUL BIDDER agrees to replace such property or reimburse COUNTY for the value or expense of replacement, whichever is greater, in accordance with COUNTY request.

6. COLLECTION AND PAYMENT OF SALES TAX

In accordance with NRS 372.123, any Bidder that sells tangible personal property to any commercial business in the State of Nevada is required to possess a Nevada Sales Tax Permit and shall collect and pay the taxes as defined in NRS Chapters 372 and 374. Permit information can be obtained by contacting the Nevada State Department of Taxation at (702) 486-2300.

7. COLLUSION AND ADVANCE DISCLOSURES

Pursuant to NRS 332.820 evidence of agreement or collusion among Bidders and prospective Bidders acting to illegally restrain freedom of competition by agreement to bid a fixed price, or otherwise, shall render the bids of such Bidders void.

Advance disclosures of any information to any particular Bidder which gives that particular Bidder any advantage over any other interested Bidders, in advance of the bid opening, whether in response to advertising or an informal request for bids, made or permitted by a member of the governing body or an employee or representative thereof, shall operate to void all bids received in response to that particular request for bids.

8. CONSUMPTION ESTIMATES

The quantities appearing in the Bid Form are approximate only and are prepared for the solicitation of bids. Payment to SUCCESSFUL BIDDER will be made only for the actual quantities of items furnished in accordance with the bid and it is understood that the scheduled quantities of items to be furnished may be increased, decreased or omitted without, in any way, invalidating bid prices.

9. CONTRACT AMENDMENTS

Notwithstanding any provision herein to the contrary, and pursuant to NRS 104.2306, and recognizing the constraints inherent in public bidding, COUNTY reserves the right to request modification at any time to the scope, frequency, estimated quantities or the timing of SUCCESSFUL BIDDER'S obligations under CONTRACT, in whatever manner COUNTY determines, in good faith, to be reasonably necessary and to be in the best interests of the public. Both parties agree that, should any modifications to CONTRACT be made during CONTRACT term, a written amendment detailing those elements shall be executed by SUCCESSFUL BIDDER and the BCC or their authorized representative.

10. DISCLOSURE OF OWNERSHIP / PRINCIPALS

Any Bidder recommended for award of CONTRACT by the Board of County Commissioners is required to provide the information on the attached "Disclosure of Ownership/Principals" form. The form shall be submitted to COUNTY within twenty-four (24) hours after request. Failure to fill out the subject form by Bidders shall be cause for rejection of the bid.

11. DRUG-FREE WORKPLACE

SUCCESSFUL BIDDER agrees to comply with all applicable state and federal laws regarding a drug-free workplace. SUCCESSFUL BIDDER shall make a good faith effort to ensure that all of its employees, while working on COUNTY property, will not purchase, use, be under the influence of, or possess illegal drugs or alcohol or abuse prescription drugs in any way.

12. EMPLOYMENT OF UNAUTHORIZED ALIENS

In accordance with the Immigration Reform and Control Act of 1986, SUCCESSFUL BIDDER agrees that it will not employ unauthorized aliens in the performance of CONTRACT.

13. FEDERAL, STATE, LOCAL LAWS

All Bidders shall comply with all Federal, State and local laws relative to conducting business in Clark County. The laws of the State of Nevada will govern as to the interpretation, validity, and effect of this bid, its award, and any contract entered into.

14. FISCAL FUNDING OUT

COUNTY reasonably believes that funds can be obtained sufficiently to make all payments during the term of CONTRACT. If COUNTY does not allocate funds to continue the purchase of the product or service, in accordance with NRS 354.626, CONTRACT shall be terminated when appropriated funds expire.

15. FORCE MAJEURE

SUCCESSFUL BIDDER shall be excused from performance hereunder during the time and to the extent that it is prevented from obtaining, delivering, or performing, by acts of God, fire, war, loss or shortage of transportation facilities, lockout or commandeering of raw materials, products, plants or facilities by the government. SUCCESSFUL BIDDER shall provide COUNTY satisfactory evidence that non performance is due to cause other than fault or negligence on its part.

16. GOVERNING LAW/VENUE OF ACTION [GOODS, SERVICES]

CONTRACT shall be construed and enforced in accordance with the laws of the State of Nevada. Any action at law or other judicial proceeding for the enforcement of any provision shall be instituted in the County of Clark, State of Nevada.

17. GOVERNING ORDER OF BIDDING AND CONTRACT DOCUMENTS

The bidding and CONTRACT documents include various divisions, sections, and conditions which are essential parts for the work to be provided by SUCCESSFUL BIDDER. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for complete work. In case of discrepancy, the following precedence will govern:

- A. Amendment
- B. General Conditions
- C. Addenda
- D. Instructions to Bidders
- E. Federal Requirements (If Applicable)
- F. Special Conditions
- G. Technical Specifications

18. INDEMNITY

SUCCESSFUL BIDDER agrees, by entering into CONTRACT, regardless of the coverage provided by any insurance policy, to pay all costs necessary to indemnify, defend, and hold COUNTY harmless from any and all claims, demands, actions, attorney's fees, costs, and expenses based upon or arising out of any acts, errors, omissions, fault or negligence of SUCCESSFUL BIDDER or its principals, employees, subcontractors or other agents while performing services under CONTRACT. SUCCESSFUL BIDDER shall indemnify, defend, and hold harmless COUNTY for any attorney's fees or other costs of defense, even if the allegations of the claim are groundless, false or fraudulent.

19. INVOICING

Invoicing for bid items are to be sent to the location as identified in the purchase order(s). Invoices are to be sent within ninety (90) calendar days of the delivery of the product or completion of the work. Invoices for payment not submitted within this time period will not be considered for payment. Payment of invoices will be made within thirty (30) calendar days, unless otherwise specified, after receipt of an accurate invoice that has been reviewed and approved by the applicable department's authorized representative. In accordance with NRS 244.250 COUNTY shall not provide payment on any invoice SUCCESSFUL BIDDER submits after six (6) months from the date SUCCESSFUL BIDDER provides goods, performs services, or provides deliverables or milestones.

All invoices should include the following information:

- A. Company Name
- B. Complete Address (including street, city, state, and zip code)
- C. Telephone Number
- D. Contact Person
- E. Itemized description of products delivered (including quantities) or services rendered (including dates)
- F. Clark County Purchase Order Number
- G. Company's Tax Identification Number
- H. Bid Number
- I. Itemized pricing and total amount due (excluding Sales and Use Tax)
- J. Percentage Discounts/ Payment Terms (if offered)
- K. Company's Invoice Number
- L. Clark County Work Order Number(s)

SUCCESSFUL BIDDER is responsible to insure that all invoices submitted for payment are in strict accordance with the price(s) offered on the Bid Form. If overcharges are found, COUNTY may declare SUCCESSFUL BIDDER in breach of contract, terminate CONTRACT, and designate SUCCESSFUL BIDDER as non-responsible if responding to future invitations to bid.

20. INVOICE AUDITS

SUCCESSFUL BIDDER shall provide to COUNTY, within ten (10) business days of COUNTY'S request, a report to validate that the price(s) charged are in accordance with the price(s) offered on SUCCESSFUL BIDDER'S Bid Form. The format of the report will depend on the pricing structure provided on the Bid Form. The report shall be subject to review and approval by COUNTY'S using department(s) and Internal Audit Department. Discrepancies found in the report will require SUCCESSFUL BIDDER to update the report no later than five (5) business days after notification by COUNTY. In the event that SUCCESSFUL BIDDER undercharged COUNTY, COUNTY shall reimburse SUCCESSFUL BIDDER within ten (10) business days. In the event that SUCCESSFUL BIDDER overcharged COUNTY, SUCCESSFUL BIDDER shall reimburse COUNTY within ten (10) business days. If overcharges are found, COUNTY may declare SUCCESSFUL BIDDER in breach of contract, terminate CONTRACT, and designate SUCCESSFUL BIDDER as non-responsible if responding to future invitations to bid.

21. NON-DISCRIMINATION

The BCC is committed to promoting full and equal business opportunity for all persons doing business in Clark County. SUCCESSFUL BIDDER acknowledges that COUNTY has an obligation to ensure that public funds are not used to subsidize private discrimination. SUCCESSFUL BIDDER recognizes that if they or their subcontractors are found guilty by an appropriate authority of refusing to hire or do business with an individual or company due to reasons of race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, national origin,

or any other protected status, COUNTY may declare SUCCESSFUL BIDDER in breach of contract, terminate CONTRACT, and designate SUCCESSFUL BIDDER as non-responsible.

22. NON-ENDORSEMENT

As a result of the selection of SUCCESSFUL BIDDER to supply goods or services, COUNTY is neither endorsing nor suggesting that SUCCESSFUL BIDDER'S service is the best or only solution. SUCCESSFUL BIDDER agrees to make no reference to COUNTY in any literature, promotional material, brochures, sales presentations, or the like, without the express written consent of COUNTY.

23. OUT OF STATE SUPPLIERS

Out of state suppliers shall accept collect calls or provide a toll free telephone number for the placement of orders.

24. PARTIAL PAYMENTS

Partial payment requests will be accepted only at the sole discretion of COUNTY.

25. PATENT INDEMNITY

A. SUCCESSFUL BIDDER hereby indemnifies and shall defend and hold harmless COUNTY, its officers, employees, agents, its officers, and employees, respectively, from and against all claims, losses, costs, damages, and expenses, including attorney's fees, incurred by COUNTY, respectively, as a result of or in connection with any claims or actions based upon infringement or alleged infringement of any patent and arising out of the use of the equipment or materials furnished under CONTRACT by SUCCESSFUL BIDDER, or out of the processes or actions employed by, or on behalf of SUCCESSFUL BIDDER in connection with the performance of CONTRACT. SUCCESSFUL BIDDER shall, at its sole expense, promptly defend against any such claim or action unless directed otherwise by COUNTY; provided that COUNTY or its construction manager shall have notified SUCCESSFUL BIDDER upon becoming aware of such claims or actions, and provided further that SUCCESSFUL BIDDER'S aforementioned obligations shall not apply to equipment, materials, or processes furnished or specified by COUNTY.

B. SUCCESSFUL BIDDER shall have the right, in order to avoid such claims or actions, to substitute at its expense non infringing equipment, materials, or processes, or to modify such infringing equipment, materials and processes so they become non infringing, or obtain the necessary licenses to use the infringing equipment, material or processes, provided that such substituted and modified equipment, materials and processes shall meet all the requirements and be subject to all the provisions of CONTRACT.

26. PUBLIC RECORDS

COUNTY is a public agency as defined by state law, and as such, is subject to the Nevada Public Records Law (Chapter 239 of the Nevada Revised Statutes). Under the law, all of COUNTY'S records are public records (unless otherwise declared by law to be confidential) and are subject to inspection and copying by any person. All bid documents are available for review following the bid opening.

27. PURCHASE ORDERS

The Purchasing and Contracts Division will issue a purchase order(s) which will authorize SUCCESSFUL BIDDER to deliver and invoice for the product(s) or service(s) offered.

28. RIGHT OF INSPECTION AND REJECTION

All goods and services purchased under this bid will be subject to inspections, tests and approval/acceptance by COUNTY. It is acknowledged that many of the goods contained in closed packages may not be inspected until such time as they are used, and that the inspections and rejection rights will continue until those packages are opened and inspected, notwithstanding prior payment. If specifications or warranties are not met, material and equipment will be returned at SUCCESSFUL BIDDER'S expense. Nonconforming goods may be returned to SUCCESSFUL BIDDER freight collect at which time risk of loss will pass to SUCCESSFUL BIDDER upon COUNTY'S delivery to common carrier or retrieved by SUCCESSFUL BIDDER at which time risk of loss will pass to SUCCESSFUL BIDDER at time of retrieval.

29. SEVERABILITY

If any terms or provisions of CONTRACT shall be found to be illegal or unenforceable, then such term or provision shall be deemed stricken and the remaining portions of CONTRACT shall remain in full force and effect.

30. SUBCONTRACTS

Services specified in CONTRACT shall not be subcontracted by SUCCESSFUL BIDDER, without the written approval of COUNTY. Approval by COUNTY of SUCCESSFUL BIDDER'S request to subcontract or acceptance of or payment for subcontracted work by COUNTY shall not in any way relieve SUCCESSFUL BIDDER of responsibility for the professional and technical accuracy and adequacy of the services performed. SUCCESSFUL BIDDER shall be and remain liable for all damages to COUNTY caused by negligent performance or non-performance of services performed under CONTRACT by SUCCESSFUL BIDDER'S subcontractor.

31. SUBCONTRACTOR / INDEPENDENT CONTRACTOR

SUCCESSFUL BIDDER represents that it is fully experienced and properly qualified to perform the class of work provided for herein, and that it is properly licensed, equipped, organized and financed to perform such work. SUCCESSFUL BIDDER shall act as an independent SUCCESSFUL BIDDER and not as the agent of COUNTY in performing CONTRACT. SUCCESSFUL BIDDER shall maintain complete control over its employees and all of its Subcontractors. Nothing contained in CONTRACT or any subcontract awarded by SUCCESSFUL BIDDER shall create any contractual relationship between any such Subcontractor and COUNTY. SUCCESSFUL BIDDER shall perform all work in accordance with its own methods subject to compliance with CONTRACT.

32. SUSPENSION BY THE COUNTY FOR CONVENIENCE

- A. COUNTY may, without cause, order SUCCESSFUL BIDDER in writing to suspend, delay or interrupt the work in whole or in part for such period of time as COUNTY may determine.
- B. In the event COUNTY suspends performance of SUCCESSFUL BIDDER for an aggregate period in excess of sixty (60) calendar days, SUCCESSFUL BIDDER shall be entitled to an equitable adjustment of the compensation payable to SUCCESSFUL BIDDER under this Bid to reimburse SUCCESSFUL BIDDER for additional costs occasioned as a result of such suspension of performance by COUNTY. Equitable adjustment shall be based on appropriated funds and approval by COUNTY.
- C. No equitable adjustment will be made if performance is, was or would have been so suspended, delayed or interrupted by another cause for which SUCCESSFUL BIDDER is responsible.

33. TAXES

COUNTY is a political subdivision of the State of Nevada and under the provisions of Nevada Revised Statute (NRS) 372.325 is exempt from the payment of Sales and Use Tax (Employee Identification Number 88-6000028). A copy of the tax exempt letter is available upon request. The bid price(s) must be net, exclusive of these taxes.

34. TERMINATION FOR CAUSE

If SUCCESSFUL BIDDER fails to perform in accordance with the agreed terms, conditions, or warranties applicable to CONTRACT, COUNTY may **immediately** terminate all or part of CONTRACT upon written notice of intent to terminate without any liability by COUNTY to SUCCESSFUL BIDDER. In the event of termination for cause, COUNTY may cancel any delivery or service and purchase the product or service elsewhere on such terms or in such manner as COUNTY may deem appropriate and SUCCESSFUL BIDDER shall be liable to COUNTY for any excess cost or other expenses incurred by COUNTY.

35. TERMINATION FOR CONVENIENCE

COUNTY reserves the right to terminate CONTRACT in whole or part at any time whenever COUNTY shall determine that such a termination is in the best interest of COUNTY without penalty or recourse upon thirty (30) calendar days written notice of intent to terminate. In the event that COUNTY elects to terminate CONTRACT, the termination request will be submitted to the BCC or the Clark County Administrative Services Department for approval.

36. TITLE AND RISK OF LOSS

The title and risk of loss of material or service shall not pass to COUNTY until material is delivered to the specific location, quantities are verified, and the material is inspected for damage or service is completed as specified.

37. USE BY OTHER GOVERNMENT ENTITIES

Nevada Revised Statutes 332.195 allows local governments to join or use the contracts of other local governments or the State of Nevada, with the authorization of contracting Supplier.

38. WARRANTY

SUCCESSFUL BIDDER warrants that the goods and services covered under this bid will conform to applicable specifications, instructions, drawings, data and samples, will be merchantable and of good material and workmanship, free from defects and will be fit and sufficient for the purposes intended. SUCCESSFUL BIDDER shall guarantee all workmanship, materials, and equipment they have furnished for a period of one (1) year after the final acceptance of the equipment or materials or for the length of the current manufacturer's warranty, whichever is longer. If during the guarantee period, any defect or faulty materials are found, it shall immediately, upon notification by COUNTY, proceed at its own expense to replace and repair same, together with any damage to all finishes, fixtures, equipment, and furnishings that may be damaged as a result of this defective equipment or workmanship. Acceptance or receipt of payment for goods or services shall not constitute a waiver of any warranty.

### III - SPECIAL CONDITIONS

BID NO. 603291-14

#### CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESCUES & TYPE 6 SQUAD UNITS

Name of Firm

1. SERVICE AND INSPECTION INSTRUCTIONS - COMPLETION OF CONTRACT

Prior to delivery, the product shall be completely inspected and serviced by the delivering dealer or the manufacturer's pre-delivery service center. A copy of the manufacturer's standard pre-delivery service check list shall be completed for the product, signed by a representative of the organization performing the inspection/service and delivered with the product.

The product may be inspected at time of delivery, by an authorized representative of COUNTY, for workmanship, appearance, proper functioning of all equipment and systems, and conformance to all other requirements of this specification. In the event deficiencies are detected, the product will be rejected to make the necessary repairs, adjustments or replacements. Payment or the commencement of a discount period (if applicable) will not be made until the corrective action is made the product is re-inspected and accepted. If the product is accepted at delivery and later rejected because of deficiencies, it shall be the dealer's responsibility to pick up the product, make the necessary corrections and redeliver the product for re-inspection and acceptance at no additional cost to COUNTY.

2. DEALER'S REPORT OF SALE - COMPLETION OF CONTRACT

Dealer's Report of Sale shall be addressed to:

Clark County Fire Department  
4425 West Tropicana  
Las Vegas, NV 89103

3. TITLE FEES

The SUCCESSFUL BIDDER shall pay all title fees.

4. NOTICE OF DELIVERY(AUTOMOTIVE ONLY)

COUNTY shall be given twenty-four (24) hours notice prior to delivery in order to establish a time, date and location. Notify Riccardo Terzo of Fire Department, at (702) 455-7700. At the time of delivery SUCCESSFUL BIDDER shall provide the necessary documents and keys, as specified on the attachment, as per type of vehicle(s) being delivered. If the required documents and keys are not available at the time of delivery the vehicle(s) **will not be accepted.**

#### DOCUMENTS AND KEYS REQUIRED AT DELIVERY

VEHICLE TYPE	DEALERS REPORT OF SALE IN-STATE	OR	CERTIFICATE OF ORIGIN OUT OF STATE	ODOMETER STATEMENT	PURCHASE ORDER (COPY)	INVOICE	KEYS (PER BID)	MANUAL (PER BID)
HEAVY DUTY TRUCKS NOT TO EXCEED 12,000 LBS. LICENSED	X	OR	X	X	X	X	X	X
HEAVY DUTY TRUCKS AND EQUIPMENT IN EXCESS OF 12,000 LBS. LICENSED	X	OR	X	X	X	X	X	X

**NOTE: Vehicles without the indicated documents and keys will not be accepted.**

5. FUEL

Vehicle(s) shall be delivered with a full tank of fuel.

6. MILEAGE

Vehicle(s) shall be delivered with less than fifty (50) miles on the odometer.

7. KEYS

There shall be three (3) sets of keys for each vehicle and all locking compartments or vandal covers provided at the time of delivery.

8. COMPONENT INSTALLATION

All components supplied shall be factory or dealer installed and shall be as advertised in current published literature unless otherwise stated (**Literature shall be provided upon request**).

9. DEALER'S NAMEPLATES AND DECALS

All vehicle(s) shall be delivered free of dealer nameplates, license plate holders or advertisement decals.

10. ORDER CONFIRMATION

SUCCESSFUL BIDDER shall provide, within ten (10) business days of receipt of purchase order, a confirmation from the manufacturer showing the vehicles have been ordered. The confirmation may be provided via facsimile to:

Clark County Purchasing Department  
Attn: Sandra Mendoza, Purchasing Analyst  
Fax: (702) 386-4914

11. LOCATION AND HOURS

Deliveries shall be made to the 4425 West Tropicana, Las Vegas, Nevada 89103, Monday through Friday (excluding COUNTY'S holidays), between the hours of 7:00 a.m. and 3:00 p.m.

12. MAXIMUM DELIVERY TIME

Maximum delivery time is 180 calendar day(s). Failure to offer a delivery time within the maximum number of days specified may be considered a substantial deviation and be cause for rejection. Time is of the essence and failure to meet the delivery time specified shall constitute a breach of contract and may result in termination of CONTRACT.

13. OUT OF AREA DELIVERY REQUIREMENTS

If the successful Bidder is located outside of the Las Vegas Valley, it is required to have an Authorized Dealer located in the Las Vegas Valley who will act as its representative. All vehicles will be delivered to this local Authorized Dealer Representative and not directly to Clark County. This local Authorized Dealer Representative will be responsible for the Pre-delivery inspection (PDI), all dealer prep, delivery, and any necessary documentation and paperwork, including State of Nevada VIN inspection.

14. F.O.B. DESTINATION - FREIGHT PRE-PAID

SUCCESSFUL BIDDER shall pay all freight charges. SUCCESSFUL BIDDER shall file all claims and bears all responsibility for the products from the point of origin to COUNTY'S destination. All prices shall be F.O.B. the delivery points as required. All prices shall include delivery, as well as any necessary unloading.

15. PARTIAL SHIPMENTS

Partial shipments will not be permitted.

16. TRAINING

Training, in the form of orientation, shall be provided to COUNTY'S personnel by a qualified factory representative or the SUCCESSFUL BIDDER'S personnel, in the proper operation techniques, including care and maintenance of the product. This training shall take place at 4425 West Tropicana, Las Vegas, NV 89103, at the SUCCESSFUL BIDDER'S expense.

17. FAILURE TO DELIVER

In the event that SUCCESSFUL BIDDER fails to deliver the product or service in accordance with the terms and conditions of CONTRACT, COUNTY shall have the option to either terminate CONTRACT or temporarily procure the product or service from another supplier. If the product or service is procured from another supplier, SUCCESSFUL BIDDER shall pay to COUNTY any difference between the bid price and the price paid to the other supplier.

18. DAMAGED OR DEFECTIVE PRODUCTS

SUCCESSFUL BIDDER shall replace, at no cost to COUNTY, damaged or defective products within five (5) business day(s) after notice. This shall include freight and any and all other associated costs. Failure to do so will cause such products to be procured from another supplier. If the product is procured from another supplier, SUCCESSFUL BIDDER shall pay COUNTY any difference between the bid price and the price paid to the other supplier.

19. EXTENDED WARRANTY(S)

Specify all factory and component manufacturers' standards and extended warranties. SUCCESSFUL BIDDER shall list any extended warranties and costs associated with them that may be purchased by COUNTY. (PLEASE NOTE:

**Special Conditions**

Bid No. 603291-14

Current Production Model Fire Engine, Medium Duty Rescues & Type 6 Squad Units

THE COST OF EXTENDED WARRANTIES SHALL NOT BE INCLUDED IN THE BID PRICE. THE EXTENDED WARRANTY DESCRIPTION AND PRICE SHALL BE LISTED SEPARATELY. COUNTY SHALL HAVE THE OPTION OF PURCHASING THE EXTENDED WARRANTIES SEPARATELY, BASED ON COUNTY BUDGETED APPROPRIATIONS) SUCCESSFUL BIDDER shall provide copy of warranties upon request.

# IV - TECHNICAL SPECIFICATIONS

BID NO. 603291-14

CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESCUES & TYPE 6 SQUAD UNITS

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Name of Firm

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## **INTENT:**

It is the intent of these specifications to provide a vehicle that will conform to the specifications, and be suitable for continuous use by COUNTY. The vehicle offered shall be new, unused, the current production model and conform to the specifications provided below.

The vehicle shall comply with all Federal and State of Nevada Emission Control Regulations, and Safety Standards in effect at the time of delivery to COUNTY.

These specifications shall be construed as minimum requirements. Should the manufacturer's current published data or specifications exceed these, they shall be considered as minimum and be furnished by Bidder.

Any deviation taken at the time of or after bid submittal may render the bid non-responsive. If a Bidder is unable to meet the Technical Specifications, Bidder MUST complete the attached **Exhibit A** and submit it to the Purchasing Analyst at least five (5) business days prior to the scheduled **PRE-BID CONFERENCE**. It shall be the sole responsibility of the Bidder to ensure that the Purchasing Analyst has been properly notified, **PRIOR TO THE PRE-BID CONFERENCE** of the Bidder's deviation to the Technical Specifications.

It is the sole responsibility of the BIDDER to ensure that the Purchasing Analyst has been properly notified of BIDDER'S inability to meet the specification, prior to the **PRE-BID CONFERENCE**.

**BIDDERS MUST RETURN THE ORIGINAL OR A PHOTOCOPY OF THIS FORM AND MAKE AN ENTRY FOR EACH SPECIFICATION IN THE SPACE PROVIDED OPPOSITE THE SPECIFICATIONS, INDICATING ANY VARIANCES IN THE SPECIFICATION. IF THERE IS NOT ENOUGH SPACE, ATTACH AN ADDITIONAL SHEET OF PAPER.**

CURRENT PRODUCTION MODEL 750 GALLON FIRE ENGINE 4X4 WITH HEIGHT RESTRICTION

## SPECIFICATION NO. 1

### **GENERAL DESCRIPTION**

It is the intent of these specifications to describe the minimum requirements for diesel powered truck cab and chassis with 750 gallon water tank, Hale water pump minimum capacity of 1250gpm, 4x4 drive train. MAX HEIGHT NOT TO EXCEED 115" to be compliant with NFPA 1901 current edition.

## SPECIFICATION NO. 2

### **APPROVAL DRAWING**

Prior to construction, the successful bidder shall provide three approval drawings of the apparatus for the fire department's review. The drawings shall show such items as the chassis being utilized, lights, horns, sirens, pump panels, and all compartment locations and dimensions. The blueprint shall be a visual interpretation of the unit as it is to be constructed. The buying authority shall sign all drawings. One print shall be retained by the Fire Department, the dealer shall retain one print, and one print, shall be returned to the manufacturer.

## SPECIFICATION NO. 3

### **PRE-CONSTRUCTION MEETING**

Within 45 days of purchase order release there will be a pre-construction meeting for up to four (4) representatives of the buying authority at the facility where the apparatus is being constructed. The trip(s) will be prior to construction of the apparatus. Factory and Sales representatives will be available at the time of trip. Transportation, lodging and meals, will be the responsibility of the successful bidder.

SPECIFICATION NO. 4

**FINAL INSPECTION**

There will be a final inspection for up to four (4) representatives of the buying authority at the facility where the apparatus is being constructed. The inspection trip will be when the apparatus is complete. Factory and Sales representatives will be available at the time of inspection. Transportation, lodging and meals will be the responsibility of the manufacturer.

SPECIFICATION NO. 5

**TRANSPORTATION**

To insure proper break-in of all components while still under warranty, the apparatus shall be delivered over the road under its own power.

SPECIFICATION NO. 6

**MANUALS AND DOCUMENTATION ON CD**

The following manual guides and parts information CD will be required with the delivery of the apparatus.

Two-(2) sets of the following will be supplied:

- Operator Manual
- Parts List
- Electrical Wiring Diagrams
- Electrical Troubleshooting Guide

SPECIFICATION NO. 7

**CHASSIS**

MAKE/MODEL: 2014 International 7400 SFA 4x4

40,000 GVWR / 4-Door

TOW HOOK, FRONT (2) Frame Mounted

FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.125" x 3.580" x 0.312" (257.2mm x 90.9mm x 8.0mm); 480.0" (12192) Maximum OAL

FRAME REINFORCEMENT Outer "C" Channel, Heat Treated Alloy Steel (120,000 PSI Yield); 10.813" x 3.892" x 0.312"; (274.6mm x 98.9mm x 8.0mm); 480.0" (12192mm) Maximum OAL

FRAME ADDITION, FRONT 1" Integral; Increases BBC, BA and OAL Vehicle Dimensions By 1"

BUMPER EXTENSION FRONT/COMPARTMENT: Front bumper extension compartment shall accommodate 100' of 1.75" double jacket hose.

AXLE, FRONT DRIVING {Meritor MX-14-120} Single Reduction, 14,000-lb Capacity Includes

DRAIN PLUG, DRIVING FRONT AXLE Magnetic

SUSPENSION, FRONT, SPRING Parabolic, Taper Leaf; 14,000-lb Capacity; With Shock Absorbers Includes

SPRING PINS Rubber Bushings, Maintenance-Free

BRAKE SYSTEM, AIR Dual System for Straight Truck Applications

Includes:

BRAKE LINES Color and Size Coded Nylon

DRAIN VALVE Twist-Type

DUST SHIELDS, FRONT BRAKE

DUST SHIELDS, REAR BRAKE

GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster

PARKING BRAKE CONTROL Yellow Knob, Located on Instrument Panel

PARKING BRAKE VALVE For Truck  
 QUICK RELEASE VALVE Bendix On Rear Axle for Spring Brake Release: 1 for 4x2, 2 for 6x4  
 SLACK ADJUSTERS, FRONT Automatic  
 SLACK ADJUSTERS, REAR Automatic  
 SPRING BRAKE MODULATOR VALVE R-7 for 4x2, SR-7 with relay valve for 6x4  
 AIR BRAKE ABS {Bendix AntiLock Brake System} Full Vehicle Wheel Control System (4-Channel)  
 BRAKES, FRONT, AIR CAM S-Cam; 16.5" x 5.0"; Includes 20 Sq. In. Long Stroke Brake Chambers  
 BRAKE CHAMBERS, FRONT AXLE {Haldex} 20 Sqn  
 BRAKES, REAR, AIR CAM S-Cam; 16.5" x 7.0"; Includes 30/30 Sq.In. Long Stroke Brake Chamber and Spring Actuated Parking Brake  
 BRAKE SHOES, REAR Cast  
 BRAKE CHAMBERS, REAR AXLE {Haldex GC3030LHDHO} 30/30 Spring Brake

Includes :

BRAKE CHAMBERS, SPRING (2) Rear Parking; WITH TRUCK BRAKES: All 4x2, 4x4; WITH TRACTOR BRAKES: All 4x2, 4x4; 6x4 & 6x6 with Rear Tandem Axles Less Than 46,000-lb. or GVWR Less Than 54,000-lb.  
 AIR COMPRESSOR {Bendix Tu-Flo 550} 13.2 CFM Capacity  
 AIR DRYER {Bendix AD9} With Heater  
 AIR DRYER LOCATION Outside Left Rail, Back of Cab  
 DRAIN VALVE {Berg} Manual; With Pull Chain, for Air Tank Includes  
 DRAIN VALVE Mounted in Wet Tank  
 STEERING GEAR {Sheppard M-110} Power  
 STEERING COLUMN Tilting and Telescoping  
 STEERING WHEEL 2-Spoke, 18" Diam., Black  
 DRIVESHAFT {Dana Spicer} SPL170XL Series in lieu of SPL140  
 EXHAUST SYSTEM Single, Horizontal, After treatment Device Frame Mounted Outside Left Rail Back of Cab; Includes horizontal Tail Pipe.

SWITCH, FOR EXHAUST 3 Position, Momentary, Lighted Momentary, ON/CANCEL, Center Stable, INHIBIT  
 REGEN, Mounted in IP Inhibits Diesel Particulate Filter Regeneration When Switch is Moved to ON While Engine is Running, Resets When Ignition is Turned OFF

ENGINE EXHAUST BRAKE for MaxxForce I6 Engines, Electronically Activated

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

Includes:

BATTERY BOX Steel with Plastic Lid  
 DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab  
 FUSES, ELECTRICAL SAE Blade-Type  
 HAZARD SWITCH Push On/Push Off, Located on Top of Steering Column Cover  
 HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever  
 HEADLIGHTS (2) Sealed Beam, Round, with Chrome Plated Bezels  
 HORN, ELECTRIC Single  
 JUMP START STUD Located on Positive Terminal of Outermost Battery  
 PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light  
 RUNNING LIGHT (2) Daytime, Included With Headlights  
 STARTER SWITCH Electric, Key Operated  
 STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector  
 TURN SIGNAL SWITCH Self-Cancelling for Trucks, Manual Cancelling for Tractors, with Lane Change Feature  
 TURN SIGNALS, FRONT Includes Reflectors and Auxiliary Side Turn Signals, Solid State Flashers; Flush Mounted  
 WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever  
 WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted  
 WIRING, CHASSIS Color Coded and Continuously Numbered  
 ALTERNATOR {Leece-Neville 14931PAH} Brush Type, 12 Volt 320 Amp. Capacity, Pad Mount  
 STARTING MOTOR {Leece-Neville M105R} 12 Volt; Less Thermal Over-Crank Protection  
 BATTERY SYSTEM {International} Maintenance-Free, (3) 12-Volt 1950CCA Total

JUMP START STUD Remote Mounted

Includes:

JUMP START STUD Mounted to Battery Box  
 CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5Amp

Fuses

BODY BUILDER WIRING Back of Standard Cab at Left Frame or Under Extended or Crew Cab at Left Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn

REMOTE POWER MODULE Mounted Under Cab or On Battery Box; Up to 6 Outputs & 6 Inputs, Max. 20 amp. per Channel, Max. 80 amp. Total (Includes 1 Switch Pack With Latched Switches)

I/O EXPANSION HARNESS {for Diamond Logic Builder} In-Cab wire harness (DLB) program only, Includes a harness with five blunt cut wires routed on lower left of instrument panel. Two ground active inputs and two (.5Amp) relay drivers outputs are provided

TWELVE VOLT POWER POINT: (3) placement to be determined at pre construction.

HEADLIGHTS Long Life Halogen; for Two Light System

GRILLE Stationary, Chrome

FRONT END Tilting, Fiberglass, With Three Piece Construction; for 2007 & 2010 Emissions

PAINT Shall match Clark County Fire Department yellow N3452 Dupont

ENGINE, DIESEL {MaxxForce 9} EPA 10, 330 HP @ 2000 RPM, 950 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed

Includes :

AIR COMPRESSOR AIR SUPPLY LINE Naturally-Aspirated (Air Brake Chassis Only)

ANTI-FREEZE Red Shell Rotella Extended Life Coolant; -40 Degrees F/ -40 Degrees C; for MaxxForce Engines

COLD STARTING EQUIPMENT Intake Manifold Electric Grid Heater with Engine ECM Control

CRUISE CONTROL Electronic; Controls Integral to Steering Wheel

ENGINE OIL DRAIN PLUG Magnetic

ENGINE SHUTDOWN Electric, Key Operated

FUEL FILTER Included with Fuel/Water Separator

FUEL/WATER SEPARATOR Fuel/Water Separator and Fuel Filter in a Single Assembly; With Water-in-Fuel Sensor; Engine Mounted

GOVERNOR Electronic

OIL FILTER, ENGINE Spin-On Type

WET TYPE CYLINDER SLEEVES

FEDERAL EMISSIONS for 2010

EMISSION COMPLIANCE Engine Shutdown System Exempt Vehicles, Complies With California Clean Air Regulations

OBD COMPLIANCE for 2013 OBD (On Board Diagnostics)

OIL FILTER, ENGINE {Hudgins Model 960 Spinner}

ENGINE WATER COOLER {Sen-Dure} Auxiliary, For Use With Fire Trucks

FAN DRIVE {Horton Drivemaster Polar Extreme} Direct Drive Type, Two Speed, With Residual Torque Device for Disengaged Fan Speed

Includes:

FAN Nylon

RADIATOR Aluminum, Front to Back Cross Flow, Series System; 1588 SqIn Core and 885 SqIn Charge Air Cooler and 470 SqIn Low Temperature Radiator Down Flow, Includes Transmission Oil Cooler Includes

DEAERATION SYSTEM with Surge Tank

HOSE CLAMPS, RADIATOR HOSES Gates Shrink Band Type; Thermoplastic Coolant Hose clamps

RADIATOR HOSES Premium, Rubber

AIR CLEANER Single Element Includes

GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted

GRILLE EMBER SCREEN Mounted to Grille and Cowl Tray to Keep Hot Embers out of Engine and HVAC Air Intake System

THROTTLE, HAND CONTROL Engine Speed Control for PTO; Electronic, Stationary Pre-Set, Two Speed Settings; Mounted on Steering Wheel

ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of PTO Controls; With Ignition Switch Control for MaxxForce post 2007 Emissions Electronic Engines

TRANSMISSION, AUTOMATIC {Allison 3000EVS\_P} 4th Generation Controls; Close Ratio, 5-Speed; With Overdrive, Includes Oil Level Sensor, With Provision for PTO, Less Retarder, Max. GVW N/A Includes

OIL FILTER, TRANSMISSION Mounted on Transmission

TRANSMISSION OIL PAN Magnet in Oil Pan

TRANSMISSION OIL full Synthetic

ALLISON SPARE INPUT/OUTPUT for Emergency Vehicle Series (EVS), 127/198 Includes J1939 Based Auto Neutral; Fire/Pumper, Tank, Aerial/Ladder

SHIFT CONTROL PARAMETERS Allison Performance Programming in Primary and Allison Economy Programming in Secondary

TRANSMISSION SHIFT CONTROL {Allison} T-Bar Type; for Allison 3000 & 4000 Transmission

TRANSFER CASE {Meritor T-4210 2} 2 Spd, 10000 lb-ft Total Capacity, With Provision for PTO, With Electric Over Air Control  
Includes:

LIGHT, INDIC, ALL-WHEEL DRIVE Illuminates With All Wheel Drive Engaged, Located on Instrument Panel

TRANSFER CASE LUBE {EmGard 50W} Synthetic; 1 thru 14.99 Pints

OIL COOLER, TRANSFER CASE Remote Mounted Back of Cab

AXLE, REAR, SINGLE {Dana Spicer S26-190} Single Reduction, 26,000-lb Capacity, R Wheel Ends . Gear Ratio: 5.57

Includes:

REAR AXLE DRAIN PLUG (1) Magnetic, For Single Rear Axle

SUSPENSION, RR, SPRING, SINGLE Vari-Rate; 31,000-lb Capacity, Includes 4500-lb Capacity Multileaf Auxiliary

FUEL TANK Top Draw; D Style, Non Polished Aluminum, 19" Deep, 70 U.S. Gal., 265 L Capacity, with Quick Connect Outlet, Mounted Left Side, Under Cab

SPECIFICATION NO. 8

**CAB**

CAB Conventional 6-Man Crew Cab

Includes:

ARM REST (2) Molded Plastic; One Each Door

CLEARANCE/MARKER LIGHTS (5) Flush Mounted

COAT HOOK, CAB Located on Rear Wall, Centered Above Rear Window

CUP HOLDERS Two Cup Holders, Located in Lower Center of Instrument Panel

DOME LIGHT, CAB Rectangular, Door Activated and Push On-Off at Light Lens, Timed Theater Dimming, Integral to Console, Center Mounted

GLASS, ALL WINDOWS Tinted

GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Passenger Side

GRAB HANDLE, CAB INTERIOR (2) Front of "B" Pillar Mounted, One Each Side

GRAB HANDLE, CAB INTERIOR (4) Two Each Side, Rear Door Mounted at Hinge Side and "C" Pillar Mounted

INTERIOR SHEET METAL Upper Door (Above Window Ledge) Painted Exterior Color

STEP (8) Two Steps Per Door

CAB MOUNTING HEIGHT EFFECTS High Cab in Lieu of Mid High Cab Mounting (Approx. 4.5")

CAB INTERIOR TRIM Deluxe; for Crew Cab Includes:

"A" PILLAR COVER Molded Plastic

CAB INTERIOR TRIM PANELS Cloth Covered Molded Plastic, Full Height; All Exposed

Interior Sheet Metal is Covered Except for the Following: with a Two-Man Passenger Seat or with a Full Bench Seat the Back Panel is Completely Void of Covering

CONSOLE, OVERHEAD Molded Plastic; With Dual Storage Pockets with Retainer Nets and

CB Radio Pocket

DOOR TRIM PANELS Molded Plastic; Driver and Passenger Doors

FLOOR COVERING Rubber, Black

HEADLINER Soft Padded Cloth

INSTRUMENT PANEL TRIM Molded Plastic with Black Center Section

STORAGE POCKET, DOOR (1) Molded Plastic, Full-Length; Driver Door

SUN VISOR (2) Padded Vinyl with Driver Side Toll Ticket Strap, Integral to Console

STORAGE POCKET, DOOR Molded Plastic, Full Width; Mounted on Passenger Door

COURTESY LIGHT (4) Mounted In Front & Rear Map Pocket Left and Right Side

GRAB HANDLE, CAB INTERIOR (4) Safety Yellow, Crew Cab

SEAT, DRIVER {Seats, Inc. Universal Series} 911, NFPA Compliant, Air Suspension, High Back Vinyl with Covered Back and International Logo on Head Rest Includes:

SEAT BELT 3-Point, Lap and Shoulder Belt Type

SEAT, PASSENGER {Seats, Inc. Universal Series} 911, NFPA Compliant, Non-Suspension, High Back for SCBA, Vinyl Covered Back, Adjusters, 5 Degree Back angle, International Logo on Headrest Includes

SEAT BELT 3-Point, Lap and Shoulder Belt Type

SEAT, REAR {Seats, Inc. Universal Series} 911, NFPA Compliant, Three Individual Seats on one Riser, Non Suspension,

High Back for SCBA, Vinyl With Covered Back, International Logo on Headrest  
Includes

SEAT BELT (3) 3-Point Shoulder Belts for all rear passengers

SEATBELT WARNING PREWIRE Includes Seat Belt Switches and Seat Sensors for all Belted Positions in the Cab and a Harness Routed to the Center of the Dash for the Aftermarket Installation of the Data Recorder and Seatbelt Indicator Systems, for 4 to 6 Seat Belts

INSTRUMENT PANEL Center Section, Flat Panel

GAUGE CLUSTER English With English Electronic Speedometer Includes:

GAUGE CLUSTER (6) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter, Washer Fluid Level

ODOMETER DISPLAY, Miles, Trip Miles, Engine Hours, Trip Hours, Fault Code Readout

WARNING SYSTEM Low Fuel, Low Oil Pressure, High Engine Coolant Temp, and Low Battery Voltage (Visual and Audible)

IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster

GAUGE, OIL TEMP, ALLISON TRAN

GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} With Black Bezel Mounted in Instrument Panel

INDICATOR, LOW COOLANT LEVEL With Audible Alarm

AIR CONDITIONER {Blend-Air} With Integral Heater & Defroster Includes

HEATER HOSES Premium

HOSE CLAMPS, HEATER HOSE Mubea Constant Tension Clamps

REFRIGERANT Hydrofluorocarbon HFC-134A

HVAC FRESH AIR FILTER

MIRRORS (2) {Lang Mekra} Styled; Rectangular, 7.09" x 15.75" & Integral Convex Both Sides, 102" Inside Spacing, Breakaway Type, Heated Heads Thermostatically Controlled, Power Both Sides, Clearance Lights LED, Bright Finish Heads & Brackets

GRAB HANDLE (2) Chrome Towel Bar Type With Anti-Slip Rubber Inserts; for Cab Entry, Mounted Left and Right, Each Side at "B" Pillar

GRAB HANDLE, ADDITIONAL EXT (2) Chrome; Towel Bar Type With Anti-Slip Rubber Inserts; Mounted Left and Right Side on Exterior, Rear of Rear Doors, With Crew Cab

WHEELS, FRONT DISC; 22.5" Polished Aluminum, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs

WHEELS, REAR DUAL DISC; 22.5" Polished Aluminum, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs

(2) TIRE, FRONT 12R22.5 G282 MSD (GOODYEAR) 481 rev/mile, load range H, 16 ply

(4) TIRE, REAR 12R22.5 G282 MSD (GOODYEAR) 481 rev/mile, load range H, 16 ply

SPECIFICATION NO. 9

**TILT TABLE TESTING**

In compliance with the latest addition of NFPA 1901, Section 4.13.1.1 and SAE J2180, this vehicle exceeds the following "Tilt Table" procedures measuring the Static Rollover Threshold for Heavy Trucks set forth by the current standards.

In addition to receiving a certificate of compliance, the purchaser also requires a wheel-end loading certification listing the weight on each wheel, with the vehicle on the tilt table. In accordance with NFPA 1901, 4.14.13.3, the results of the wheel-end loading shall certify the vehicle, at the time of its manufacture, is in compliance, with side-to-side weight distributions.

SPECIFICATION NO. 10

**AIR HORNS**

There shall be two-(2) 24" Grover air horns installed in compliance with NFPA on the front fenders one-(1) each side, plumbed to the chassis air supply system thru an air protection valve, manufactured from spun brass material with an easily separated die cast sounding unit for serviceability.

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SPECIFICATION NO. 11**AIR HORN FOOT SWITCH (2)**

Two foot operated switch shall be installed on the driver's side and one passenger side wired to the air horn(s). The air horns shall be active only with ignition.

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SPECIFICATION NO. 12**SIREN SPEAKERS**

There shall be (2) speakers Cast Products, Model SAD-4318, 100-watts wired to the electronic siren. Mounting to be on front bumper.

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SPECIFICATION NO. 13**FRONT MUD FLAPS**

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

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SPECIFICATION NO. 14**TIRE PRESSURE MONITORING SYSTEM**

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

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SPECIFICATION NO. 15**REAR MUD FLAPS**

The rear axle mud flaps shall be constructed from hard black rubber and installed at the rear of the body fenders no manufacture logos.

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SPECIFICATION NO. 16**BATTERY CHARGER AND AUTO EJECT**

One (1) Kussmaul model 20 amp 120 volt "auto-eject" shore power receptacle with indicator light shall be installed drivers side. A matching male plug shall be provided and shipped loose with the apparatus. Battery Charger shall be A 45 amp IOTA battery charger wired to the 12 volt battery system.

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SPECIFICATION NO. 17**FIRE PUMP MOUNTING**

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

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SPECIFICATION NO. 18**EXHAUST SYSTEM**

The chassis exhaust pipe and muffler shall be extended to the front of the right rear wheel. Any required heat shields to protect body and/or compartments shall be installed.

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SPECIFICATION NO. 19**CENTER CAB CONSOLE**

There shall be a console installed in the cab fabricated from smooth aluminum plate. The top forward panel shall be hinged rearward and the rear panel shall be stationary. Shall have both 12volt battery and 12 volt ignition power sources for accessories.

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SPECIFICATION NO. 20

**REFLECTIVE DOOR STRIPING**

There shall be 96 square inches of a single color reflective material installed on the inside lower panel of each cab door.

SPECIFICATION NO. 21

**MASTER LOAD DISCONNECT**

A master load disconnect shall be provided between the starter solenoid and the remainder of the electrical loads on the apparatus. The batteries shall be connected directly to the starter solenoid.

SPECIFICATION NO. 22

**LOAD MANAGER**

The apparatus shall be equipped with a Load Manager System for performing electrical load management. The Load Manager shall have two-(2) modes of operation, a "Calling Right of Way" mode, and a "Blocking Right of Way" mode. The "Blocking Right of Way" mode is activated only when the park brake is set. Load shedding may occur "only" in the "Blocking Right of Way" mode also when the battery voltage level reaches your programmed shed level.

This system shall be designed to activate a fast idle system with low voltage alarm that activates at the NFPA required 11.8 volts.

SPECIFICATION NO. 23

**MASTER LIGHT SWITCH PANEL**

All warning lights shall be switched from a master light switch panel mounted in the cab. This panel shall have a master light cutoff switch.

Location: Center cab console

SPECIFICATION NO. 24

**VEHICLE DATA RECORDER**

Apparatus shall be equipped with a "Vehicle Data Recorder and Seat Belt Warning System" (VDR/SBW) that is connected to the power train CAN (Controller Area Network) bus consisting of transmission (TCM), engine control (ECM) and anti-lock brake (ABS) modules mounted on the apparatus.

The VDR/SBW shall function per NFPA 1901-2009 sections 4.11 (Vehicle Data Recorder) utilizing the power train's J1939 data and 14.1.3.10 (Seat Belt Warning) using the Class1 "Seat Belt Input Module" for seat occupied and belt status information.

SPECIFICATION NO. 25

**ELECTRONIC SIREN**

One (1) Whelen Model #295SLSA1 electronic siren shall be mounted in the cab. This unit shall feature an electronic air horn, wail, yelp, hi-lo and shall have a hard wired PA microphone.

Location: Center cab console

SPECIFICATION NO. 26

**LIGHT, DOOR AJAR**

A red door ajar flashing light, Whelen OS Series LED shall be mounted on the driver's side face of the overhead panel. A chrome flange is to be supplied with the light.

This light is wired with a flasher to the power panel for completion to circuit on the body.

The light circuit shall be wired so that the light circuit is deactivated when the parking brakes of the apparatus are applied.

A label shall be applied adjacent to the light 'DOOR OPEN'.

SPECIFICATION NO. 27

**LIGHTS, ENGINE MAINTENANCE**

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

SPECIFICATION NO. 28

**CAB GROUND LIGHTS**

There shall be one-(1) LED ground light installed below each cab door illuminating the area below providing a safe entrance and exit for cab occupants. All cab ground lights shall automatically activate when any cab door is opened and by a switch on the dash.

SPECIFICATION NO. 29

**CARRYING CAPACITY PLATE**

A permanently attached carrying capacity plate in accordance with NFPA 1901 Standards shall be installed in plain view of the driver.

The tag shall include the following:

- Overall height
- Overall length
- GVWR
- Seating capacity

SPECIFICATION NO. 30

**SEATING CAPACITY PLATE**

A permanently attached Seating Capacity Plate shall be mounted in the cab in plain view that reads "Seating Capacity – 5 People".

Each seating position that is not, intended to be used during transit shall be individually labeled as follows:

"WARNING THIS SEAT IS NOT TO BE OCCUPIED WHILE VEHICLE IS IN MOTION"

**OCCUPANCY/SEAT BELT PLATE**

Occupancy / Seat Belt plates shall be provided and installed visible from each seated position, which reads:

"OCCUPANTS MUST BE SEATED AND BELTED WHEN THE APPARATUS IN MOTION"

**"DO NOT WEAR HELMET" PLATE**

A plate shall be installed visible from each seating position that states:

"DO NOT WEAR HELMET WHILE SEATED"

SPECIFICATION NO. 31

**OVERALL HEIGHT/LENGTH/WEIGHT PLATE**

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

If changes to the vehicle occur while in service, the department must revise the overall height-length-weight plate.

SPECIFICATION NO. 32

**FLUID CAPACITY PLATE**

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

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

The following information shall also be supplied on the Fluid Data Plate:

- Chassis Manufacturer
- Production Number
- Paint Number
- Year Built
- Date Shipped
- Vehicle Identification Number

SPECIFICATION NO. 33

**MOVEMENT WARNING PLATE**

A permanently affixed Movement Warning plate shall be installed near the door ajar light that reads:

"DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

**"DO NOT RIDE" PLATE**

A permanently affixed "DO NOT RIDE" warning plate shall be installed located on the stepping areas of the vehicle warning personnel that riding on or in these areas while the vehicle in motion is prohibited.

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SPECIFICATION NO. 34**PUMP ENCLOSURE, SIDE CONTROL**

The pump enclosure superstructure shall be constructed of aluminum tubing, channel, angle, and break-formed components. The framework shall be formed by beveled aluminum alloy extrusions and electrically seam welded both internally and externally at each joint using 5356 aluminum alloy welding wire. The main, frame work shall be constructed of 3.00 x 3.50, 6063-T6 aluminum extrusions. The break-formed components shall be constructed from 3/16" (1.875) aluminum.

The crossmembers support the substructure and the exterior panels independently from the cab and body. The crossmembers shall be isolated from the frame rails using torsion mounts. The pump enclosure shall be supported at the top of the frame rails, in a minimum of four-(4) places. The module shall be secured with angle brackets bolted to both the pump enclosure support cross rails and the side of the chassis frame rails. This design is required to eliminate shifting and stress on the pump enclosure, pump panels, and running boards.

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

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

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

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SPECIFICATION NO. 35**SEPARATE PUMP MODULE**

The pump module will be a self-supported structure mounted independently from the body and chassis cab. The pump module will be constructed entirely of extrusions and aluminum plate and shall be bolted to the chassis frame rails. The framework will be formed from beveled aluminum alloy extrusions and electrically seam welded both internally and externally at each joint using 5356 aluminum alloy welding wire. The main framework shall be 3.00 x 3.50, 6063-T6 aluminum extrusion. Aluminum angle will be welded such that a recessed pump panel can be mounted inside the extrusion perimeter. The pump module design must allow normal frame deflection without imposing stress on the pump module structure or side running boards.

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SPECIFICATION NO. 36**PUMP PANELS**

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

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

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

All gauges and controls shall be properly identified with color-coded metal tags. The tags shall be affixed with 3M brand industrial adhesive. The gauges shall be functionally grouped above each control.

The right side upper panel shall be vertically hinged with double doors and push style latches for pump compartment access. The doors shall be constructed of .125" aluminum tread plate.

The right side lower panel shall be removable for serviceability. The panel shall be constructed of 1/8" (.125) aluminum.

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

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SPECIFICATION NO. 37**PUMP PANEL LIGHTS**

One-(1) individual OnScene Access LED pump panel light with on/off switch shall be mounted under the light shield left side. For optimum visibility during nighttime operations, the light shall be mounted as high as possible.

One-(1) individual OnScene Access LED pump panel light with on/off switch shall be mounted under the light shield right side. For optimum visibility during nighttime operations, the light shall be mounted as high as possible.

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

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SPECIFICATION NO. 38**RUNNING BOARDS**

A running board shall be provided one(1) on each side of pump module constructed aluminum extrusion slotted, punched, and raised to provide superior traction during inclement weather operations. Bolted to the pump modules substructure the running board shall be spaced out 1/4" from the module for additional run off.

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

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SPECIFICATION NO. 39**HANDRAILS, PUMP PANEL**

Four (4) 20" handrails shall be installed in the pump panels area (2) per side. Placement TBD at pre construction meeting. Handrails shall be mounted with chrome plated end stanchions. All handrails shall meet or exceed NFPA 1901 requirements.

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SPECIFICATION NO. 40**MASTER GAUGES, 4-1/2"**

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

**PRESSURE GAUGES, 2-1/2"**

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

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

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SPECIFICATION NO. 41**TOTAL PRESSURE GOVERNOR**

Apparatus shall be equipped with a Class1 "Total Pressure Governor" (TPG) that is connected to the Electronic Control Module (ECM) mounted on the engine. Programmable presets for RPM and Pressure settings shall be easily configurable using the TPGs straightforward menu structure. The "TPG" shall also include indication of engine RPM, system voltage, engine oil pressure and engine Temperature with audible alarm output for all.

The "TPG" will operate as a pressure sensor (regulating) governor (PSG) utilizing the engines J1939 data for optimal resolution and response. The "TPG" uses the J1939 data bus for engine information, requiring no additional sensors to be installed.

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SPECIFICATION NO. 42**PUMP PANEL TAGS**

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

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SPECIFICATION NO. 43**NFPA INDIVIDUAL GAUGE PACKAGE**

The following monitoring devices shall be installed on the pump operator's panel in compliance with the latest version of NFPA.

- 2" weatherproof oil pressure gauge
- 2" weatherproof engine coolant temperature gauge
- 3" tachometer indicating engine revolutions per minute
- 2" voltmeter that reads from 8 to 16 volts

There shall be an audible alarm, with warning indicator lights, mounted behind the pump operator's panel, connected to the oil pressure and water temperature gauges alerting the pump operator if low oil pressure or high water temperature condition exists.

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SPECIFICATION NO. 44**PUMP SYSTEM, HALE QFLO SINGLE STAGE 1250GPM****PUMP ASSEMBLY**

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

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

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

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

The pump body shall be vertically split, on a single plane, for easy removal of entire impeller assembly including wear rings and bearings without disturbing piping or the mounting of the pump in chassis.

The pump shaft shall be rigidly supported by three bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

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

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

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

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SPECIFICATION NO. 45**DRIVE UNIT**

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

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

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

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

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

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

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

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

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

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SPECIFICATION NO. 46**MECHANICAL SEAL**

The midship pump shall be equipped with a high quality, spring loaded, and self-adjusting mechanical seal capable of providing a positive seal to atmosphere under all pumping conditions. This positive seal to atmosphere must be achievable under vacuum conditions up to 26 Hg (draft) or positive suction pressures up to 250 PSI.

The mechanical seal assembly shall be 2 inches in diameter and consist of a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat, with a Teflon backup seal provided.

Only one mechanical seal shall be required, located on the first stage suction (inboard) side of the pump and be designed to be compatible with a one-piece pump shaft. A continuous cooling flow of water from the pump shall be directed through the seal chamber when the pump is in operation.

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SPECIFICATION NO. 47**PUMP SHIFT**

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

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

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

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

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SPECIFICATION NO. 48

**PUMP PRIMING SYSTEM**

A Hale model ESP 12 volt positive displacement vane primer shall be installed. The primer shall be electrically driven and conform to the standards outlined in the current NFPA Pamphlet. The system is an oil-less system and environmentally safe. It contains an electric rotary vane type positive displacement primer that operates off 12V or 24V power. The primer motor is totally enclosed to prevent dust, dirt and water from penetrating. The unit is constructed of heat-treated anodized aluminum, specially coated for wear and corrosion resistance. The control shall be pump panel mounted to operate the priming valve and start the priming motor.

SPECIFICATION NO. 49

**VALVE, MASTER DRAIN**

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

SPECIFICATION NO. 50

**U.L. CERTIFICATION, 1250 GPM**

The vehicle shall be third party tested and certified by Underwriters Laboratories, Inc.

SPECIFICATION NO. 51

**PUMP RATING - 1250 GPM**

The pump shall be certified to meet the following performance from draft, through one (1) 20 foot length of 6 inch suction hose with a 10 foot lift at a maximum elevation of 2000 feet above sea level:

- 1250 GPM @ 150 PSI
- 1250 GPM @ 165 PSI
- 875 GPM @ 200 PSI
- 625 GPM @ 250 PSI

SPECIFICATION NO. 52

**PUMP TEST CERTIFICATION PLATE**

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

SPECIFICATION NO. 53

**PUMP MANUALS**

There shall be two-(2) copies of pump manuals provided to the department.

SPECIFICATION NO. 54

**6" UNGATED INTAKE**

A 6" NST non-gated suction header with removable screen, and long handled cap shall be provided on the left side of the pump.

A 6" NST non-gated suction header with removable screen, and long handled cap shall be provided on the right side of the pump.

SPECIFICATION NO. 55

**SIDE INTAKES**

Two (2) Task Force Tip model # AB1ST-NX will be provided for each side 6" intake.

SPECIFICATION NO. 56**INTAKE RELIEF VALVE**

There shall be an Akron model 59 suction side relief valve provided in the pump system. The relief valve is adjustable from 50-175 psi and set at the factory at 125 psi.

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SPECIFICATION NO. 57**TANK TO PUMP**

One (1) 3" ball valve shall be installed between the pump and the water tank. The tank to pump valve shall be a quarter turn fixed pivot design constructed from bronze. The valve shall be controlled by a chrome push/pull locking "T" handle installed at the left pump panel.

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SPECIFICATION NO. 58**TANK FILL**

There shall be a 2" pump to tank fill line installed, with a 2" inline bronze valve and high-pressure flexible hose tested to 1200 PSI. The valve shall be (locking "T" handle) push-pull controlled at the pump operator's panel.

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SPECIFICATION NO. 59**ENGINE COOLER**

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

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SPECIFICATION NO. 60**PUMP COOLER**

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

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

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SPECIFICATION NO. 61**FIRE PUMP PLUMBING SYSTEM**

The fire pump plumbing system shall be built completely of stainless steel piping. No galvanized piping is used in any of the plumbing system. Victaulic couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service.

Tank connections, front discharges, and other piping shall use high-pressure flexible piping with a 1200 PSI burst pressure rating. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

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SPECIFICATION NO. 62**SURFACE FINISH OF FIRE PUMP AND PLUMBING SYSTEM**

The plumbing system shall not be painted. The piping and valves shall remain natural color and the fire pump shall remain the color as shipped by the pump manufacturer.

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SPECIFICATION NO. 63**AKRON PUSH-PULL CONTROL VALVE PACKAGE**

All discharge valves shall be Akron Heavy-Duty Swing-Out push/pull controlled from the pump operator's panel unless otherwise specified.

All valve packages shall meet current NFPA 1901 Standards for valve operating speeds when controlled by gear, electric actuator, or slow close device.

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SPECIFICATION NO. 64**SUCTION, 3" LEFT FRONT PANEL**

One-(1) 3" lever operated (Slo-Close) ball valve shall be installed at the pump panel, left front plumbed to the suction side of the pump with 3" piping, 2-1/2" FNST chrome inlet swivel, brass inlet strainer, chrome plug with chain, and 3/4" drain valve.

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SPECIFICATION NO. 65**SUCTION, 3" RIGHT FRONT PANEL**

One-(1) 3" lever operated (Slo-Close) ball valve shall be installed at the pump panel, left front plumbed to the suction side of the pump with 3" piping, 2-1/2" FNST chrome inlet swivel, brass inlet strainer, chrome plug with chain, and 3/4" drain valve.

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SPECIFICATION NO. 66**INTEGRAL DROOP ELBOWS**

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

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SPECIFICATION NO. 67**FRONT BUMPER DISCHARGE**

There shall be one-(1) front discharge compartment integrated in the front bumper it shall terminate 2" NPT x 1-1/2" NST with a 90-degree swivel. One-(1) 2" brass valve with 3/4" drain shall be installed on the discharge side of the pump plumbed to the front swivel with flexible high-pressure hose and victaulic stainless steel couplings tested to 1200 PSI, the front discharge shall be push/pull controlled at the pump operator's panel. The compartment shall accommodate 100' of 1.75" double jacket hose

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SPECIFICATION NO. 68**NO. 1 CROSSLAY, 1-3/4" DOUBLE LAY**

One-(1) pre-connected crosslay compartment shall be provided above the side mount operator's panel accommodating 200' of 1-3/4" double jacket hose. Stainless steel nylon guided rollers shall be installed at each end with stainless steel scuff plates around the perimeter to protect the painted surface.

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

Each discharge is equipped with a 3/4 quarter-turn drain valve.

**NO. 2 CROSSLAY, 1-3/4" DOUBLE LAY**

One-(1) pre-connected crosslay compartment shall be provided above the side mount operator's panel accommodating 200' of 1-3/4" double jacket hose. Stainless steel nylon guided rollers shall be installed at each end with stainless steel scuff plates around the perimeter to protect the painted surface.

One-(1) 2" ball valve with mechanical swivel shall be installed. The valve shall be plumbed to the crosslay with 2" highpressure flexible hose and stainless steel couplings. The high pressure hose shall be tested to 1200 PSI. The crosslay valve shall be push-pull controlled at the pump operator's panel. Each discharge is equipped with a 3/4 quarter-turn drain valve. Shall have foam capabilities.

**NO. 3 CROSSLAY, 2.5" DOUBLE LAY**

One-(1) pre-connected crosslay compartment shall be provided above the side mount operator's panel accommodating 200' of 2.5" double jacket hose. Stainless steel nylon guided rollers shall be installed at each end with stainless steel scuff plates around the perimeter to protect the painted surface.

One-(1) 2.5" Akron 2-1/2" Heavy-Duty ball valve ball valve with mechanical swivel shall be installed. The crosslay valve shall be push-pull controlled at the pump operator's panel.

Each discharge is equipped with a 3/4 quarter-turn drain valve. Shall have foam capabilities.

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SPECIFICATION NO. 69**CROSSLAY DIVIDER**

One-(1) crosslay hosebed divider shall be provided manufactured from 1/4" (.250") smooth aluminum plate, extruded aluminum base mounted in an extruded track for horizontal adjustment, with radius corners

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SPECIFICATION NO. 70**CROSSLAY COVER**

There shall be a Hypalon crosslay cover provided with the apparatus secured by twist-lock connectors along the top, and Velcro closures on each end protecting the crosslay hose. The cover prevents hose from inadvertently deploying during normal operations meeting the current NFPA requirements.

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

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SPECIFICATION NO. 71**DISCHARGE, 2-1/2" LEFT FRONT PANEL**

One-(1) Akron 2-1/2" Heavy-Duty ball valve with 3/4" drain shall be installed at the pump panel left front plumbed to the discharge side of the pump push/pull controlled from the pump operator's panel.

**DISCHARGE, 2-1/2" LEFT REAR PANEL**

One-(1) Akron 2-1/2" Heavy-Duty ball valve with 3/4" drain shall be installed at the pump panel, left rear, plumbed to the discharge side of the pump push/pull controlled from the pump operator's panel.

**DISCHARGE, 2-1/2" RIGHT FRONT PANEL**

One-(1) Akron 2-1/2" Heavy-Duty ball valve with 3/4" drain shall be installed at the pump panel left front plumbed to the discharge side of the pump push/pull controlled from the pump operator's panel.

**DISCHARGE, 2-1/2" RIGHT REAR PANEL**

One-(1) Akron 2-1/2" Heavy-Duty ball valve with 3/4" drain shall be installed at the pump panel, right rear, plumbed to the discharge side of the pump push/pull controlled from the pump operator's panel.

**CENTER RIGHT SIDE 4" DISCHARGE**

A 4" discharge shall be provided at the center right side pump panel area. The discharge shall have 4" NST male threads. The 12 volt electrically driven quarter turn ball valve shall be controlled on pump panel with a electric position operator. An aluminum 30-degree turn down. adapter shall be provided. Threads shall be: 5" Storz with lugs with manual locks x 4" rigid female NST. Storz cap(s) with chain provided on the apparatus. A Class 1 quarter turn 3/4" bleeder valve shall be installed.

**DISCHARGE, 2-1/2" LEFT REAR**

One-(1) Akron 2-1/2" Heavy-Duty ball valve with 3/4" drain shall be plumbed to the left rear of the apparatus terminating 2-1/2" FNPT x 2-1/2" MNST with chrome cap and chain push-pull controlled at the pump operator's panel.

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

**DISCHARGE, 2-1/2" RIGHT REAR**

One-(1) Akron 2-1/2" Heavy-Duty ball valve with 3/4" drain shall be plumbed to the left rear of the apparatus terminating 2-1/2" FNPT x 2-1/2" MNST with chrome cap and chain push-pull controlled at the pump operator's panel.

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

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SPECIFICATION NO. 72

**DECK GUN PLUMBING, 3"**

One-(1) Akron 3" Heavy-Duty (Slo-Close) inline valve with 3/4" drain shall be plumbed to the Deck Gun discharge outlet with 3" pipe terminating 3" FNPT x four-(4) bolt flange push-pull controlled at the pump operator's panel.

SPECIFICATION NO. 73

**MONITOR /GROUND BASE**

There shall be one (1) Task Force Tip Crossfire Safe –Tak 1250 monitor, 10"stream shaper, and stacked tips provided with the apparatus. Shall include Task Force Tip Extend-a-Gun G18 plumbing 3" manual telescoping waterway. Ground base shall be 5" storz inlet. Overall height not to exceed 115"

SPECIFICATION NO. 74

**FOAM SYSTEM**

There shall be a Foam Pro 1600 fully automatic, variable speed, electronic direct injection, discharge side foam proportioning system furnished and installed on the apparatus. The system shall be capable of Class A foam concentrate **ONLY**. The proportioning operation shall be based on an accurate direct measurement of water flows with no water flow restriction. The foam system shall be installed in accordance with the manufacturer recommendations. System must be capable of delivering accuracy to within 3% of calibrated settings over the advertised operation range with installed. 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 flowmeter, while also monitoring the foam concentrates pump output, comparing values to endure 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".

The system shall be equipped with a control module. It shall be installed on the pump operators panel and enable the pump operator to perform the following functions:

Activate the foam system

Change foam concentrate proportioning rates from 0.1% to 1.0%

Flash a "Low Concentrate" warning light when the foam concentrate and in two (2) minutes if foam concentrate is not added to tank shut the foam concentrate pump down The foam system shall have a 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity shall be 1.7 GPM with operating pressure up to 200 PSI with a maximum operating pressure up to 400 psi. The system shall draw a maximum of 30 amps at 12VDC. The motor shall be controlled by the microprocessor mounted to the base of the pump. It receives it signal from the control module and power the 1/3 HP electric motor in a variable speed duty cycle to ensure the correct proportion of concentrate is injected into the water system. A full flow check valve shall be provided in the discharge piping to prevent foam contamination of fire pump and water tank. A pressure check valve shall be installed the foam concentration line and shall open at 5-psi.

Components of the complete system shall be:

- Operator control module
- Paddlewheel flowmeter
- Pump and electric motor/motor driver
- Wiring harness
- Low-level tank switch
- Foam tank
- Check valve: Foam injection
- Check valve: Main waterway

**LOW TANK SWITCH**

A low level-tank sensor switch shall be installed in the foam tank. The sensor shall be mounted to indicate to the Display Control Module when the foam cell has approximately five (5) gallons of concentrate left.

**FLOWMETER, 2" TEE MOUNT W/COUPLING KIT**

There shall be a paddle wheel style flowmeter mounted in a 2" NPT pipe tee for mounting in a 2" discharge line. A groove less Victaulic coupling shall be provided for installation of the flowmeter. A water check valve shall be installed before the flowmeter and between the water pump and the foam injection point.

**OPERATING SYSTEMS INSTRUCTION PLACARD, SINGLE TANK**

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

### **FOAM TANK PIPING**

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

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

### **FLUSHING**

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

### **CONTROLS FOR FOAM SYSTEM**

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

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

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

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

### **NAMEPLATE, LABELS, INSTRUCTION SPECIFICATIONS**

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

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

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

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

### **FOAM PROPORTIONING SYSTEM TESTING**

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

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

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

### **FOAM TANK NO. 1**

The foam tank shall have a capacity of 20 gallons designed as an integral part of the water tank and shall have a manual fill tower. The fill tower shall be constructed of 1/2" PT3™ polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. Each foam fill tower shall be constructed of a colored material (yellow, green and black) indicating which tower is to

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receive each type of foam utilized. The capacity of the tank shall be engraved on the top of the fill tower lid. The tower shall be located in the right front corner of the tank unless otherwise specified. The tower shall have a 1/4" thick removable polypropylene screen and a stainless steel hinged-type cover. Inside the fill tower, approximately 1.5" down from the top, there shall be an anti-foam fill tube that extends down to the bottom of the tank. A pressure vacuum vent shall be provided in the lid of the fill tower.

### **FOAM OUTLETS**

Foam shall be plumbed to the following (four) outlets:

No. 1 Crosslay  
No. 2 Crosslay  
No. 3 Crosslay  
Left rear panel

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## **SPECIFICATION NO. 75**

### **WATER TANK**

The tank shall have a capacity of 750 U.S. gallons and shall be constructed of PT3™ polypropylene material. This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection. Tank shell thickness may vary depending on the application and may range from 1/2" to 1" as required. Internal baffles are generally 3/8" in thickness.

### **ISO CERTIFICATION**

The tank must be "T" shaped in design and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

### **DESIGN**

Each tank is designed to the customer's specification and/or drawing submittal. An approval drawing is sent to the customer prior to commencing manufacturing. Upon receipt of the signed approval drawing, the tank is scheduled for production.

### **CONSTRUCTION**

The booster and/or foam tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include PolyProSeal™ technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method shall provide a liquid barrier offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" PT3™ polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow.

### **WATER FILL TOWER AND COVER**

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" PT3™ polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a PT3™ polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of 4" that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

The tank cover shall be constructed of 1/2" thick PT3™ polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and shall assist in keeping the covers rigid under fast filling conditions. A minimum of two lifting dowels shall accommodate the necessary lifting hardware.

### **SUMP**

There shall be one (1) sump standard per tank. The sump shall be constructed of a minimum of 1/2" PT3™ polypropylene and

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be located in the left front quarter of the tank, unless specified otherwise. On all tanks that require a front suction, a 3" schedule 40 polypropylene pipe shall be installed that shall incorporate a dip tube from the front of the tank to the sump location. The sump shall have a minimum 3" NPT threaded outlet on the bottom for a drain plug per NFPA. This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 3" above the inside floor.

### **OUTLETS**

There shall be two (2) standard tank outlets: one for the tank-to-pump suction line, which shall be sized to provide adequate water flow to the pump; and, one for tank fill line, which shall be sized according to the NFPA minimum size chart for booster tanks. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates of up to 1250 GPM. The addition of rear suction fittings, nurse valve fittings, dump valve fittings, and through-the-tank sleeves to accommodate rear discharge piping must be specified. All auxiliary outlets and inlets must meet all NFPA guidelines in effect at the time of manufacture.

### **MOUNTING**

The UPF Poly-Tank® III shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches, cross member spacing must be decreased to allow for not more than 400 square inches of unsupported area. The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of 1/4" x 1" and a Shore A Hardness of approximately 60 durometer. The rubber must be installed so it shall not become dislodged during normal operation of the vehicle. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both in the front and rear as well as side to side to prevent tank from shifting during vehicle operation. A picture frame type cradle mount with a minimum of 2" x 2" x 1/4" mild steel, stainless steel, or aluminum angle shall be provided or the use of corner angles having a minimum dimension of 4" x 4" x 1/4" by 6" high are permitted for the purpose of capturing the tank. Although the tank is designed on a free floating suspension principle, it is required that the tank have adequate vertical hold down restraints to minimize movement during vehicle operation. If proper retention has not been incorporated into the apparatus hose floor structure, an optional mounting restraint system shall be located on top of the tank, half way between the front and the rear on each side of the tank. These stops can be constructed of steel, stainless steel or aluminum angle having minimum dimensions of 3" x 3" x 1/4" and shall be approximately 6" to 12" long. These brackets must incorporate rubber isolating pads with a minimum thickness of 1/4" inch and a hardness of 60 durometer affixed on the underside of the angle. The angle should then be bolted to the body side walls of the vehicle while extending down to rest on the top outside edge of the upper side wall of the tank. Hose beds floors must be so designed that the floor slat supports extend full width from side wall to side wall and are not permitted to drop off the edge of the tank or in any way come in contact with the individual covers where a puncture could occur. Tank top must be capable of supporting loads up to 200 lbs. per sq. foot when evenly distributed. Other equipment such as generators, portable pumps, etc. must not be mounted directly to the tank top unless provisions have been designed into the Poly-Tank® III for that purpose. The tank shall be completely removable without disturbing or dismantling the apparatus structure.

### **CAPACITY CERTIFICATION**

All water and foam tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly-Tank® III is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight. Engineering estimates for capacity calculations shall not be permitted for capacity certification.

### **TANKNOLOGY™ TAG**

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code shall allow the user to connect with the tank manufacturer for additional information and assistance.

### **WATER TANK SIZE CERTIFICATION**

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

### **GAUGE, WATER LEVEL**

There shall be a Class 1 Intelli-Tank model ITL-40M tank level gauge supplied and mounted on the pump operator's panel to monitor the level of water in the tank. The Tank Level Gauge shall indicate the liquid level or volume on an easy to read LED display and show increments of 1/8 of a tank.

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Each tank level gauge system shall include:

A pressure transducer that is mounted on the outside of the tank in an easily accessible area. Sealed foam tanks will require zero pressure vacuum vents.

A super bright LED display viewable from 180 degrees with a visual indication at nine accurate levels.

A set of weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power.

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#### SPECIFICATION NO. 76

### APPARATUS BODY

The apparatus body and subframe shall be constructed entirely of marine grade aluminum plate and extrusions.

### SUBFRAME

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

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

### BODY CONSTRUCTION

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

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

The horizontal and vertical frame member extrusions shall be 2.0" x 4.0" with a .190" wall thickness. The extrusion shall be made from 6063T6 aluminum alloy. This extrusion shall have .190" outside radius corners. The longitudinal frame member, below the lower compartments shall be a 2.0" x 4.0" 6063T6 aluminum alloy extrusion with .190" radius corners. Each body corner shall be a 3.5" x 9.75" 6063T6 extruded aluminum section with .210" wall thickness, and shall be welded as an integral part of the body. This extrusion shall have a 1" corner radius.

The wheel well shall be constructed from 2" x 4" x .190" wall thickness. The extrusion shall be made from 6063T6 aluminum alloy and have .190" outside radius corners. The extrusion shall be slotted the full length to permit an internal fit of 1/8" (.125") aluminum tread plate panels. The wheel well liners shall be constructed of 3003 H-14 smooth aluminum plates. They shall be bolted in place for ease of maintenance. The wheel well fenderettes shall be constructed of a #304 Stainless steel with a #7 polished finish.

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

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

### COMPARTMENT CONSTRUCTION

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

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

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

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

**COMPARTMENTATION**

**LEFT SIDE**

L1

There shall be one (1) left front compartment installed ahead of the rear axle. This compartment shall have one (1) roll-up door. The interior compartment dimensions shall be approximately 43"W x 73"H x 25"D in the lower and 12"D in the upper. The compartment shall have a useable door opening of approximately 40"W x 60"H. shall include (2) adjustable shelves and (1) twelve volt power supply. Shall include full width roll out tray with 12" sides and center divider 500lb capacity.

L2

There shall be one (1) compartment installed over the wheel well. This compartment shall have one (1) roll-up door. The compartment shall be approximately 50"W x 41"H x 12"D. The compartment shall have a useable door opening of approximately 47"W x 38"H.

L3

There shall be one (1) left rear compartment installed behind the rear axle. This compartment shall have one (1) roll-up door. The interior dimensions shall be approximately 44"W x 73"H x 12"D in the upper and transverse in the lower. The compartment shall have a useable door opening of approximately 41"W x 60"H. shall include (2) adjustable shelves and swing out tool board

**RIGHT SIDE**

R1

There shall be one (1) right front compartment installed forward of the rear axle. This compartment shall have one (1) roll-up door. The interior compartment dimensions shall be approximately 43"W x 73"H x 25"D. The compartment shall have a useable door opening of approximately 40"W x 60"H. shall include (2) adjustable shelves and (1) twelve volt power supply

R2

There shall be one (1) right rear compartment installed behind the rear axle. This compartment shall have one (1) roll-up door. The interior dimensions shall be approximately 50"W x 41"H x 12"D. The compartment shall have a useable door opening of approximately 47"W x 38"H.

R3

There shall be one (1) right rear compartment installed behind the rear axle. This compartment shall have one (1) roll-up door. The interior dimensions shall be approximately 44"W x 70"H x 12"D in the upper and transverse in the lower. The compartment shall have a useable door opening of approximately 41"W x 60"H. shall include (2) adjustable shelves

**CENTER REAR**

B1

There shall be one (1) compartment installed at the center rear of the apparatus. This compartment shall have two (2) vertically hinged doors. The compartment shall have a useable door opening of approximately 46"W x 28"H. shall include (1) adjustable shelf

**SPECIFICATION NO. 77**

**COMPARTMENT, LADDER STORAGE**

A rear, ladder storage compartment shall be configured through the center of the polypropylene tank. The ladder storage area shall be designed to completely enclose and protect the contents. Ladder storage compartment to hold 24' extension ladder, 14' roof ladder, 10' folding ladder and four 8 foot pike poles.

**10' FOLDING LADDER(S)**

There shall be one (1) Alco-Lite Model FL-10, 10' folding ladder(s) provided with the apparatus. The ladder(s) shall be aluminum, single-section with rubber feet. The ladder(s) shall meet or exceed the latest NFPA standards.

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**14' ROOF LADDER(S)**

There shall be one (1) Alco-Lite model PRL-14, 14' roof ladder(s) supplied with the apparatus. The ladder(s) shall be aluminum, single-section with folding steel roof hooks on one end and steel spikes at the other. The ladder(s) shall meet or exceed the latest NFPA standards.

**24' 2-SECTION EXTENSION LADDER(S)**

There shall be one (1) Alco-Lite model PEL-24, 24' two-section ladder(s) supplied with the apparatus. The extension ladder(s) shall be aluminum with steel spurs on one end. The ladder(s) shall meet or exceed the latest NFPA standards.

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**SPECIFICATION NO. 78****3" SUCTION HOSE**

There shall be two-(2) 10' x 3" sections of Kocheck PVC flexible suction hose supplied with the apparatus. Lightweight 2.5" aluminum couplings shall be provided on the suction hose. A long handle female swivel shall be provided on one end and a rocker lug male shall be provided for the other end.

**3" BARREL STRAINER**

There shall be one (1) 3" chrome plated barrel strainer supplied with the apparatus. The strainer shall have a 2.5" NH female connection.

**SUCTION HOSE TRAYS**

Two (2) aluminum suction hose storage trays shall be installed drivers side above the body compartments. Each tray shall hold one (1) 10' section of the specified suction hose and have spring latches to hold hose in position.

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**SPECIFICATION NO. 79****UPPER COMPARTMENT STORAGE**

There shall be open compartment storage above right side compartments. This shall accommodate long handled tools. Shall have removable cover that is NFPA compliant.

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**SPECIFICATION NO. 80****SIDE COMPARTMENT DOORS**

ROM roll-up doors shall be installed on the side compartments of this apparatus.

Slats are to double-wall (box frame) aluminum extrusion. Exterior surfaces are to be flat. Interior surfaces are to be concave to prevent loose equipment from jamming doors. The slats must be anodized to eliminate oxidation. The slats are to have inner-locking end shoes on every slat secured by a Punch-Dimple process. The slats are to have interlocking joints with a folding locking flange. Between each slat shall be a PVC/vinyl inner seal to prevent any metal-to-metal contact.

The track shall be one-piece aluminum, which has an attaching flange and finishing flange incorporated into its design, which provides a finish look to installation without additional trim or caulking. The track is to have a replaceable side seal. The side seal shall prevent water and dust intrusion into the compartment.

There shall be an aluminum drip rail above each compartment door with a built in replaceable wiper seal. Each roll up door shall have a counter balance to assist in lifting and eliminate the risk of accidental closing.

A full width lift bar, operable by one hand, shall be used as a positive latch device for securing each individual compartment door in the closed position.

The outside door shall have a natural finish.

There shall be an anodized aluminum sill plate installed over the compartment door.

**REAR COMPARTMENT DOOR**

The rear compartment doors shall be constructed of 3/16" (.1875") smooth aluminum plate with the inner pan stitch welded in place from 1/8" (.125") 5052-H32 smooth aluminum plate.

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SPECIFICATION NO. 81**WHEEL WELL PANELS**

The body wheel well panels shall be of aluminum tread plate non painted.

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SPECIFICATION NO. 82**WHEEL WELL AIR BOTTLE COMPARTMENT, LEFT FRONT**

There shall be a single air bottle compartment located in the rear wheel well left front. The bottom of the tube is also to be supported to eliminate breakage. The tube is vented to facilitate moisture drainage. The compartment door shall be stainless steel with a positive mechanical latch.

**WHEEL WELL AIR BOTTLE COMPARTMENT, LEFT REAR**

There shall be a single air bottle compartment located in the rear wheel well left rear. The bottom of the tube is also to be supported to eliminate breakage. The tube is vented to facilitate moisture drainage. The compartment door shall be a stainless steel with a positive mechanical latch.

**WHEEL WELL AIR BOTTLE COMPARTMENT, RIGHT FRONT**

There shall be a single air bottle compartment located in the rear wheel well right front. The bottom of the tube is also to be supported to eliminate breakage. The tube is vented to facilitate moisture drainage. The compartment door shall be stainless steel with a positive mechanical latch.

**WHEEL WELL AIR BOTTLE COMPARTMENT, RIGHT REAR**

There shall be a single air bottle compartment located in the rear wheel well right rear. The bottom of the tube is also to be supported to eliminate breakage. The tube is vented to facilitate moisture drainage. The compartment door shall be stainless steel with a positive mechanical latch.

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SPECIFICATION NO. 83**BODY TRIM**

The standard body trim shall include the following:

There shall be 1/8" (.125") aluminum tread plate installed over all side compartment tops to provide a drip rail over the compartment door openings.

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

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

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

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

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SPECIFICATION NO. 84**RUBRAIL**

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

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SPECIFICATION NO. 85

**REAR STEP**

The rear step shall be constructed with an anodized aluminum extrusion. This extrusion shall be slotted punched and raised to provide superior traction during wet and cold weather operations. The rear step shall be a two-piece design. The rear step shall bolt on with stainless steel nuts and bolts for replacement. The rear step shall have a space of approximately 1/4" from the rear of the body to allow water runoff.

SPECIFICATION NO. 86

**REAR TOW EYES**

Two-(2) 3/4" thick rear tow eyes constructed of A-36 steel shall be mounted below the frame at the rear of the vehicle. The tow eyes shall be attached to steel weldments that are mounted to the apparatus. The eyes shall have a minimum dimension of three-(3) inches. The tow eyes shall be used for towing, not lifting the vehicle.

SPECIFICATION NO. 87

**HANDRAIL, BELOW HOSE BED**

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

SPECIFICATION NO. 88

**HOSE BED COVER**

A hose bed cover constructed of 16 oz. heavy-duty Hypalon shall be provided. Cover shall be fire retardant and installed over hose bed. The cover shall have chrome twist-locks and Velcro installed around the perimeter of the hose bed. The end of the hose bed cover shall be secured and cover the hose bed opening. The cover shall completely protect the hose in the hosebed and prevent hose from inadvertently deploying during normal operation.

The hypalon end flaps shall be secured at the bottom using snaps and Velcro. The end flaps shall completely protect the hose and prevent the hose from inadvertently deploying during normal operation.

The cover shall meet the TIA 03-1 NFPA requirement.

The covers shall be black in color.

**HOSE BED DIVIDER(S)**

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

**HOSE BED CAPACITY**

The hosebed shall have the capacity to hold the following:

- 1000' of 5" large diameter hose
- 400' of 2-1/2" double jacket fire hose

SPECIFICATION NO. 89

**CHROME FOLDING STEP(S), FRONT OF BODY**

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

Locations: One-(1) each side on the front compartment face

SPECIFICATION NO. 90

**REAR STEPS W/LED LIGHTS**

There shall be four (4) rear lighted steps installed on the apparatus. The steps shall be a Cast Products step and have a minimum of thirty-five (35) square inches of surface area to conform to the NFPA 1901 standards. The step(s) shall include a 12-volt LED light to illuminate the area below.

SPECIFICATION NO. 91

**BACK-UP ALARM**

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

SPECIFICATION NO. 92

**LIGHTS, COMPARTMENT**

Each compartment shall have (2) LED strip lighting wired to the door ajar system activated when the door is in the open position.

SPECIFICATION NO. 93

**DOOR AJAR SWITCHES**

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

SPECIFICATION NO. 94

**LIGHTBAR, 54" WHELEN SLN2QLED**

A Whelen model SLN2QLED LED lightbar shall be mounted on the cab roof. The lightbar shall measure 54" in length and positioned as far forward as possible. The lightbar shall have two-(2) front corner Red Linear12's, four-(4) front Linear8's (2 Red/2 White), and two-(2) end Red Linear8's that form square ends. Lightbar may be substituted with custom visor and individual whelen super LED light heads to meet height restriction.

Clear lights shall not be Active when park brake is set.

SPECIFICATION NO. 95

**LIGHTS, ZONE B/D UPPER REAR BODY**

Two-(2) Whelen LINZ6 Series Super-LED model LINZ6R shall be installed, one-(1) each side of the upper rear corner of the body. The warning light shall incorporate six red Super-LEDs

SPECIFICATION NO. 96

**LIGHTS, ZONE C UPPER OUTBOARD**

Four-(4) Whelen TIR6 Series Super-LED model 50R03ZCR shall be installed, two-(2) each side on the upper rear of the apparatus in the outboard position. The warning lights shall incorporate red Linear Super-LEDs

SPECIFICATION NO. 97

**LIGHTS, ZONE A LOWER**

Two-(2) Whelen LINZ6 Series Super-LED model LINZ6R shall be installed, one-(1) each side front of the apparatus. The warning light shall incorporate six red Super

SPECIFICATION NO. 98

**LIGHTS, ZONE B/D FRONT LOWER**

Two-(2) Whelen LINZ6 Series Super-LED model LINZ6R lights shall be installed, one-(1) each side forward portion of the apparatus. The warning light shall incorporate six red Super-LEDs

SPECIFICATION NO. 99

**LIGHTS, ZONE B/D MIDSHIP LOWER**

Two-(2) Whelen LINZ6 Series Super-LED model LINZ6R lights shall be installed, one-(1) each side midship of the apparatus. The warning light shall incorporate six red Super-LEDs

SPECIFICATION NO. 100

**LIGHTS, ZONE B/D REAR LOWER**

Two-(2) Whelen LINZ6 Series Super-LED model LINZ6R lights shall be installed, one-(1) each side rearward portion of the apparatus. The warning light shall incorporate six red Super-LEDs

SPECIFICATION NO. 101

**LIGHTS, ZONE C LOWER**

Two-(2) Whelen 600 Series Super-LED model 60R02FCR shall be installed, one-(1) each side on the lower rear of the apparatus. The warning light shall incorporate red Linear Super-LEDs

SPECIFICATION NO. 102

**STOP, TURN AND BACK-UP LIGHTS**

Stop, turn and backup lights shall be Whelen 600 Series, individual fixtures. Fixtures shall be mounted on each rear face of the body recessed in model TH64, highly polished, aluminum trim ring. The red stop (LED) light shall be model 60R00BRR, turn light shall be a model 60A00TAR amber (LED) type with directional arrow, and the backup light shall be model 60J000CU clear halogen light type.

SPECIFICATION NO. 103

**LIGHTS, LED REAR SCENE**

There shall be (2) Whelen Model 6SC0ENZR 12 diode, 8-32 degree scene lights provided and installed on the apparatus. Each scene light shall have a linear designed Super LED light head with chrome plated trim ring flange. Shall be installed one per side upper rear of apparatus.

SPECIFICATION NO. 104

**CLEARANCE LIGHTS AND REFLECTORS**

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

SPECIFICATION NO. 105

**LIGHT, LICENSE PLATE**

There shall be a chrome license plate LED light installed on the rear of the vehicle.

SPECIFICATION NO. 106

**LIGHTS, TELESCOPING**

Two-(2) Whelen PFP2 telescoping flood lights shall be installed, one per side on front of body. Pole system shall be Whelen.

SPECIFICATION NO. 107

**HOSE BED LIGHTS**

Two-(2) Whelen PFP1 pedestal mounted flood lights shall be installed, one per side top of rear hose bed.

SPECIFICATION NO. 108

**ZIAMATIC AIR PACK BRACKET(S)**

There shall be four (4) Ziamatic Model #ULLH air pack bracket(s) with strap (part #1054-012-000) installed on the apparatus. The bracket(s) shall meet NFPA 1901.

Locations: One-(1) in each cab SCBA seat

SPECIFICATION NO. 109

**HYDRANT AND SPANNER WRENCHES WITH HOLDERS**

(2) Three Spanner wrench holder assemblies. Shall accommodate two 2.5" and one Large diameter wrenches. Spanner Wrenches to be provided as loose equipment.

(1) Hydrant wrench and holder shall be provided

SPECIFICATION NO. 110

**FOLDING WHEEL CHOCKS**

Two (2) ZICO model #SAC-44, folding wheel chocks shall be provided.

SPECIFICATION NO. 111

**ZICO FOLDING WHEEL CHOCK MOUNTINGS**

Two (2) ZICO model SQCH-44-H, wheel chock mountings shall be mounted on the apparatus.

Location shall be: TBD at pre construction

SPECIFICATION NO. 112

**DAVID CLARK SYSTEM**

Provide and install the following David Clark components:

- (1) David Clark U3800 master Station
- (2) David Clark U3815 radio interface module
- (1) David Clark U3801 Remote Headset station
- (5) David Clark H3342 Headsets

All necessary power and interface cables to accommodate (1) Bendix King DMH 5992X radio

Placement to be determined at Pre Construction Meeting

SPECIFICATION NO. 113

**DECALS/STIPES**

Provide and install Clark County matched door legends, reflective S stripes, 10" equipment number shall be provided for all four sides and 20" Black reflective numbers 81 on the cab roof.

**BODY PAINT COLOR/CODE**

PAINT shall match Clark County Fire Department yellow N3452 Dupont

**STRIPE - REAR REFLECTIVE**

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

SPECIFICATION NO. 114

**CHASSIS WARRANTY**

Drive train warranty shall be 5 year 100,000 mile warranty.

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**STRUCTURAL BODY WARRANTY:**

Body shall be a 10 warranty

**PLUMBING WARRANTY:**

Plumbing shall have a 10 year warranty

**WATER TANK WARRANTY:**

Water tank shall be a minimum of 20 year warranty

**PAINT WARRANTY:**

Paint shall be a 10 year warranty

**FIRE PUMP WARRANTY:**

Fire water pump shall be a 5 year warranty

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**SPECIFICATION NO. 115**

TRAINING: The successful bidder shall provide a qualified instructor(s) to conduct training classes for one (1) eight-hour workday for the instruction of Clark County mechanical personnel, and operating personnel. Training shall be held at the following address: Clark County Fire Training Center 4425 West Tropicana, Las Vegas, Nevada 89103.

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**CURRENT PRODUCTION MODEL EMERGENCY MEDICAL SERVICE AMBULANCE**

SPECIFICATION NO. 1

**SCOPE:**

This specification identifies the minimum requirements for a new automotive Emergency Medical Services (EMS) ambulances built on Original Equipment Manufacturers' Chassis (OEM) that is prepared by the OEM for use as an ambulance.

This specification covers a new commercially produced surface emergency medical care vehicle(s), herein referred to as an "Medium Duty Rescue" or "vehicle". This vehicle shall be in accordance with the Ambulance Design Criteria of the National Highway Traffic Safety Administration, United States Department of Transportation in Washington, DC. This specification is based on current Federal Ambulance Specifications KKK-A-1822-F certification requirements. It is the intent of the Clark County Fire Department to purchase vehicle(s) that are professionally engineered and designed. It is paramount to the Clark County Fire Department that vehicle(s) presented be built by a reputable manufacturer with considerable experience in the ambulance manufacturing field. To this end, the Clark County Fire Department requires that each manufacturer provide the following:

The manufacturer shall be ISO 9001:2000 Certification.

SPECIFICATION NO. 2

**CLASSIFICATION:**

This specification calls for the following type of vehicle in accordance with the current Federal Ambulance Specification KKK-A-1822F certification requirements. The vehicle shall be a Type I Medium Duty module ambulance on a current production model year Freightliner M2 chassis.

SPECIFICATION NO. 3

**Warranty**

**CHASSIS WARRANTY:** Drive train warranty shall be 5 year 100,000 mile warranty.

SPECIFICATION NO. 4

**Warranty**

**STRUCTURAL BODY WARRANTY:** Body shall be a 15 warranty.

SPECIFICATION NO. 5

**Warranty**

**ELECTRICAL WARRANTY:** Electrical shall be a minimum of 7 including all multiplex modules.

SPECIFICATION NO. 6

**PAINT WARRANTY:** Paint shall be a 7 year warranty.

SPECIFICATION NO. 7

**PRE-CONSTRUCTION CONFERENCE:**

The successful primary manufacturer shall be required to hold a pre-construction conference with representatives of the Clark County Fire Department to finalize construction details. The pre-construction conference shall be held at the successful manufacturer's manufacturing facility. The primary manufacturer will provide adequate transportation, lodging, and meals for four (4) designated personnel from the Clark County Fire Department. Further, if the location is in an excess of one hundred (100) miles from this agencies location, the transportation shall be by a commercial air carrier.

During the pre-construction conference the manufacturer shall have copies of the production work order and production drawings available for the review process with the Clark County Fire Department.

SPECIFICATION NO. 8

**FINAL INSPECTION CONFERENCE:**

The successful primary manufacturer shall be required to hold a final inspection conference with representatives of the Clark County Fire Department for final inspection of the completed vehicles prior to the delivery of the vehicles. The final inspection conference shall be held at the successful manufacturer's manufacturing facility. The primary manufacturer will provide adequate transportation, lodging, and meals for four (4) designated personnel from the Clark County Fire Department. Further, if the location is in an excess of one hundred (100) miles from this agencies location, the transportation shall be by a commercial air carrier.

During the final inspection conference the manufacturer shall have copies of the approved production work order and approved production drawings available for the review process with the Clark County Fire Department.

SPECIFICATION NO. 9

**DRAWINGS:**

The primary manufacturer shall provide with the bid proposal binder set of production drawings that accurately depict the vehicle as specified. The drawings will show all exterior and interior planes with dimensions. Failure to comply will be deemed non-responsive. **No Exceptions**

SPECIFICATION NO. 10

**FEDERAL AMBULANCE SPECIFICATION KKK-A-1822-F:**

Cab and chassis shall meet the current requirements of the Federal Ambulance Specification KKK-A-1822-F.

SPECIFICATION NO. 11

**CHASSIS CHARACTERISTICS:**

Model: M2 106 Conventional Chassis

Front axle load: 8,000 lb.

Rear axle load:15,000 lb.

GVW Capacity: 23,000 lb.

Engine: Cummins ISB 6.7L-280 HP

HP:280 HP @ 2300 RPM, 2600 Gov

Torque:660 LB/FT @ 1600 RPM

Oil Check and Fill: Engine Mounted

Air Cleaner: Donaldson, Firewall Mounted

Alternator:270 Amp Leece Neville 4949PA PAD Mount with AC taps

Batteries:(3) Alliance 1031 Group 31, 12V MF

Exhaust: RH Outboard under step mounted horizontal After treatment System Assembly with LH Horizontal Tailpipe exiting fwd of rear tires

Exhaust Brake: Cummins Exhaust Brake integral with variable Geometry Turbo with on/off dash switch

Radiator Aluminum 950 Square inches, -34 F rated ethylene glycol

Hoses: Gates Blue Stripe

Fan Drive: Horton HT650

Engine Heater :Phillips Thermo 750 Watt/115 service

Air Warmer: Electric grid air warmer

Transmission: Allison 3000 EVS Automatic Transmission with PTO provision. WTEC Calibration-6 Speed EVS with auto neutral

Shift: Push Button Electronic shift control, Dash Mounted

Front Axle: Detroit DA-F-10.0-3 10,000 pound Drop single front axle

Rear Axle: 17,500 pound MS-17-14X quiet ride single rear axle

Rear Axle ratio: 4.33 Axle Ratio

Differential: Single rear axle

Differential Lock: Lock rear valve for single drive axle

Brakes: Air Brake Package

Air Horns: Dual 25 inch stutter tone air horns hood mounted w/(2) foot switches

Rear Suspension: 15,000 pound Airliner air suspension. The OEM dump switch is to be removed.

Rear Stabilizer: 10,000/15,000 rear stabilizer bar

Wheel Base: 168 inches

Front Bumper: Chromed steel, three piece with collapsible boxed ends

Fuel Tank: 42 gallon aluminum fuel tank LH with Alliance fuel/water separator with primer pump

Tires: 2 front, 4 rear, Michelin XZE 245/70R 19.5 16 ply

Wheels: 19.5 x 6.75 inches Alcoa, Aluminum, Polished front and polished rear outside only

Mirrors: Door mounted dual bright heated remote West Coast, LH/RH 8" Convex mirrors mounted under primary mirrors.  
RH down view mirror

The interior of the Freightliner cab shall have the following options:

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Tilt and adjustable power steering.

Daytime running lights

RH and LH Powered Windows and door locks

Bostrom T910 High back suspension driver and passenger seat with dual armrest and 3 point high visibility orange retractor seat belts

Business Class gauge package and hour meter.

AM/FM/WB/CD, two speakers stereo.

Alternating flashing headlamp system with body builder controlled engagement

One valve park brake system with dash valve control auto neutral and warning indicator

Wind shield wiper control with delay.

There shall be a composite Sun visor: painted to match unit.

The cab paint shall be Dupont L3452 Yellow to match the current Clark County Fire Department Fleet

SPECIFICATION NO. 12

**CAB TO PATIENT COMPARTMENT:**

The modular body shall be attached to the cab chassis by means of a rubber bellows with one hundred and fifty square inches of open viewing area.

SPECIFICATION NO. 13

**EXHAUST MODIFICATION:**

The exhaust system shall terminate with 5.00" tailpipe and Plymovent adapter. Shall match existing Clark County Apparatus.

SPECIFICATION NO. 14

**DIAMOND PLATE COVERS:**

There shall be aluminum diamond plate covers designed to cover the exhaust after-treatment and the fuel tank below the cab. These covers shall have a full length, seven inch deep bottom step with grip strut and a half-length seven inch top step with grip strut.

SPECIFICATION NO. 15

**HEATER HOSES:**

Nomax heater hoses shall be installed on the rear HVAC unit.

SPECIFICATION NO. 16

**BATTERY SYSTEM:**

The vehicle shall be supplied with a dual 12 volt battery system. Three OEM batteries shall be installed. The battery system shall be wired in accordance with the current Federal Ambulance specification KKK-A-1822-F certification requirements. The system must meet SAE J541 for starter circuit voltage drop. The batteries shall be activated through the OEM ignition switch. The ignition switch shall only turn off power to the module and not to the chassis. A momentary rocker switch shall be installed which will disable timer. It shall be labeled "TIMER BYPASS". It shall be located on the driver's side of the cab console. **No Exceptions**

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SPECIFICATION NO. 17**CAB CENTER CONSOLE:**

An all-aluminum cab center console with map storage with binning strips and Lexan dividers shall be installed in the chassis cab. Console shall be finished with rubber coat lining. There shall be electrical accommodations for the required radio equipment. Shall include cup holders.

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SPECIFICATION NO. 18**UNDERCOATING:**

The vehicle shall be undercoated per the current Federal Ambulance Specification KKK-A-1822-F certification requirements prior to delivery to the Clark County Fire Department.

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SPECIFICATION NO. 19**MODULE BODY CONSTRUCTION:**

It is the intention of the Clark County Fire Department to specify a modular body that is constructed solely of aluminum including side skins, roof skin, all structural box tubing, corner and roof extrusions, tapping plates, gusset plates, retention plates, doors, door extrusions, sub structure moisture barrier and drip rails. The module body shall be Engineered, built and warranted by the primary manufacturer. The Clark County Fire Department will not accept a proposal from a primary manufacturer, as defined within this document, that supplies a modular from a manufacture, builder, supplier, other than the primary final stage manufacturer. This section shall be the construction parameters the Clark County Fire Department has deemed as fair value.

The exterior of the body shall be constructed utilizing a full six sided box framework with a combination of high strength 6061-T1 and 6063-T6 alloy aluminum and having an outer surface of aluminum sheet with a temper and alloy of 5052-H32 for strength, weld integrity and corrosion resistance.

The front, sides, and rear of the modular shall be configured from a single sheet of .090 aluminum. The one piece sheets shall be used to maximize integrity against dust, toxic fumes, cracking, and moisture penetration. The openings for doors, warning lights and exterior compartments shall be cut on the horizontal plane with a computer controlled plasma cutter for accuracy and integrity of temper. The roof and side skins shall be installed utilizing a very high bond adhesive to allow absorption of vibration and to eliminate "panning". The skins shall be welded to the interlocking extrusion framework at the outer perimeter of the sheets by a programmable robotic welder using a MIG welding tip and Argon gas.

The roof shall be a single .090 sheet of 5052-H32 alloy aluminum. The roof sheet shall be completely welded to the extruded roof assembly. The use of multi-section roofs shall not be acceptable due to the possibility of cracks causing environmental intrusion. The roof substructure assembly shall consist of four perimeter roof rail extrusions, lateral roof bows and interconnecting corner caps. The roof rail extrusions shall be engineered and designed by the primary manufacturer and shall be double hollow of 6063-T6 .125 aluminum. An integrated roof recess shall be incorporated to create a smooth transition from the one piece roof sheet to the perimeter drip rail. The perimeter drip rail shall be extruded as a design feature of the roof rail extrusion. The roof rail extrusion shall overlay the side skin by one half inch. The roof sheet shall be seam welded to the perimeter roof extrusion.

The lateral roof bows shall be two inch by two inch by .125 Square extrusions of 6061-T6 alloy aluminum. The structural members shall be located to support the roof skin on fourteen inches between roof bows. The roof bows shall interconnect with the roof rails and be continuously welded at all contact points. The finished roof shall incorporate a machine rolled crown of not less than one and half inches in height to provide additional strength and allow water run-off. A one inch by two inch by .125 6063-T6 extrusion shall be secured to the top of the vertical extrusions. The perimeter extrusion shall be welded to the vertical structures with a minimum of six inches of weld. An industrial adhesive shall be applied around the perimeter before the roof assembly is mated to the sill. The roof structure shall be attached to the sill and welded. To insure a complete contact with the industrial adhesive mechanical fasteners shall be employed to cinch the roof structure to the sill.

The corner caps shall be designed to interlock with the roof perimeter, vertical corner extrusions and roof sheet. The corner caps shall be cast aluminum made from matched metal dies to insure a smooth and pleasing appearance.

The caps shall act as a stress relief device to absorb energy and disperse the force along the roof extrusions in the event of a collision.

The corners of the modular body shall be designed and engineered by the primary manufacturer and constructed of 6063-T6 alloy aluminum. The corner extrusion shall be double hollow with a minimum thickness of .125 and .250 at the outer corner. The extrusion is designed with a unique forty five degree angled appearance while maintaining very high

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strength and impact energy absorption. A polyurethane sealer shall be applied to seal the crevice between the corner extrusions and the side assemblies.

The side assemblies shall be reinforced utilizing 6061-T6 alloy aluminum two by two box tubing. The side structures shall frame a perimeter around all door openings and shall be a minimum of .125 in thickness. Intermediate skin stiffeners shall be located to preclude skin deformation. Additional gusset plates shall be .250 inch aluminum and shall be welded at all contact points between the corner assembly and the roof perimeter.

The Clark County Fire Department is extremely concerned that the modular body be designed and built with the highest level of integrity and quality. Documentation and certification that the modular body being proposed meets Static Load Test Code for Ambulance Body Structure AMD Standard 001 must be included with this proposal.

All parts of the ambulance body, as specified in Federal Ambulance Specification KKK-A-1822-F certification requirements, where applicable, be of welded construction.

Where fasteners are used in such areas as hinge attachment, hardware attachment, etc., the fasteners shall be ceramic coated aluminum and stainless steel.

Any hole drilled into the modular body painted surface shall be coated with a corrosion inhibitor prior to installation of the part.

Tapping plates of 6061-T6 alloy aluminum varying in widths of one quarter to one half inch shall be welded to the framing to secure the installation of equipment such as; cabinets, benches, partitions, cylinders, cot fasteners, etc. The body and panel joints shall be watertight and all openings between the chassis and modular shall be sealed. In addition a drip rail shall be supplied over each exterior compartment. The drip rail shall be attached in such a manner as to provide for quick and easy replacement.

Drips rails attached by mechanical fasteners shall not be used. **No Exceptions**

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#### SPECIFICATION NO. 20

##### **BODY MOUNTING:**

The mounting system shall not cause any chassis frame deformation. There shall be ten mounting points, five on each frame rail. The modular body shall have full perimeter welded sill rails of one half inch by two inch of 6061-T6 alloy aluminum and be attached to the vehicle utilizing one inch by three inch sill plates of 6061-T6 alloy aluminum. The modular body shall be welded to the sill plates at every exposed seam. At all out rigger mounting locations a double compression, neoprene rubber isolator mounts shall be used to minimize chassis vibration transfer to the modular body. The modular body and sill plates shall be attached to the frame rails using three quarter inch grade eight bolts.

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#### SPECIFICATION NO. 21

##### **FLOOR STRUCTURE:**

The floor shall be at lowest level permitted by clearances, but not more than thirty three inches from the ground. The floor structure shall consist of two by two by 0.25 inch structural box section with 6061-T6 alloy aluminum. The floor structure shall be welded with eight inches of weld at every joint. The openings created for the placement of exterior compartments shall have six inches of weld to insure a smooth surface to fit the compartment in the structure. Tapping plates of one quarter inch and one half inch of 6061-T6 aluminum shall be completely welded both sides to the floor assembly.

The finished floor assembly shall be securely welded to the wall structures with eight inches of weld and skipped welded every four inches to the exterior compartments. All critical load points shall be reinforced with one quarter inch by three inch by four inch gusset plates. Above the floor channels there shall be an aluminum moisture shield .050 inches thick. The entire underside of the modular shall be sealed with a waterproof sealant.

All hollow structural shapes or cavities shall be sealed utilizing approved expandable foam.

The rear patient access shall be equipped with an exterior aluminum threshold mount to the lower door jamb. This threshold will protect the bottom door jamb; in addition the rear patient floor shall have a fourteen gauge stainless steel cot protector.

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SPECIFICATION NO. 22**PATIENT COMPARTMENT SOUND LEVEL:**

The patient compartment sound levels shall meet the requirements of paragraph of the current Federal Ambulance Specification KKK-A-1822F certification requirements.

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SPECIFICATION NO. 23**CURBSIDE DROP SKIRT:**

The modular body shall have a four inch drop skirt on the curbside forward of the rear wheels. The curbside door shall be dropped four inches to allow for a second step for better access to the patient compartment.

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SPECIFICATION NO. 24**ENTRY AND COMPARTMENT DOOR CONSTRUCTION:**

The outer face of the door and door edges shall be formed from one sheet of 5052-H32 aluminum. The door shall be flush with the body side. The outer skin shall be 0.125 inches thick and shall be welded every six (6") inches to the inner door frame using a minimum of one and one-half inch (1-1/2") long bead.

All corners shall be welded a minimum of two inches (2") in each direction. The edge of the door shall be seamless.

The door frame shall meet with the exterior skin with a smooth seamless transition. There shall be no seams or crevices on the door or the door frame which allows the possibility of corrosion.

Both patient compartment and exterior compartment doors shall be provided with extruded rubber seal system consisting of a hollow cell bulb gasket. The gasket shall insert into an appropriately designed groove in the inner door extrusion. This will provide the best seal possible.

Glued on seals or seals that are mounted to the compartment openings are unacceptable as they will easily be torn by loading or unloading of equipment stored in the compartment.

All doors shall be attached using minimum 1/4-20 stainless steel hex bolt with stainless steel piano hinges with a pin of at least 0.250 inch in diameter. The hinge must be slotted to provide field adjustments. A corrosion inhibitor shall be applied to the door frame and jamb bolt holes prior to installing the hinge.

All compartment doors shall be constructed the same as the entry doors. To ensure continued door alignment and successful latching capabilities, all access doors must be encased by a door jamb that is separate from the body skin and welded to the 2" x 2" tubular body frame members. The door jamb shall be a 0.125"/0.380" thick 6063-T6 aluminum extrusion.

The interior surface of the patient compartment doors (rear and curb side) shall be finished in a safe and attractive manner that harmonizes with the interior appointments. The door panels shall be removable.

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SPECIFICATION NO. 25

Doors using pliable materials such as upholstery are prohibited due to greater risk of contamination by blood borne pathogens through stitching or when cut or torn.

The three (3) patient compartment doors shall be fitted with cast aluminum TriMark flush fit, "paddle latch" hardware on the interior and an "automotive style" handles on the exterior. The patient compartment doors shall be provided with a keyed lock and the rear doors and side door shall be lockable from the inside without a key per FMVSS.

When the doors are opened, the hinges, latches and door checks shall not protrude into the access area. All patient compartment doors shall employ the same type locking hardware. All door latches shall comply with requirements of FMVSS 206.

The locking devices shall be two-stage rotary latches and shall be FMVSS 206 certified. Where applicable, there shall be two door latches, one at the top and one at the bottom, controlled by a single locking handle. The latches shall lock into an adjustable "Nader" type pin located in the door frame.

The Nader will utilize a captive nut to provide adjustment and replacement without loss of the nut plate. The locking system shall be actuated from the locking handle by metal push rods.

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The outside door handles shall be a rugged "automotive style" TriMark that are near flush with the door skin. These handles shall provide adequate clearances for the use of gloves. The hand/glove clearance area of the automotive style handle shall be a minimum of .812" deep by 4.125" long. On the curb side and rear doors, the inside handle shall be a "paddle style" type constructed from cast aluminum and shall be equipped with an inside door lock. All exterior storage compartments and module entry doors shall be lockable with the same key.

The compartment and entry door shall be painted separately from the modular body. The doors shall then be installed on the painted module. A corrosion inhibitor shall be applied to the door frame and jamb painted extrusion prior to installing the doors to provide a barrier between the hinge and the paint.

All entry and compartment doors shall be insulated with 2.50 inch thick closed cell block foam insulation.

SPECIFICATION NO. 26

When the doors are opened, the hinges, latches and door checks shall not protrude into the patient compartment. All compartment doors shall employ the same type of locking hardware. All door latches shall comply with FMVSS 206. The locking devices shall be two stage rotary latches and shall be in accordance with FMVSS. There shall be two door latches, one at the top and one at the bottom, controlled by a single locking handles. The latches shall lock into an adjustable Nader type pin located in the door frame. The Nader will utilize a captive nut to provide adjustment and replacement without loss of the nut plate.

The compartment door handles shall be Trimark paddle style handle with a large enough space for gloved hands to operate the handle. The door handles shall be free floating with 1008 cold rolled steel mechanical components with Nitrotec treated wear components. The lock shall be a lock cylinder with a reversible key. The compartment door entry system shall have been tested to 50,000 cycles. The door handle shall be mounted to the exterior door panel using mechanical fasteners and rubber gaskets that will eliminate the possibility of electrolysis. All doors shall have closed cell block foam insulation.

SPECIFICATION NO. 27

**REAR DOOR HOLD OPENS:**

The rear doors shall be held open by two (2) 4.50 inch Cast Grabbers mounted at the bottom of the access doors. The U shaped piece shall be attached to the door. It shall enter into a rubber insert when the door is in the open position. A corrosion inhibitor shall be applied to the mounting holes prior to installation.

SPECIFICATION NO. 28

**CURBSIDE ENTRY AND COMPARTMENT DOOR HOLD OPEN DEVICES:**

The curbside entry and all compartment doors with the exception the ROM roll-up door and battery access shall have a 30 pound gas strut hold open devices installed. **No Exceptions**

SPECIFICATION NO. 29

**ENTRY DOOR PANELS**

The upper and lower portion of the curbside and rear entry door panels shall be brushed stainless steel. The center shall be reflective chevron covered aluminum.

SPECIFICATION NO. 30

**EXTERIOR STORAGE ACCOMMODATIONS:**

The exterior compartments shall be constructed of .090 aluminum and shall be formed by a computer controlled brake and shear to decrease the amount of welding to fully enclose the compartment. The compartment therefore, shall be water tight. The compartment shall be welded in place to the side and floor structure with an additional bracket welded to a bracket connecting the exterior wall two with the floor structure. The compartment floor shall be supported from beneath with one by two by .125 6061 T-6 rectangular tubing welded to the underside and the floor structure. All exterior compartments shall be vented above the floor line with machine stamp louvers. The exterior compartment shall be lockable with one key fitting all doors. The compartments shall be equipped with handle and door locks. Each exterior compartment shall be provided with a sealed led light (1) one per shelf or opening area. To be illuminated upon the door opening. The light shall be activated by a mechanical switch. A door open indicator light shall be visible on the driver's console.

All of the modular body compartments shall be coated with a Light gray rubber coating.

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All compartments shall have a stainless steel sill protector. It shall be manufactured from 20 gauge stainless steel and cover the bottom door frame protecting it from scratches.

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SPECIFICATION NO. 31

**CURBSIDE COMPARTMENT "A":**

The Compartment "A" right front compartment shall be split upper and lower. The lower section shall house the OEM batteries on a slide out tray. The door shall be hinged on the right side.

The upper section shall have outside access to the right front interior cabinet. The clear access opening for the compartment shall be approximately 49.00 inches high x 27.25 inches wide. The Compartment "A" shall be sweep out style to facilitate ease of removing equipment and cleaning. There shall be (2) adjustable shelves in the Compartment "A". The shelves shall be constructed of 0.125 inch aluminum with sides and mounted on Unistrut track.

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SPECIFICATION NO. 32

**CURBSIDE COMPARTMENT "A":**

The Compartment "A" right front compartment shall be split upper and lower. The lower section shall house the OEM batteries on a slide out tray. The door shall be hinged on the right side.

The upper section shall have outside access to the right front interior cabinet. The clear access opening for the compartment shall be approximately 49.00 inches high x 27.25 inches wide. The Compartment "A" shall be sweep out style to facilitate ease of removing equipment and cleaning. There shall be (2) adjustable shelves in the Compartment "A". The shelves shall be constructed of 0.125 inch aluminum with sides and mounted on Unistrut track.

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SPECIFICATION NO. 33

**CURBSIDE COMPARTMENT "B1":**

The Compartment "B1", rear of rear wheels shall be hinged at the right. The compartment interior dimensions shall be approximately 27.75 inches high x 20.50 inches wide x 20.75 inches deep with a clear door opening of approximately 25.75 inches high x 16.00 inches wide. The bottom of Compartment "B1" shall drop down 3.00 inches from the door opening for maximum storage space in the compartment.

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SPECIFICATION NO. 34

**CURBSIDE COMPARTMENT "B2"**

The Compartment "B2", rear curbside shall be hinged at the right. The compartment interior dimensions shall be approximately 88.75 inches high x 16.00 inches wide by 20.75 inches deep with a clear door opening of approximately 85.50 inches high x 14.00 inches wide. The bottom of Compartment "B2" shall drop down 3.00 inches from the door opening for maximum storage space in the compartment. There shall be a removable vertical divider located in compartment "B2". It shall be manufactured of 3/16 inch thick aluminum and be painted with scratch resistant light gray Scorpion rubber coating. The divider shall be approximately 11.00 inches wide and extend from the top of the compartment to the fixed shelf (Unistrut to adjust shelf). The fixed shelf shall be placed 12" from the bottom of the compartment.

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SPECIFICATION NO. 35

**STREETSIDE COMPARTMENT "D":**

The Compartment "D" is the driver's side rear compartment. The door opening dimensions shall be a minimum of 62.25 inches high x 33.25 inches wide. The interior dimensions shall be 74.00 inches high x 35.75 inches wide x 20.75 inches deep at the bottom and 10 inches deep at the top.

The floor and rear wall of the Compartment "D" shall be reinforced to allow customer mounting of equipment. The Compartment "D" shall be sweep out style to facilitate ease of removing equipment and cleaning.

The Compartment "D" door shall be a Robinson Roll-O-Matic painted to match the exterior of the vehicle. The door shall include the roller, Sill plate with dam, Pull strap, door ajar circuit and Lock.

The back compartment wall shall be reinforced with ¼ inch aluminum plate for secure mounting tools. Shall have (1) one adjustable shelf in upper section.

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SPECIFICATION NO. 36

**STREETSIDE COMPARTMENT “WW”**

Shall be directly over the wheel well on the street side of the module. Compartment shall have double doors This compartment shall be for miscellaneous equipment storage.

50-1/4 in.H x 48-1/4 in.W x 10.00/20.75 in. D. at the top and full depth at the bottom of the compartment. Shall have (2)two adjustable shelves in the upper section.

SPECIFICATION NO. 37

**STREETSIDE COMPARTMENT “E”**

The Compartment “E” is the driver’s side forward of the rear wheel compartment. The double door opening dimensions shall be a minimum of 38.25 inches high x 40.00 inches wide. The interior dimensions shall be 40.25 inches high x 44.75 inches wide x 20.75 inches deep. The Compartment “E” shall be sweep out style to facilitate ease of removing equipment and cleaning. The floor and rear wall of the Compartment “E” shall be reinforced to allow customer mounting of equipment. There shall be (1)one adjustable shelf in the Compartment “E”. The shelf shall be constructed of 0.125 inch aluminum and mounted on Unistrut track.

SPECIFICATION NO. 38

**STREETSIDE COMPARTMENT “F”**

The Compartment “F” is the driver’s side front compartment. The left hinged door opening dimensions shall be a minimum of 72.00 inches high x 19.00 inches wide.

The interior dimensions shall be 74.00 inches high x 23.25 inches wide x 20.75 inches deep. The right side of the bottom of compartment “F” shall be flush with the door opening to provide for a sweep out design making it easier and safer to change the oxygen bottle.

SPECIFICATION NO. 39

**CURBSIDE STEP WELL:**

The curb side door step well shall have (1) Whelen P/N 20C0CDCD 4.00 inch round LED light recessed into wall one of the step well. It shall be automatically lit when the side and rear doors are opened. The light shall be activated by a switch. The step well shall be a two-step design and finished with a polished aluminum diamond plate.

SPECIFICATION NO. 40

**ACCESS DOOR WINDOWS:**

There shall be a window in each of the three patient access doors. The window frame shall be of an extruded aluminum design with a protective anodized finish. The curbside entry door window shall include a sliding window to allow for fresh air when needed. The two rear door windows shall have fixed glass.

The glass shall have a privacy tint.

The curbside window shall have the following dimensions: 26.50 inches high x 19.50 inches wide. The rear windows shall be 22.50 inches high x 13.50 inches wide.

SPECIFICATION NO. 41

**RUBBER REAR FENDERS:**

Rubber fenderettes shall be provided around the rear wheel well openings to provide protection from wheel wash. A corrosion inhibitor shall be applied to the mounting holes prior to installation.

SPECIFICATION NO. 42

**RUBBER SIDE SKIRT RAILS:**

The street side and curbside modular body shall be provided with rubber skirt line trim rails . The rails shall be installed along the lower edge of the body.

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SPECIFICATION NO. 43**FRONT DIAMOND PLATE STONE GUARDS:**

The lower front corners of the patient compartment shall have stone guards attached to the corner extrusion.

They shall be diamond plate aluminum and extend from the bottom edge of the corner extrusion up 17.00 inches.

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SPECIFICATION NO. 44**REAR DIAMOND PLATE KICK PLATE:**

Above the rear bumper and below the rear doors, there shall be a full length riser of aluminum diamond plate for a protective kick panel.

The kick panel shall be securely fastened with ceramic coated stainless steel screws to inhibit rust that could result from electrolysis and run the full rear width of the module. Pop rivets are not acceptable. There shall be a recess below the street side taillights for the rear license tag.

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SPECIFICATION NO. 45**FRONT BUMPER AND REAR STEP:**

The chassis manufacturer shall supply the vehicle's front bumper and shall have a 6" extension with diamond plate closeout.

The rear bumper and step assembly shall be a single unit constructed of ten gauge steel "C" formed channel and .100 inch thick aluminum tread plate as measured at the thinnest point of the tread plate. The center step of the bumper assembly shall be designed to allow it to flip up and out of the way to facilitate patient loading. The flip up section of the rear bumper shall be diamond plate to meet the requirements of the current Federal Ambulance Specification KKK-A-1822F certification Requirements. The diamond plate flip up step shall be punched with three rows of raised star-shaped holes to create additional non-skid surface. **No Exceptions**

A 2.00 inch x 2.00 inch x 0.125 inch aluminum box tube shall be welded inside the step full width on the side farthest from the rear of the vehicle. The steel frame and rear bumper supports shall be coated in Black Scorpion rubber coating.

A stainless steel hinge with a center pin of .250 inch shall be used to attach the flip up section of the rear step to the main rear bumper assembly. This bumper assembly shall be bolted to supports that have been welded to the chassis frame. There shall be eye beam constructed skid plates with tow eyes mounted as part of the frame of the bumper. This assembly shall be bolted to the frame of the chassis with 5/8 inch Grade 8 bolts. There shall be a two inch Red LED marker light on the street side and curb side of the bumper assembly. These lights shall be a sealed unit and the connectors protected with an adhesive heat shrink.

The lights shall flash with the turn signals and shall illuminate with the vehicle head light control. There shall be a one half inch clearance between the bumper assembly and the rear of the modular body to allow water drainage and inhibit water collection.

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SPECIFICATION NO. 46**MUD FLAPS**

There shall be rubber mud flaps installed just behind the rear tires. The mud flaps shall hang within 5.00 inches of the ground. No logos

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SPECIFICATION NO. 47**PREPARATION FOR PAINTING, COLOR AND MARKERS:**

All bare aluminum shall be coated with a corrosive resistant self-etching primer. An auto-motive urethane sealer shall be used as well as an automotive urethane topcoat. The primer, sealer, and topcoat shall be a minimum of three point three mils thick. A small amount of body filler may be used to smooth imperfections in the aluminum. The paint color shall match the current Clark County Fire Department fleet Yellow Dupont L3452. The vehicle shall meet salt spray resistance and vehicle undercoating as set forth in the current Federal Ambulance Specification KKK-A-1822-F certification requirements.

The compartment and entry doors shall be painted separately from the modular body. The doors shall then be installed on a fully painted module. **No Exceptions.**

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SPECIFICATION NO. 48

**SAFETY REFLECTIVE STRIPE:**

There shall be a Red reflective 2.00 inch 3M stripe installed around the perimeter of the module entry doors. The 3M reflective material shall be P/N 680-82

SPECIFICATION NO. 49

**ROOF TOP MARKINGS:**

A "Star of Life" of not less than 32.00 inches and conforming to the current Federal Ambulance Specification KKK-A-1822F on the ambulance rooftop.

SPECIFICATION NO. 50

**GRAPHICS PACKAGE:**

The body shall have a 5.00 inch wide Blue reflective safety stripe with a shaded "S" ribbon around its entire perimeter

There shall be (2) Clark County Eagle Door Seals produced and installed. To match existing fleet

There shall be (1) on each cab door

The following lettering shall be installed on the cab doors:

"CLARK COUNTY" arched above seal

"FIRE DEPARTMENT" in straight line under seal

"PARAMEDIC RESCUE" per current rescue fleet

The following lettering shall be installed on the rear doors:

"CLARK COUNTY" "FIRE DEPT." Above windows

"PARAMEDIC" along bottom of door.

The Unit Numbers shall be installed in the following locations:

(1) Compartment "F" door

(1) Compartment "A" door

(1) Driver's side of front of box

(1) Curbside rear of box in corner.

SPECIFICATION NO. 51

**ELECTRICAL SYSTEMS AND COMPONENTS:**

This vehicle's 12-Volt DC power supply shall be separate and distinct from the chassis (OEM) system, except that both will be powered by the same chassis generating system and batteries. The total ambulance electrical system shall be equipped with, but not limited to the following: dual 12-volt batteries, generating, starting, lighting, ignition, visual and audible warning systems, specified electrical equipment and devices including master switch consoles located in the cab and patient compartment, plus other specified accessory wiring. The electrical systems and equipment shall comply with all applicable FMVSS including Federal Motor Carrier Safety Regulations (FMCSR).

All electrical and electronic components shall be selected to minimize loads, thereby not exceeding the vehicle's generating system capacity. System components must be readily accessible through access panels or doors for routine service and maintenance.

Likewise switches, indicators and controls shall be located and installed in such a manner so as to facilitate routine service, maintenance and replacement.

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All electronic devices and equipment installed in this ambulance must have proper filters, suppressers or shielding to contain electromagnetic radiation and prevent radio frequency interference (RFI).

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#### SPECIFICATION NO. 52

##### **WIRING REQUIREMENTS:**

The ambulance body and accessory electrical equipment shall be served by circuits separate and distinct from the chassis circuits. All conversion wiring shall be copper and conform to SAE J1292 requirements. The wiring shall be covered with type GXL high temperature thermoplastic, or better, insulation rated to 125 degrees centigrade and conforming to SAE guidelines.

Wiring shall be permanently color coded and ink dye labeled with the circuit name the wire serves. Such labeling shall occur along the entire length of wiring at approximately 4" intervals. Wiring installed by the ambulance manufacturer shall carry the maximum load of the circuit it serves.

All wired devices, switches, outlets, etc. excluding circuit protection devices, shall be rated to carry 125 percent of the maximum ampere load for which the circuit is protected. Enough wire shall be provided at all electrical components, terminals and connection points to allow for two (2) cut off replacements.

Circuit connections shall be made on terminal blocks or other approved electronic connectors.

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#### SPECIFICATION NO. 53

The use of "Scotch-Lok" type fasteners are NOT ACCEPTABLE. Splices in wire runs will NOT be allowed. **No Exceptions**

The main wiring harness serving the module shall be installed above the finished ceiling at its approximate longitudinal centerline. An easily removable, padded access panel shall cover the harness chase. All wiring will be run in protective looms and must be adequately secured to prevent sagging and excessive movement.

All items and materials used for protecting and securing the harness must be designed for its specific application and be standard automotive, aircraft, or marine grade.

Wiring routed into the engine compartment or beneath the vehicle shall be protected by high temperature loom with a rating of 300 degrees Fahrenheit. Where necessary, the wiring and loom must be protected by rubber grommets and secured with insulated metal cable clamps tightly fastened to an adequate supporting structure. Wiring must be kept at least six inches (6") away from chassis exhaust system.

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#### SPECIFICATION NO. 54

##### **12 VOLT LOAD CENTER:**

The 12 volt load center is the location of the conversion electrical system's major 12 volt electrical control and distribution components. The load center will be within a designated interior cabinet located next to the module walk/pass through and may not be mounted in the engine compartment nor in any outside or outside accessible compartment. This cabinet shall be accessible through a hinged, locked door.

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#### SPECIFICATION NO. 55

##### **12 VOLT ELECTRICAL SYSTEM:**

The electrical power control system that this ambulance utilizes shall be the V-MUX® Multiplex System, no substitutes accepted. **No Exceptions**

To achieve this it is important to integrate many of the stand-alone components and modules listed below into the node or nodes. Wherever it is stated that an "add-on" module will not be acceptable, it means that the requirement must be met utilizing the existing multiplex electrical system without stand-alone accessory switching or wiring harness. **No Exceptions**

The Vehicle Manufacturer shall design from the ground up, the wiring harnesses needed to interface with the modules. Cut up or modification of existing hardwired harnesses is not acceptable. **No Exceptions**

The grounds from each device should return to the main ground trunk in each sub harness. Terminal strips should be reduced as much as possible or eliminated, as each crimp is a weak point in the harness that may fail over time.

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The multiplex network must be Peer to Peer. That is, no one module should hold the programming for other modules.

The definition of Peer to Peer for the purpose of this specification is that each module that controls a device shall hold its own configuration program and be able to turn that device on, even if disconnected from the network, if the interlocks are local. Inputs such as Emergency Master and Front Light bar in the same node as the outputs for the light bar will turn on the light bar even if disconnected from the network.

SPECIFICATION NO. 56

**DRIVER'S CONSOLE CONTROL SCREEN:**

The driver's console control screen shall be a Vista III Color monitor. It shall have seven (7) permanent push-button switches that shall perform the following functions (left to right).

- A) EMERGENCY MASTER - serves as a master control switch for all emergency circuits
- B) EXTERIOR LIGHTS - switches all flood lighting on or off.
- C) DIM PANEL - turns on/off the Vista III's backlighting
- D) HOME - resets the Vista III Display to the home screen
- E) SECONDARY MENUS - accesses secondary menus
- F) HEAT/AC - Accesses the Heat/AC screen for control of the environmental systems
- G) MODULE MASTER - serves as a master control switch for all non-emergency module circuits

SPECIFICATION NO. 57

In addition to the above "preset" switches, each Vista III display shall be capable of up to forty (40) menu screens each with eight (8) "virtual" (i.e. programmable) switches.

These switches shall control a variety of functions such as (but not limited to) Primary / Secondary Lighting, Light bars, Wig Wags, Horn / Siren, specific Flood Lights, Inverter, Electric O2 system, etc.

SPECIFICATION NO. 58

**ATTENDANT'S CONSOLE CONTROL SCREEN:**

The attendant's console control screen shall be a Vista III Color monitor. It shall have seven (7) permanent push-button switches that shall perform the following functions (left to right)...

- A) VACUUM PUMP - switches the on-board electric vacuum pump on or off
- B) INTERIOR LIGHTS - switches all ceiling mounted lighting on or off.
- C) POWER VENT - switches the dual power vent fans on or off
- D) HOME - resets the Vista III Display to the home screen.
- E) SECONDARY MENUS - accesses secondary menus.
- F) HEAT/AC - Accesses the Heat/AC screen for control of the environmental systems
- G) MODULE MASTER - serves as a master control switch for all non-emergency module circuits

In addition to the above "preset" switches, each Vista III display shall be capable of up to forty (40) menu screens each with eight (8) "virtual" (i.e. programmable) switches.

These switches shall control a variety of functions such as (but not limited to) Primary / Secondary Lighting, Light bars, Wig Wags, Horn / Siren, specific Flood Lights, Inverter, Electric O2 system, etc.

SPECIFICATION NO. 59

**WARNING LIGHT SEQUENCER:**

The electrical system shall be provided with the ability to sequence warning light loads both on "startup" and "shutdown" in order to reduce load shock caused by the sudden activation or deactivation of loads.

SPECIFICATION NO. 60

**DRIVER'S CONTROL CONSOLE GAUGES:**

Amp/volt meter readings shall be incorporated into the VMUX Vista III display in the driver's control console. The ammeter shall be capable of indicating a current of at least 200 amperes charging or discharging. Current shall be measured by means of a Hall Effect sensor - a shunt is not acceptable. **No Exceptions**

A 2.00 inch diameter Hoyt digital hour meter with black bezel shall be installed in the driver's console. It shall be wired to operate and record running hours of the chassis engine. The meters must all be installed so that they can be viewed by both driver and passenger.

SPECIFICATION NO. 61

**OPEN DOOR INDICATOR:**

An "open door" indicator system shall be provided in the cab console. It shall be incorporated into the VMUX Electrical system and shall have a visual display on each of the units Vista III monitors indicating which door is ajar. An audible alarm will sound in the cab should the vehicle be taken out of PARK with a door open.

SPECIFICATION NO. 62

**MODULE POWER DISCONNECT SWITCH:**

A TST CDR-357 "On/Off" style master module remote disconnect switch shall be installed in the electrical cabinet and wired to operate with the chassis ignition switch. The battery switch must be capable of carrying the load of the OEM batteries. It shall NOT disconnect battery power to the chassis circuits, but only ambulance conversion added circuits.

SPECIFICATION NO. 63

**ANTENNA COAXIAL CABLE AND GPS ANTENNA:**

The Clark County Fire Department shall supply (3) coaxial cables for the radio equipment and (2) antennas for the GPS system. The termination points for the coaxial cables and GPS antenna are as follow:

Cable #1: From module roof port number #1 to Front console

Cable #2: From module roof port number #2 to Front console

Cable #3: From module roof port number #3 to bulkhead under pass-thru area.

Cable #4: From module roof port number #1 to behind action area switch panel.

GPS Antennas: Above compartment "F" and run to the center console (do not cut coax)

SPECIFICATION NO. 64

**RADIO POWER AND GROUND:**

There shall be Two (2) 12VDC power sources for customer installed radio equipment. They shall be 30 amp and constant hot. They shall terminate (1) behind rear switch panels- Constant HOT- Use 8 gauge wire and (1) to front console- Constant HOT- Use 8 gauge wiring.

There shall be (2) 12VDC power source shall power customer radios equipment. It shall be 30 amp ignition switch (1) terminate inside the center console. (1) shall terminate behind rear switch panels use 8 gauge wiring.

(2) Grounding studs (1) behind rear switch panel (1) center console.

SPECIFICATION NO. 65

**KUSSMAUL AUTO EJECT SHORELINE INLET:**

There shall be (1) Kussmaul P/N 091-55-20-BW 20 AMP auto eject shoreline inlet with a GFI shall be installed and located above the street side center compartment "E". The inlet shall have a White cover. There shall be (1) Green light shoreline indicator installed near the shoreline inlet. The light shall indicate that there is power from the GFI breaker to the shoreline inlet.

SPECIFICATION NO. 66

**115 VOLT AC UTILITY POWER:**

There shall be "No" 115 VAC outlets supplied with the completed vehicle. The 115VAC utility power shall charge the batteries only.

SPECIFICATION NO. 67

**BATTERY CHARGER:**

There shall be (1) Power Source P/N PC-45 45 amp. Battery charger installed. The battery charger shall be located in compartment "E" and wired to the shoreline inlet.

SPECIFICATION NO. 68

**INTERNAL 12 VOLT DC POWER:**

The patient compartment shall be furnished with a 12 volt DC, 20 ampere capacity, separately protected circuit. There shall be (7) outlets. The outlets shall be Cigar lighter style and installed in the following locations:

- (3) Action area - Constant Hot
- (2) Right front stack cabinet -Wall #2 upper outer corner per drawings-Constant Hot.
- (2) Front console - (1) in each front side upper for cell phone charging-Ignition Hot

SPECIFICATION NO. 69

**ELECTRONIC SIREN AND PUBLIC ADDRESS SYSTEM:**

The ambulance shall be equipped with hands free electronic siren with silent testing. The siren shall be (1) Whelen P/N WS-295-SLSA1 electronic siren system. The electronic siren shall be switched through the horn ring.

SPECIFICATION NO. 70

**CAST PRODUCTS SIREN SPEAKERS:**

There shall be (2) Cast Products P/N SA5403 siren speakers installed in the outboard wings of the front bumper.

SPECIFICATION NO. 71

**FEDERAL SIGNAL Q2B MECHANICAL SIREN:**

The ambulance shall also be equipped with a Federal Signal P/N Q2B mechanical siren in the center of the front bumper. The Mechanical siren shall be ignition hot only to operate when the unit is in gear. To facilitate the installation of the Q2B siren, the front bumper shall be extended approximately 6.00 inches with a diamond plate closeout to present a finished appearance.

The Federal Signal Q2B shall be switched with a foot switch located on the driver's floor.

SPECIFICATION NO. 72

**AIR HORN ACTIVATION**

The air horns installed on the chassis shall be (2) Freightliner OEM Grover 24.00 inch air horns plumbed to the Freightliner OEM air compressor and air tank. The air horns shall be activated with the master switch in the ON position only. The air horns shall be activated by a separate momentary floor switch drivers side.

SPECIFICATION NO. 73

**BACKUP ALARM**

A backup alarm with a cut off switch shall activate when the vehicle is shifted into reverse. The alarm shall automatically be reset and engage when the vehicle is placed in reverse again. SAE 97 dB-a at 4'

SPECIFICATION NO. 74

**BASIC EXTERIOR LIGHTING:**

The basic exterior ambulance lighting shall comply with FMVSS standard number 108 and the requirement herein and include:

1. Amber front, rear directional signals, red brake and hazard warning lights.
2. Front and rear side marker lights.
3. Back up light(s).
4. Loading lights.
5. Clearance lights
6. Ambulance emergency lights.
7. Flood lights.
8. Spotlight(s)

Note: The rear side marker light shall be a minimum of two inches in diameter and shall function as a turn signal indicator as described in the current Federal Ambulance Specification KKK-A-1822F certification requirements.

SPECIFICATION NO. 75

**WHELEN OS SERIES LED LICENSE TAG LIGHTS**

There shall be (2) Whelen P/N 0SC0EDCR OS series LED license tag lights installed on either side of the rear license plate.

SPECIFICATION NO. 76

**WHELEN 600 SERIES HALOGEN REVERSE LIGHTS:**

There shall be (2) Whelen P/N 60J000CB 600 series halogen series reverse lights installed on the rear of the module body. They shall be located on the rear of the module just above the kick plate in Whelen P/N CAST3 vertical polished cast aluminum housing. A waterproof connection to the OEM tail light harness is required.

SPECIFICATION NO. 77

**WHELEN 600 SERIES LED STOP TAIL LIGHTS:**

There shall be (2) Whelen P/N 60R00BRR Red 600 series LED tail stop lights installed on the rear of the module body.

They shall be located on the rear of the module above the kick plate in Whelen P/N CAST3 vertical polished cast aluminum housing. A waterproof connection to the OEM tail light harness is required.

SPECIFICATION NO. 78

**WHELEN 600 SERIES LED TURN SIGNAL LIGHTS:**

There shall be (2) Whelen P/N 60A00TAR Amber 600 series LED Arrow turn signal lights shall be installed on the rear of the module body. They shall be located on the rear of the module above the kick plate in Whelen P/N CAST3 vertical polished cast aluminum housing. A waterproof connection to the OEM tail light harness is required.

SPECIFICATION NO. 79

**WHELEN 700 SERIES LED SIDE TURN SIGNAL LIGHTS:**

There shall be (2) Whelen P/N 70A00TAR Amber 700 series LED Arrow lights installed on the sides of the module body. They shall be located in Cast CO4500-3 angled light housings over the rear wheels.

SPECIFICATION NO. 80

**WHELEN I.C.C. MARKER LIGHTS**

There shall be (7) Whelen P/N 0SA00SCR Amber Mini OS lights installed as I.C.C. clearance lights on the front of the module body.

There shall be (7) Whelen P/N 0SR00SCR Red Mini OS lights installed as I.C.C. clearance lights on the rear of the module body.

There shall be (2) Whelen P/N OSR00SCR Red LED Mini OS lights installed on the rear bumper pontoons.

SPECIFICATION NO. 81

**EMERGENCY LIGHTING:**

The emergency lighting system must provide the vehicle with 360 degrees of visual warning ability. The system must display highly perceptible and attention getting signals that function in a modal system and convey the message in the primary mode to clear the right of way. In the secondary mode hazard vehicle stopped on right of way.

These lights shall function in a dual mode system as shown in the current Federal Ambulance Specification KKK-A-1822F certification requirements and meet the physical and photo metric requirements.

SPECIFICATION NO. 82

**PHOTO METRIC AND PHYSICAL REQUIREMENTS:**

As specified by the current Federal Ambulance Specification KKK-A-1822-F certification requirements. **No Exceptions**

SPECIFICATION NO. 83

**GTT OPTICOM TRAFFIC EMITTER:**

There shall be (1) GTT P/N 794 "Opticom" traffic emitter installed on the bottom of the condenser housing. This emitter shall be activated by the warning light switch when the vehicle has the parking brake released.

SPECIFICATION NO. 84

**WHELEN M9 SERIES RED LED FLASHING WARNING LIGHTS:**

There shall be (7) Whelen P/N M9 series Red Super LED lights with (clear) lenses in Chrome bezel located at each of the following locations;

- (1) Front of module body street side outboard
- (1) Streetside upper corner
- (1) Curbside upper corner
- (1) Rear of module body at window level curbside
- (1) Rear of module body above tail lights street side
- (1) Curbside angle area of auxiliary condenser
- (1) Streetside outboard front

SPECIFICATION NO. 85

**WHELEN M9 SERIES AMBER LED FLASHING WARNING LIGHTS:**

There shall be (2) Whelen P/N M9A M9 series Amber Super LED lights with Amber lenses in Chrome bezel located at each of the following locations;

- (1) Rear of module body at window level streetside

- 
- (1) Rear of module body just above tail lights curbside
- 

SPECIFICATION NO. 86

**WHELEN M9 SERIES RED / CLEAR LED FLASHING WARNING LIGHT:**

There shall be (1) Whelen P/N M9D M9 series Red/Clear Super LED light with a Clear lens in Chrome bezel located at each of the following locations;

- (1) Streetside grille area.
- 

SPECIFICATION NO. 87

**WHELEN M9 SERIES BLUE / CLEAR LED FLASHING WARNING LIGHT:**

There shall be (1) Whelen P/N M9E M9 Blue/Clear Super LED light with a Clear lens in Chrome bezel located at each of the following locations;

- (1) Curbside grille area.
- 

SPECIFICATION NO. 88

**WHELEN M9 SERIES BLUE LED FLASHING WARNING LIGHTS:**

There shall be (5) Whelen P/N M9 series Blue Super LED lights with a clear lenses in Chrome bezel located at each of the following locations;

- (1) Front of module curbside outboard
  - (1) Upper rear street side
  - (1) Upper rear curbside
  - (1) Streetside angled area of the auxiliary condenser
  - (1) Curbside outboard front.
- 

SPECIFICATION NO. 89

**WHELEN M7 SERIES RED / CLEAR LED FLASHING WARNING LIGHTS:**

There shall be (2) Whelen P/N M7D M7 series Red/Clear Super LED lights with Clear lenses in Chrome bezel installed at each of the following locations:

- (1) Streetside front cab corner
  - (1) Curbside front cab corner.
- 

SPECIFICATION NO. 90

**WHELEN M4 SERIES RED LED FLASHING WARNING LIGHTS:**

There shall be (5) Whelen P/N M4 series Red Super LED light with a clear lenses in Chrome bezel located at each of the following locations;

- (2) Rear of the module across the top in the outboard and inboard positions on the street side.
  - (1) Rear of the module across the top in the center position on the curb side.
  - (1) Curbside above the rear wheel well
  - (1) Streetside above the rear wheel well
-

SPECIFICATION NO. 91

**WHELEN M4 SERIES BLUE LED FLASHING WARNING LIGHTS:**

There shall be (5) Whelen P/N M4B M4 series Blue Super LED lights with a clear lenses in Chrome bezel located at each of the following locations;

(2) On the rear of the module across the top in the outboard and inboard positions on the curbside.

(1) Rear of the module across the top in the center position on the street side

(2) on the sides of the module at the forward compartments at the same height as the rear intersection lights over the rear wheels.

SPECIFICATION NO. 92

**WHELEN 900 SERIES LED SCENE AND LOADING LIGHTS:**

There shall be (6) Whelen P/N 9SC0ENZR 900 series Clear LED lights installed. Flood and loading lights shall not be less than seventy-five inches above the ground and shall not be obstructed by open doors.

The (4) side scene lights shall be controlled from the cab console and be independently switched per side. The (1) rear loading light shall be activated with the vehicle in reverse or when the rear doors are opened and independently switched.

The lights shall be installed at the following locations

(2) Streetside between warning lights

(2) Curbside between warning lights

(1) Center of auxiliary condenser frame.

(1) Rear center above the rear doors.

SPECIFICATION NO. 93

**ENVIRONMENTAL SYSTEMS:**

Due to the extreme temperatures in the southern Nevada area the ambulance shall be equipped with heating, ventilating, and air conditioning systems that operate using re-circulated air and ambient air and shall be capable of maintaining interior temperature within the established comfort zone of 68 degrees Fahrenheit 78 degrees Fahrenheit while operating between 0 degrees and 95 degrees Fahrenheit ambient. Environmental system components shall be readily accessible for servicing at the installed location. The airflow selector switch shall provide a high, medium and low setting. The switch shall be a common switch for both the heater and air conditioner. These environmental control switches shall be immediately accessible to the attendant while seated in the primary attendant seat located at the head of the primary patient.

The module control thermostat shall be located on a removable panel above the action wall. The system shall automatically maintain the set module temperature every time the vehicle is operated. The combo air conditioning /heating shall be located in the top of the right front cabinet. The system shall have a custom auxiliary condenser to increase the efficiency of the system.

The auxiliary condenser shall be in a fabricated housing designed to hold a Hoseline condenser on the front of the module and allow for additional lighting mounted on the housing. The auxiliary housing measures approximately 65.38 inches along the rear (box side) and 40.50 inches on the forward facing side. The housing is 12.38 inches deep by 9.00 inches high. There are two angled portions to allow for additional lighting for intersection clearing 17.55 inches by 9.00 inches at an approximate angle of 45 degrees. The condensers shall be Hoseline P/N 2050D. They shall provide 2948 CFM of air flow across the condenser cooling coils with four 12VDC fans and provide 50,000 BTU's of cooling for the 12V side.

SPECIFICATION NO. 94

**VEHICLE SEVERE WEATEHR INSULATION PACKAGE:**

The primary manufacturer shall supply an insulating material that is non-flammable with a Class A, Class 1 fire rating. It shall be certified to meet the smoke and flammability requirements of FMVSS 302. Due to the extreme temperatures in southern Nevada a severe weather insulation package is required. The exposed walls of the exterior compartments and wheel wells that intrude into the interior of the modular shall be covered with reflective insulating material with a value of R-14. The side, front, rear, walls as well as the ceiling shall be insulated with one inch block dense foam beneath a full covering of reflective insulation. In addition, one inch dense block foam insulation shall be installed under the aluminum floor moisture barrier and between the floor structures. The insulation shall be protected from road debris by an additional aluminum moisture barrier under the insulation. **No Exceptions**

SPECIFICATION NO. 95

**WELDON HALOGEN INTERIOR DOMELIGHTS:**

There shall be (7) Weldon P/N 8046 dual intensity halogen lights installed in the patient compartment headliner. There shall be (4) lights located over the primary patient stretcher and (3) over the squad bench. These lights shall be mounted into the patient compartment head liner and shall not protrude into the patient compartment. The overhead shall have two levels of intensity, high and low settings. The attendant shall be able to control the level of light via switches in the action area control panel. The dual lighting shall work together or may be separately selected from side to side. The (4) lights over the primary patient shall illuminate on the low setting when the side modular or rear modular doors are open. Certification shall be provided by an independent testing laboratory with this proposal.

SPECIFICATION NO. 96

**ACTION AREA LIGHT:**

There shall be (1) Kinequip P/N 440912W Red / Clear LED 4.00 inch surface mounted light installed in the action area. The fixture shall have a built-in switch.

SPECIFICATION NO. 97

**FLUORESCENT LIGHTING**

There shall be (3) Liteco P/N 17918190 18.00 inch fluorescent lights located in a line parallel to the overhead grab rail in the ceiling headliner. The lights shall be switched from the rear control panel.

SPECIFICATION NO. 98

**HANDHELD SPOTLIGHT:**

There shall be (1) Blue Eye P/N QH3000 hand held spotlight provided with a minimum of three hundred thousand candle power lamp. It shall be in a corrosion proof housing with a protected momentary switch to prevent accidental activation. A minimum eight feet of heavy duty coiled cord will be supplied and it shall be hard wired in the cab area and accessible to the driver and passenger.

SPECIFICATION NO. 99

**WHELEN LED COMPARTMENT LIGHTS**

There shall be (13) Whelen P/N 20C0DCR 4.00 inch round super LED grommited compartment lights installed as follows:

- (1) Compartment F- top of the compartment
- (1) Compartment E- top of the compartment
- (2) Compartment SS WW- (1) above and below shelves
- (2) Compartment D- (1) top of compartment and (1) side of compartment.
- (1) Compartment B1
- (1) Compartment CSWW - squad bench at rear for curbside wheel well door

(2) Compartment B2 - each side of divider

(3) Compartment A - wall #3 of compartment to illuminate shelving.

SPECIFICATION NO. 100

**CHECK OUT TIMER:**

An electronic 15 minute timer shall be installed, with the activation switch on the interior wall just inside the curb side access door. The timer shall be wired constant hot and shall power the fluorescent lights in the liner.

SPECIFICATION NO. 101

**ELECTRICAL TROUBLESHOOTING LIGHT:**

There shall be (1) small light with a switch installed in the circuit board area for troubleshooting. The light shall be wired battery hot.

SPECIFICATION NO. 102

**6.00 INCH ROUND BATTERY POWERED CLOCK:**

There shall be (1) 6.00 inch round Trinitec illuminated clock in the action area control panel. The clock shall be powered by a 12 Volt battery.

SPECIFICATION NO. 103

**SUCTION PUMP/OXYGEN METER:**

There shall be (1) suction pump installed that shall comply with the current Federal Ambulance Specifications KKK-A-1822-F certification requirements. (1) Oxygen flow meter, ball style with Ohio adapter.

SPECIFICATION NO. 104

**SUCTION ASPIRATOR:**

The ambulance shall be equipped with an on board vacuum aspirator. The unit shall be mounted on the action area wall above the action area tray and hard wired. The unit shall be a SSCOR P/N 22000 with a stainless steel container holder. The container shall be disposable and the regulator panel shall be located in the action area panel. The on/off switch shall be located in the attendant's console. A vacuum port shall also be located in the action area to supply the vacuum to the suction container.

SPECIFICATION NO. 105

**OXYGEN CYLINDER RACK:**

There shall be (1) Zicometic P/N QR-MV oxygen cylinder rack located in compartment "F". The rack shall be set up for an "M" oxygen cylinder. Shall be mounted off floor of compartment

SPECIFICATION NO. 106

**OXYGEN, MAIN SUPPLY AND INSTALLATION**

The ambulance shall have a hospital type piped oxygen system capable of storing and supplying three thousand liters of medical oxygen.

The cylinder controls shall be accessible from inside the patient compartment. There shall be a preset 50 PSI regulator installed on the end of the oxygen hose for easy connection to the oxygen bottle. The pressure gauge shall be visible from either the attendant's seat or from the squad bench. The oxygen shall be piped to two self-sealing Ohio adaptable oxygen outlets located in the action area and one located on the curbside wall at the head of the squad bench. There shall be an electric oxygen switch in the action area that shall engage a solenoid to open and close a valve on the oxygen tank. It shall also include a manual bypass knob in the action area in the event of an electric oxygen malfunction. The oxygen system will incorporate electrically conducted oxygen hose with a working pressure of one hundred and fifty pounds per square inch. All oxygen hose and outlets will use machine crimped brass ferrules and high pressure connectors.

The entire oxygen delivery system will be pressured tested with a minimum of one hundred and fifty pounds per square inch of pressure of nitrogen gas for a period of four hours. The testing documentation will be delivered with the vehicle.

SPECIFICATION NO. 107

**PORTABLE OXYGEN CYLINDER HOLDERS:**

There shall be (2) Ferno-Washington P/N FW-521 single bottle cylinder holders located on the walk through area along the right front cabinet wall.

SPECIFICATION NO. 108

**OVERHEAD GRABRAIL:**

There shall be (2) overhead grab rails installed in the patient compartment head liner. The grab rails shall be brushed stainless steel and handicapped style with rounded ends. The center grab rail shall be a minimum of 117.00 inches long and the secondary grab rail shall be 59.00 inches long and mounted over the edge of the squad bench.

SPECIFICATION NO. 109

**ENTRY DOOR GRAB HANDLES:**

There shall be (3) "L" shaped grab handles installed on the (3) entry doors.. The vertical portion of the "L" shall be close to the hinge of the door and run the full length of the upper window in the door. The horizontal portion of the "L" shall be located just under the upper window. The grab handles shall be 1.00 inch diameter brushed stainless steel and handicapped style.

SPECIFICATION NO. 110

**EXTERIOR GRAB HANDLE:**

There shall be (1) grab handle installed on the exterior of the module just aft of the curbside door. The handle shall be 1.00 inch diameter aluminum x 13.50 inches long.

SPECIFICATION NO. 111

**PATIENT RESTRAINT ANCHORAGE GUIDELINES:**

Patient restraints shall comply with the current Federal Ambulance Specification KKK-A-1822-F requirements.

SPECIFICATION NO. 112

**IV HOLDERS FOR INTRAVENOUS FLUID CONTAINERS:**

There shall be (2) Cast Products P/N IV2008-1 recessed fold down IV holders installed in the patient compartment headliner as specified in the current Federal Ambulance Specification KKK-A-1822-F certification requirements.

SPECIFICATION NO. 113

**SHARPS AND WASTE:**

There shall be (1) removable stainless steel "A" shaped stainless steel bar installed at the head of the squad bench that shall hold (1) sharps and (1) waste container.

The sharps container shall be a 5.00 quart container and the waste container shall be a 8.00 quart trash container.

SPECIFICATION NO. 114

**INTERIOR SURFACES:**

All vertical edges of cabinets shall be of an aluminum extrusion with a ¼ inch radius designed to free the interior of the patient's compartment of all sharp edges or projections.

Due to the concern of bloodborne pathogens and the desire of this department to have increased antimicrobial protection the face and inside of the cabinets shall be covered by an Anti-Microbial Kydex commercial grade covering and adhered to the cabinet face by a high quality contact cement adhesive using a thermal press application. The Kydex material shall be pressed together at 200 degrees for four minutes in a thermal platen press. There shall be no voids of the adhesive between the Kydex and the cabinet surfaces.

In addition the interior of the cab, patient compartment, interior of the patient compartment cabinets and all exterior compartments shall be treated with an application that is guaranteed in writing to be active and effective on the treated

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surfaces for 5 years. The application is to provide long term protection from a broad spectrum of microorganisms including strep, influenza, E.Coli, salmonella, H1N1, MRSA and Norovirus. **No Exceptions**

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#### SPECIFICATION NO. 115

##### **CABINET CONSTRUCTION:**

The construction material for the interior cabinets, squad bench assembly, shelves and doors shall be Thermolite composite material. Wood or wood

by-products will not be allowed. The material shall be lightweight, non-absorbent, have insulating properties and resistant to contamination. The material used in the construction of the cabinets shall not de-laminate, splinter, enlarge or warp and shall be fire retardant per UL-94HB. The thickness of the finished panels used to construct the cabinets, shelves and doors shall be 3/4 inches including Kydex and adhesive. Any construction material that provides anything less than 3/4 inch panels in cabinet construction is not acceptable to the Clark County Fire Department. **No Exceptions.**

The squad bench lid shall be attached to the squad bench assembly via a stainless steel piano hinge the entire length of the bench. The squad bench shall be equipped with a locking device to automatically secure the lid upon closing. The patient compartment wall panel (behind the squad bench) and the cab compartment wall panel shall be constructed of 1/4 inch non-wood material and covered with color coordinating Anti-Microbial, Anti-Bacterial and Anti-Fungal Kydex material. The color shall be Sterile Linen P/N KD18800

The cabinets shall be constructed using 8 mm dowels placed no farther than 32 mm apart. The doors on the upper cabinets shall be surface mounted with European hinges. The doors on the center and lower cabinets shall be flush mounted using continuous stainless steel piano hinge and a 3 mm edge banding.

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#### SPECIFICATION NO. 116

##### **INTERIOR STORAGE ACCOMMODATIONS:**

The interior of the patient compartment shall provide but not be limited to a minimum volume of thirty cubic feet of enclosed cabinets. Interior cabinet, shelf and compartment space shall be conveniently located for medical supplies, devices or other equipment. All interior cabinets shall be fully lined inside with Anti-Microbial Kydex material. The equipment and supplies necessary for airway management shall be within easy reach of the medic at the head of the stretcher.

All storage cabinets shall be easily opened but shall not come open during transit. The cabinets shall be accessible through a variety of door options.

When specified to be Lexan, the doors shall be reciprocating horizontal sliding Lexan doors. The door shall be transparent to permit viewing of supplies and the door shall open with a grab anywhere device. The handle shall run the full vertical length of the Lexan. The Lexan shall be three sixteenths of an inch in thickness and shall be enclosed in an extruded aluminum frame. The frame shall cover the entire perimeter of the cabinet opening and the Lexan set within the frame on a track lined with a material to prevent the Lexan from sliding open and shut during transport.

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#### SPECIFICATION NO. 117

##### **MODULAR HEADROOM:**

The module shall be constructed so that the distance from the finished floor to the finished ceiling inside the unit shall be 74.00 inches in height. **No Exceptions**

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#### SPECIFICATION NO. 118

##### **MODULE HEADLINER:**

The module headliner shall be manufactured out of expanded PVC material for ease of cleaning. The liner shall be white and installed to allow flush mounting of the interior lighting. **No Exceptions**

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#### SPECIFICATION NO. 119

##### **MODULE FLOOR:**

A top floor of one half inch Thermolite board shall be placed over the moisture shield. The Thermolite board shall be nonabsorbent, resistant to contamination, will not rot, lightweight, will not delaminate, and has excellent structural capability. The Thermolite board shall be securely anchored to the floor sub structure with one quarter inch UNF machine by two and one half inch screws. The flooring shall extend the full length and width of the patient compartment

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including space under the cabinets. Wood is not acceptable. **No Exceptions**

SPECIFICATION NO. 120

**FLOOR COVERINGS:**

The patient compartment floor covering shall be a heavy duty material that is impervious to fluids. The flooring shall be glued to the plywood floor using an adhesive compound. The flooring shall be Lonplate and the color shall be Gray #164. There shall be no adhesive voids between the flooring and the Thermolite material. The floor shall be designed to roll up the side of the street side and bulk head cabinets and squad bench.

SPECIFICATION NO. 121

**ATTENDANT SEATING:**

Seating for the attendant shall consist of a contoured high back padded bucket seat. The seat covering shall be an easy clean vinyl material and be impervious to blood borne pathogens and other contaminants. Therefore, cloth seats or seats with welting seams or visible stitching will not be accepted. The vinyl color shall be Gunmetal Gray. Seating must meet OSHA regulation 1910.1030. The seat belt must be certified to the current Federal Ambulance Specification KKK-A-1822-F certification requirement and to FMVSS and shall have an integrated three-point harness. An integrated child safety seat shall be incorporated in the seat. Installation shall comply with FMVSS. The seat shall be mounted on a swivel base.

SPECIFICATION NO. 122

**UPHOLSTERY:**

The finish of the entire patient's compartment, including storage cabinets and equipment, shall be impervious to soap and water, disinfectants, bio fluids, mildew and shall be fire resistant per FMVSS 302. Upholstered cushions shall be a minimum of thirty two ounce nylon reinforced commercial vinyl material.

Squad bench cushions and attendant seat and backrest cushions shall be fabricated in such a manner to eliminate exposed welting. Cushions with welting or beaded seams shall not be accepted due to the risk of bio fluid penetration. The color of the upholstery shall be Gunmetal Gray. **No Exceptions**

SPECIFICATION NO. 123

**FRONT BULKHEAD CABINET:**

A bulkhead cabinet shall separate the cab from the patient compartment. There shall be a window in the bulkhead for visual checking and voice communications between the cab and the patient compartment. The window shall be at least 150.00 square inches. The window shall be an adjustable, transparent, and shatterproof panel.

SPECIFICATION NO. 124

**INTERIOR OXYGEN VIEWING DOOR:**

There shall be a Lexan door installed on the oxygen viewing opening in the left bulkhead area on the back side of the compartment "F" for access to the oxygen tank valve and regulator area.

SPECIFICATION NO. 125

**GLOVE HOLDER CABINETS:**

A cabinet shall be installed above the curb side entry door to hold three boxes of gloves. Each glove box shall be accessed through a hole in a Lexan flip up door. The boxes shall be replaced by lifting up the door.

A cabinet shall be installed above the rear entry door to hold two boxes of gloves. Each glove box shall be accessed through a hole in a Lexan flip up door. The boxes shall be replaced by lifting up the door.

SPECIFICATION NO. 126

**RIGHT FRONT CABINET "E":**

The right front cabinet shall house the Heating and Air Conditioning unit which shall be located in the upper portion of the cabinet. The lower cabinet shall be open for inside access to the upper portion of compartment "A" The right front cabinet

shall not have any doors. The opening shall be trimmed with an aluminum extrusion.

SPECIFICATION NO. 127

**LEFT FRONT CABINET AA1/AA2**

The left front cabinet shall house the radio equipment and inverter which shall be located in the lower portion of the cabinet. The upper cabinet shall have sliding Lexan doors and one (1) shelf for additional storage. The lower cabinet shall have dual hinged vented doors with a non-locking lever latch.

SPECIFICATION NO. 128

**SQUAD BENCH CABINET:**

The squad bench cabinet shall be located on the curb side of the patient compartment over the rear wheel well. The squad bench shall be a minimum of 72.00 inches long and be constructed of three quarter inch composite. The lid shall be attached to the squad bench assembly via a stainless steel piano hinge the entire length of the bench. The hinge shall attach with fasteners in a vertical position through the face of the lid and not through the edge of the cabinet and lid. The squad bench shall be equipped with a locking device to automatically secure the lid upon closing. The squad bench shall be furnished with three sets of lap safety belts for seated occupants and for the retention of a cot when positioned on the squad bench. The anchorages for the side facing seat belt assembly shall withstand a minimum of 2,500 pounds force when tested in accordance with FMVSS 210-S5.1. A full length cushion shall be installed on the squad bench lid and on the wall as a back rest. The interior of the squad bench shall provide storage.

The squad bench shall have a full length lid that shall be manufactured from three quarter inch composite material. The lid shall be covered in color coordinating high pressure laminate.

The squad bench lid shall be secured with a paddle handle that latches automatically when the squad bench lid is closed. The latch shall hold the lid secure during transit and shall not open unless the handle is lifted. When the squad bench lid is lifted, it shall be held in place by a mechanical hold open.

SPECIFICATION NO. 129

**SQUAD BENCH CABINET**

There is no full cabinet over the squad bench required. See specification No. 132

SPECIFICATION NO. 130

**CURBSIDE CABINET "R" REAR OVER SQUAD BENCH:**

There shall be a cabinet located on the forward facing wall at the foot of the squad bench. The cabinet shall be 24.00 inches high x 21.00 inches wide x 10.00 inches deep. The cabinet shall have sliding Lexan doors and (1) adjustable shelf.

SPECIFICATION NO. 131

**STREETSIDE REAR MIDDLE CABINET "H":**

Cabinet "H" shall be located on the street side of the patient compartment. It shall be the rear most middle cabinet and shall be 24.00 inches high x 38.75 inches wide x 10.00 inches deep. The cabinet shall have sliding Lexan doors and (1) adjustable shelf.

SPECIFICATION NO. 132

**STREETSIDE REAR LOWER CABINET "I":**

Cabinet "I" shall be located on the street side of the patient compartment. It shall be the rearmost lower cabinet and shall be 24.00 inches high x 38.75 inches wide x 10.00 inches deep. The cabinet shall have sliding Lexan doors.

SPECIFICATION NO. 133

**STREETSIDE MIDDLE CABINET "M":**

Cabinet "M" shall be located on the street side center of the patient compartment. It shall be the middle cabinet just forward of compartment "D" and shall be 24.00 inches high x 26.00 inches wide x 10.00 inches deep. The cabinet shall have sliding Lexan doors.

SPECIFICATION NO. 134**STREETSIDE MIDDLE CABINET "N":**

Cabinet "N" shall be located on the street side of the patient compartment. It shall be the center cabinet just to the rear of the action area and shall be 24.00 inches high x 26.00 inches wide x 10.00 inches deep. The cabinet shall have sliding Lexan doors.

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SPECIFICATION NO. 135**STREETSIDE REAR UPPER CABINET "J":**

Cabinet "J" shall be located on the street side of the patient compartment. It shall be the rear upper cabinet just above cabinet "M" and shall be 12.00 inches high x 32.00 inches wide x 21.25 inches deep. The cabinet shall have sliding Lexan doors.

The cabinet "J" shall have restocking doors. The restocking feature on these cabinets shall allow for the aluminum frame to lift up for easy restocking of the cabinet.

The frame shall lift open hinging at the top and be kept open by two 20 pound pneumatic pistons. The pistons shall keep the frame in the open position to allow for restocking. The frame shall latch when in the closed position with a positive mechanical latch.

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SPECIFICATION NO. 136**STREETSIDE UPPER CABINET "K":**

Cabinet "K" shall be located on the street side of the patient compartment. It shall be the second from rear upper cabinet just above cabinet "M" and shall be 12.00 inches high x 52.00 inches wide x 21.25 inches deep. The cabinet shall have sliding Lexan doors.

The cabinet "K" shall have restocking doors. The restocking feature on these cabinets shall allow for the aluminum frame to lift up for easy restocking of the cabinet. The frame shall lift open hinging at the top and be kept open by two 20 pound pneumatic pistons. The pistons shall keep the frame in the open position to allow for restocking. The frame shall latch when in the closed position with a positive mechanical latch.

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SPECIFICATION NO. 137**STREETSIDE FORWARD UPPER CABINET "L":**

Cabinet "L" shall be located on the street side of the patient compartment. It shall be the forward upper cabinet just above the action area. The cabinet shall be divided into two separate cabinets "L1" and "L2". Cabinets "L1" and "L2" shall be equal in size 12.00 inches high x 32.00 inches wide x 18.75 inches deep. The cabinets shall have sliding Lexan doors.

The cabinet "L" shall have restocking doors. The restocking feature on these cabinets shall allow for the aluminum frame to lift up for easy restocking of the cabinet. The frame shall lift open hinging at the top and be kept open by two 20 pound pneumatic pistons. The pistons shall keep the frame in the open position to allow for restocking. The frame shall latch when in the closed position with a positive mechanical latch.

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SPECIFICATION NO. 138**ACTION AREA CONSOLE:**

There shall be a console in the action area of the rear patient compartment to house the switches. The console shall be manufactured out of 3/4" Thermolite and be angled so that the switches will be easily accessible from the attendant seat.

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SPECIFICATION NO. 139**ACTION AREA TRAY:**

The top of the action area cabinet shall provide a clean work area. The countertop shall be one piece with a one inch lip around the tray manufactured from Avonite or equal material

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SPECIFICATION NO. 140

**TESTING GUIDELINES:**

The primary manufacturer is obligated to prove that the vehicle, ambulance components and equipment provided meet the requirements of this specification and are compliant to the current Federal Ambulance Specification KKK-A-1822F certification requirements and any amendments in effect at the time of this bid. Copies shall be provided with this of the test documents and a letter from an independent testing laboratory that has performed the tests certifying that the following tests have been conducted and passed. Test documents or any source other than described above shall not be accepted. Failure to comply with the requirement shall be considered as non-responsive and will not be accepted. The certified tests are as follows and conform to the requirements of this specification and the current Federal Ambulance Specification KKK-A-1822F requirements.

SPECIFICATION NO. 141

**STRYKER COT MOUNT:**

There shall be (1) Stryker Medical dual position cot mount installed and set at delivery in the center mount position for a Stryker MX Pro3 roll in ambulance cot. Shall include the safety hook

SPECIFICATION NO. 142

**STANDARD PATIENT COT :**The following patient cot and options shall be installed:(1) Stryker #6082 MX-PRO R3 Cot to include all floor mounting hardware with the following options, #6082-501-010 Single adjustable wheel lock, #6090-041-010 Bolster mattress, #6091-955-016 Safety bar lift option, #3-Stage IV pole (patient right ), #6082-128-012 Flat head end storage pouch.

OPTION NO. 1

**UPGRADED PATIENT COT:**

**Substitute for specification #142 replaced with the following:**

6506-000-000	Power Pro XT cot
6500-315-000	3 stage IV Pole (PR)
6500-147-000	Equipment Hook
6500-128-000	Head End Storage Flat
6500-082-000	Knee Catch
6500-130-000	Pocketed Storage Pouch
6506-038-000	Steer-Lock
6506-040-000	XPS Side Rail
6506-027-000	Power Load Compatibility Kit

OPTION NO. 2

**PATIENT COT POWER LOAD SYSTEM:**

**Provide and install the Stryker model 6390-000-000 full Power-Load system. Shall include all necessary mounting hardware 6390-700-001 floor plate kit, 6390-700-003 Antler bolt kit.**

## CURRENT PRODUCTION MODEL 300 GALLON 4X4 (TYPE SIX SQUAD UNITS)

SPECIFICATION NO. 1

**GENERAL CONSTRUCTION:** The apparatus shall be designed with due consideration to distribution of load between the front and rear axles, so that all specified equipment, including filled water tank, a full complement of personnel and fire hose will be carried without injury to the apparatus. Weight balance and distribution shall be in accordance with the recommendations of NFPA 1901. (MAX HEIGHT NOT TO EXCEED 8'3")

SPECIFICATION NO. 2

**PERFORMANCE TESTS AND REQUIREMENTS:**A road test shall be conducted with the apparatus fully loaded and a continuous run of ten miles or more will be made, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. The successful bidder shall furnish a Weight Certificate showing weights on front axle, rear axles and total weight for the completed apparatus at time of delivery.

A. The apparatus shall be capable of accelerating to 35 MPH from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.

B. From a steady space of 15 MPH the vehicle shall accelerate to 35 MPH within 30 seconds. This shall be accomplished without moving the gear selector.

C. The service brakes shall be capable of stopping the fully loaded vehicle in 35 feet at 20 MPH on level dry concrete highway.

D. The apparatus, fully loaded, shall be capable of obtaining a minimum speed of 50 MPH on a level dry concrete highway with the engine not exceeding its governed RPM (fully loaded).

E. If optioned, the apparatus shall be tested and approved by the Underwriter's Laboratories Incorporated in accordance with their standard practices for pumping engines.

F. The Contractor shall furnish copies of the Pump Manufacturer's Certification of hydrostatic test, the Engine Manufacturer current certified brake horsepower curve, and the Manufacturer's record of pumper construction details when delivered.

If optioned, the vendor, at their expense, shall have the Underwriter's Laboratories Incorporated conduct the tests required by the Underwriter Laboratories Incorporated (Guide for the Certification of Fire Department Pumper subject 822 dated 1995 or latest). A copy of all tests shall accompany the Apparatus.

The contractor shall supply the final manufacturer's furnished certification of GVWR and GAWR on a nameplate affixed to the vehicle.

A permanent plate shall be mounted in the driver's compartment to specify the quantity and type of the following fluids used in the vehicle: Engine oil, engine coolant, chassis transmission fluid, pump transmission lubrication fluid, pump primer fluid (if used) and drive axle lubrication fluid.

A permanent plate in the driver's compartment shall be installed, specifying the seating capacity of the enclosed cab.

Signs that state "OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION" shall be provided and will be visible from each seated position. An accident prevention sign shall be located at the rear step area of the apparatus. It shall warn all personnel that standing on the step while apparatus is in motion shall be prohibited.

A nameplate indicating the chassis transmission shift selector position to be used when pumping shall be provided in the driving compartment and located so that it can be easily read from the driver's position.

The apparatus shall be designed so that the operator could perform all recommended daily maintenance checks easily without the need for hand tools. Apparatus components that interfere with repair or removal of other major components must be attached with fasteners (cap, screws, nuts, etc.) so that the components can be removed and installed with normal hand tools. These components must not be welded or otherwise

permanently secured into place.

The GAWR and GVWR of the chassis shall be adequate to carry the fully equipped apparatus including all tanks filled, the specified hose load, unequipped personnel weight, ground ladders and a miscellaneous equipment allowance per NFPA criteria. It shall be the responsibility of the purchaser to provide the contractor with the weight of equipment to be carried if it is in excess of the allowance as set forth by NFPA.

The unequipped personnel weight shall be calculated at 250 lbs. per person times the maximum number of persons to ride on the apparatus.

The height of the fully loaded vehicle's center of gravity shall not exceed the chassis manufacturer's maximum limit.

The front to rear weight distribution of the fully loaded vehicle shall be within the limits set by the chassis manufacturer. The front axle loads shall not be less than the minimum axle loads specified by the chassis manufacturer, under full loads and all other loading conditions. The difference in weight on the end of each axle, from side to side, when the vehicle is fully loaded and equipped shall not exceed 7 percent.

The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair.

Where special tools manufactured or designed by the contractor and are required to provide routine service on any component of the apparatus built or supplied by the contractor, such tools shall be provided with the apparatus.

### SPECIFICATION NO. 3

**CHASSIS WARRANTY:** A 3year 50,000 mile chassis warranty shall be provided

**TWO (2) YEAR BODY WARRANTY:** A warranty shall be offered for each new fire apparatus manufactured for a period of two (2) years from the date of delivery.

**STRUCTURAL WARRANTY – ALUMINUM BODY WARRANTY:** A structural warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years

**PLUMBING WARRANTY:** A Stainless Steel Plumbing/Piping warranty shall be offered for each new fire apparatus manufactured for a period of ten (10) years from the date of delivery.

**PAINT WARRANTY:**A ten (10) year limited paint warranty shall be provided by the apparatus manufacture.

**ELECTRICAL WARRANTY:** A seven (7) year electrical warranty shall be provided by the apparatus manufacture.

**WATER TANK WARRANTY:** A 20 year warranty shall be provided by the apparatus manufacture for the water and foam tank.

### SPECIFICATION NO. 4

**FLUID DATA PLAQUE:**A fluid data plaque containing required information shall be provided based on the applicable components for this apparatus, meeting current NFPA Standards as follows:

- a. Engine oil
- b. Engine coolant
- c. Chassis transmission fluid
- d. Drive axle lubrication fluid
- e. Power steering fluid
- f. Pump transmission lubrication fluid
- g. Other NFPA applicable fluid levels or data as required.

**DIMENSIONS DATA PLAQUE & "NO HELMET" LABEL:** The cab dash area shall have a highly visible plaque indicating the maximum overall height, length, and GVWR of the vehicle in the destination areas unit of measure (SAE or METRIC).

A label stating "DO NOT WEAR HELMET WHILE SEATED" shall be installed in the cab within the view of all occupants.

**NO RIDE" LABEL:**A "NO RIDE" label shall be located on the vehicle at the rear step area or other

applicable areas. The label shall warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.

**PERSONNEL PAYLOAD CAPACITY:** A label shall be installed in cab to denote that five (5) personnel may be carried. For engineering purposes, an allowance of 1250# shall be provided for personnel.

SPECIFICATION NO. 5

**DELIVERY:** To insure proper break-in of all components while still under warranty, the apparatus shall be delivered under its own power. A qualified delivery engineer representing the contractor shall instruct the Fire Department Personnel in the proper operation, care and maintenance of the equipment delivered.

SPECIFICATION NO. 6

**CHASSIS PROFILE:**

Ford F550 4x4 Super Cab  
 161" Wheelbase / 60" Cab to Axle  
 Vinyl Front Bucket seats  
 Pref Equip Pkg  
 XL Decor Pkg Trim  
 Air Conditioner  
 AM/FM/CD/Clk  
 6.7L V8 Diesel  
 6-Speed Automatic  
 Max Trac Tires  
 4.88 Ltd Slip  
 Power Equip Group  
 Tele TT Mir-Pwr  
 19,500# GVWR  
 Engine Block Heater  
 Skid Plates  
 Fire/Rescue Prep  
 200amp Heavy Duty Alternator  
 Max Trac Spare w/Jack

SPECIFICATION NO. 7

**FRONT REPLACEMENT BUMPER:** A Ranch Hand replacement front bumper/grille guard shall be installed. The replacement bumper/grille guard shall be painted black.

**FRONT MOUNT WINCH.** A Warn 15,000# electric winch shall be mounted to the chassis frame extension and be controlled with a 25' remote control switch.

**REAR TOWING HITCH:** Shall have a minimum of a class 3 rated tow hitch with 7way RV plug wiring.

SPECIFICATION NO. 8

**EMBER SEPERATOR:** An Ember Separator shall be provided for the engine air intake in accordance with NFPA.

**CHASSIS EXHAUST EXTENSION:** The chassis exhaust shall be modified and will terminate behind the right rear wheels.

SPECIFICATION NO. 9

**MASTER ELECTRIC SWITCH:** A battery disconnect switch shall be located conveniently to the driver of the apparatus. The switch shall disconnect the power supply from the battery system.

SPECIFICATION NO. 10

**BATTERY CHARGER AND AUTO EJECT:** One (1) Kussmaul model 20 amp 120 volt "auto-eject" shore power receptacle with indicator light shall be installed drivers side. A matching male plug shall be provided and shipped loose with the apparatus. Battery Charger shall be A 45 amp IOTA battery charger wired to the 12 volt battery system.

SPECIFICATION NO. 11

**ROCKER SWITCH PANEL WITH 6 SWITCHES:** A switch panel with six (6) individual rocker switches to control electrical equipment and emergency lighting shall be installed in the chassis cab dash area.

SPECIFICATION NO. 12

**CAB CONSOLE :**A fabricated aluminum electrical console and enclosure shall be provided to house cab mounted electrical switching devices and equipment. The console shall be located between the driver's and the officer's seating.

SPECIFICATION NO. 13

**FOUR DOOR CAB INTERIOR CEILING CLEAR LIGHTS:** Four (4) 5" diameter ceiling mounted lights with a push button switch shall be provided in the cab. The lens color shall be clear and the light shall be mounted on the cab ceiling.

SPECIFICATION NO. 14

**GROUND ILLUMINATION LIGHTS:** Four (4) automatic ground illumination lights shall be installed. One light will be mounted to illuminate each cab door area.

SPECIFICATION NO. 15

**ENGINE COMPARTMENT LIGHT:** A light with a switch shall be mounted in the engine enclosure.

SPECIFICATION NO. 16

**ROUND TUBE STEP BARS:** There will be a set of round tube step bars mounted under the cab doors for ease of entering the cab.

SPECIFICATION NO. 17

**REAR MUD FLAPS:** There shall be a set of mud flaps installed, with no logos, behind the rear chassis wheels.

SPECIFICATION NO. 18

**TOW SHACKLES:** Four (4) r tow shackles shall be installed two at the rear and two at the front of the apparatus to the frame.

SPECIFICATION NO. 19

**DOT REQUIRED EQUIPMENT:** A DOT highway safety kit shall be provided on the vehicle. The kit will contain three (3) collapsible reflective safety triangles.

SPECIFICATION NO. 20

**RETAINER FOR IGNITION KEY:** A retaining cable shall be provided so the vehicle's ignition key cannot be removed from the vehicle.

SPECIFICATION NO. 21

**FIRE PUMP SPECIFICATIONS**

**FIRE PUMP SPECIFICATIONS:** The fire pump shall be a Hale Model HPX100-B18 MaxStream mounted at the rear of the water tank. The unit shall have a Briggs & Stratton 18 horsepower gasoline engine.

The fire pump shall be equipped with a electric starting system, with battery supply from the chassis batteries. A terminal junction connection panel shall be provided for wiring to the pump installation and engine start.

The pump panel shall be separate for the fire pump and plumbing area. The slanted panel shall contain the following:

- Light switch
- Start and stop switch
- Class 1 2.5" Pressure gauge
- Engine controls

The plumbing system shall be of all stainless steel with Victaulic type couplings between the plumbing and the fire pump. All valve handles shall be labeled on valve operations.

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The primer shall be an exhaust type, with controls at rear pump plumbing area.

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SPECIFICATION NO. 22

**FUEL TANK - 3 GALLON**

A 3 gallon plastic fuel tank shall be supplied with the portable pump system. The tank shall be plumbed to the pump engine through a quick disconnect flexible hose suitable for fuel transfer. The tank will be securely mounted.

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SPECIFICATION NO. 23

**FIRE PUMP PLUMBING SYSTEM**

The engine driven fire pump plumbing system shall be built completely of stainless steel piping, stainless steel and/or brass fittings, and connections.

Tank connections, front discharges, and other piping shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

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SPECIFICATION NO. 24

**INTAKE AND DISCHARGE VALVES:** All valves used in the plumbing installation shall be Akron quarter turn full flow type.

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SPECIFICATION NO. 25

**WATER TANK TO PUMP LINE:** A 3" water tank to fire pump line shall be provided with a full flow quarter turn ball valve, 3" piping, and with flex hose and stainless steel hose clamps. The valve control shall be accessible from the pump operation area.

A 2.5" drafting valve shall be provided with a full flow quarter turn ball valve. 2.5" piping shall also be provided.

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SPECIFICATION NO. 26

**FIRE PUMP TO WATER TANK FILL LINE:** A 1" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve with 1" piping and flex hose to tank. The valve control shall be directly on the valve.

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SPECIFICATION NO. 27

**1-1/2" DISCHARGE**

A 1-1/2" discharge shall be provided at the pump control area. The valve shall be a 1-1/2" quarter turn ball valve. The control handle mounted directly on the valve.

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SPECIFICATION NO. 28

**HANNAY 100' ELECTRIC REWIND STEEL HOSE REEL:** A Hannay electric rewind, painted steel booster reel will be provided. The reel capacity shall be 100' of 1" booster hose. One (1) 100' length of 1" REAL TEX BRAND Booster hose shall be supplied. The reel shall be bolted to a mounting system for easy service or removal. The hose reel will face the side of the unit and the hose will pull from either side.

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SPECIFICATION NO. 29

**HOSE REEL ELECTRIC REWIND SWITCH:** The electric rewind control shall be a weather-resistant enclosed momentary push button switch.

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SPECIFICATION NO. 30

**1" HOSE REEL DISCHARGE:** A 1" discharge shall be provided and piped to the hose reel with flexible high pressure hose. The quarter turn ball valve shall be controlled directly at the valve.

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SPECIFICATION NO. 31

**HOSE REEL ROLLERS** : A stainless steel roller assembly shall be provided for the hose reel assembly on both sides of the reel.

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SPECIFICATION NO. 32

**SCOTTY 4071 AROUND THE PUMP (ATP) FOAM SYSTEM:** The Scotty Around-The-Pump (ATP) foam system unit will educt foam concentrate into hose lines. It is mounted between the discharge and suction sides of the pump. The unit is adjustable, permitting various foam percentages to be inducted depending on the nozzle being used.

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SPECIFICATION NO. 33**WATER AND FOAM TANK SPECIFICATIONS**

**300 GALLON WATER TANK:** A 300 gallon water tank shall be supplied. The tank shall have a 3" overflow. The construction shall be of co-polymer polypropylene and shall be rectangular shaped. The exterior portion of the tank shall be left natural black finish.

**WATER TANK:** The sides and top shall be constructed of a minimum of 1/2" black UV stabilized copolymer polypropylene. The bottom shall be constructed of a minimum of 3/4" black UV stabilized copolymer polypropylene. The tank shall undergo extensive testing prior to installation in the truck. The process shall include an electronic spark and water fill test. The tank shall have a combination vent and manual fill tower. The tank overflow shall be 4" diameter and shall dump behind the rear wheels to permit maximum traction. The tower shall have a hinged cover and screen. There shall be two (2) standard tank openings; one for the tank to pump suction line and one for a tank fill line. Baffles, both longitudinal and latitudinal shall be interlocking and welded to minimize water surge during travel. Openings in the baffles shall allow water flow during filling or pumping operations. The tank shall be mounted on hard rubber cushions to isolate the tank from road shock and vibration. The tank shall be completely removable from the apparatus body structure. The water tank shall have an integral foam tank installed. The foam concentrate tank shall be provided with baffles if needed.

The foam concentrate tank shall be provided with a fill tower or expansion compartment having a minimum area of 12 square inches. The fill tower opening shall be protected by a completely sealed air-tight cover.

The fill tower shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time.

**WATER TANK DRAIN PLUG:** The water tank shall have a 1-1/2" diameter drain plug.

**10 GALLON FOAM TANK:** There shall be a 10 gallon foam tank supplied. The tank shall be an integral part of the water tank and shall be of polypropylene construction.

**FOAM TANK DRAIN VALVE AND PLUG:** The foam tank shall have a 1" diameter gate type drain valve and the valve shall have a plug installed.

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SPECIFICATION NO. 34**BODY AND COMPARTMENT SPECIFICATIONS**

**APPARATUS BODY CONSTRUCTION:** The complete apparatus body structure will be an all welded construction and be free from nuts, bolts and other fasteners. Upon completion of the weldments, the body will be completely sanded and removal of all sharp edges.

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

The horizontal and vertical frame member extrusions will be 2.0" x 4.0" with a .190" wall thickness. The extrusion will be made from 6063T6 aluminum alloy. This extrusion will have .190" outside radius corners. The longitudinal frame member, below the lower compartments will be a 2.0" x 4.0" 6063T6 aluminum alloy extrusion with .190" radius corners. Each body corner will be a 3.5" x 9.75" 6063T6 extruded aluminum section with .210" wall thickness, and will be welded as an integral part of the body. This extrusion will have a 1" corner radius.

The wheel well will be constructed from 2" x 4" x .190" wall thickness. The extrusion will be made from 6063T6 aluminum alloy and have .190" outside radius corners. The extrusion will be slotted the full length to permit an internal fit of 1/8" (.125") aluminum tread plate panels. The wheel well liners will be constructed of 3003 H-14 smooth aluminum plates. They will be bolted in place for ease of maintenance.

A deflection shield will be mounted to the body sub frame to keep road debris from entering the water tank area. (MAX HEIGHT NOT TO EXCEED 8'3")

**COMPARTMENT CONSTRUCTION:** The compartment sidewalls will be of one-piece construction. The walls will be formed

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

The external compartment tops will be constructed of 1/8" (.125") aluminum tread plate. The tops will have a formed edge, which serves as a drip rail for the compartments below. The compartment tops will be secured with stainless steel screws to allow for ease of removal for access to the bodies wiring harnesses. The compartment seams will be sealed with permanent pliable silicone caulking. Each compartment will be vented through a 3"W x 15"H louver that is machined stamped in a panel located in each body corner extrusion. The panel will be removable to provide access to service wiring and other mounted components. (MAX HEIGHT NOT TO EXCEED 8'3")

SPECIFICATION NO. 35

**ANGLE OF DEPARTURE:** There shall be an angle of departure allowing for high angle clearance at the rear of the apparatus. The angle of departure will allow exit from high angle terrain and increase mobility of the apparatus.

SPECIFICATION NO. 36

**ANODIZED ALUMINUM RUB RAILS:** The body side rub rail assemblies shall be constructed of anodized aluminum extrusion channels.

NFPA compliant reflective material shall be attached to the entire length of the rub rail to improve side profile visibility.

SPECIFICATION NO. 37

**ROLL UP DOOR CONSTRUCTION**

The roll-up compartment doors shall be anodized satin finish aluminum manufactured by R-O-M Corporation.

The doors shall be front roll type with a minimum header at the top of the compartment opening. The compartment doors shall be counter-balanced for easy opening and closing. The doors shall be designed to be easily removable and repairable, in a minimal amount of time. The door mounting system that connects the curtain slats to the operator drum shall allow for easy tension adjustment without tools. Each roll-up door shall have a four inch diameter counterbalance operator drum to assist in lifting the door. The compartment door track shall be one-piece aluminum with attaching and finishing flange.

The door slats shall be double-wall extrusion 1.366" high by .315" thick, with the exterior surface to be flat and interior surface to be concave to prevent loose equipment from interfering with door operation. Door slats shall have an interlocking end shoes to prevent slat from moving side-to-side and binding the door. Each slat shall have an "end shoe" are swaged/dimpled into the slat, to allow easy slat replacement. In addition, the slats shall have interlocking joints with a folding locking flange to provide security and prevent penetration by sharp objects. Between each slat shall be a co-extruded PVC inner seal to prevent metal-to-metal contact, repel moisture, and shall not be visible from the front of the door.

There shall be an aluminum drip rail above each compartment door with a non-abrasive or brush type seal at the top door opening area. Drip rail shall have a seal design that prevents it from scratching the door.

The door latching system shall be a full width one piece lift bar operable by one hand, with a retainer block on each end of the lift bar. A two inch wide finger pull shall be integrated into the bottom rail extrusion for easy one hand opening and closing.

Each compartment door shall be equipped with a magnetic door light actuator and "tell-tale" door-ajar system. The unit shall be integrated in lift bar handle and the retainer block to signal open door in the cab. There shall be no mechanical switches or switches mounted on the interior compartment for compartment lights.

SPECIFICATION NO. 38

**APPARATUS COMPARTMENTS - 60" CA BODY WITH 3 COMPARTMENTS EACH SIDE**

The apparatus shall have three (3) compartments, one (1) ahead of rear wheel well, one (1) over the wheel well, and one (1) aft of the rear wheel well area on each side

1. L1 & R1 compartments:

There shall be one (1) compartment on each side located ahead of the rear wheel well that is full

height. The L1 compartment shall be approximately 30" wide x 56" high x 22" deep. The compartment opening dimensions are approximately 27" wide x 44" high (w/roll-up doors). Shall have two (2) adjustable shelves per compartment.

2. L2 & R2 compartments:

There shall be one (1) compartment on each side located above the rear wheel well that is approximately 42.5" wide x 33" high x 22" deep. The opening for this compartment shall be approximately 39.5" wide x 21" high (w/roll-up doors).

3. L3 & R3 compartments:

There shall be one (1) compartment located behind the rear wheel well that is approximately 31.5" wide x 44" high x 22" deep. The opening for this compartment shall be approximately 28.5" wide x 32" high (w/roll-up doors). Shall have one (1) adjustable shelf and one (1) roll out 500lb capacity per compartment.

SPECIFICATION NO. 39

**UPPER STORAGE COMPARTMENTS:** There shall be two (2) upper storage compartment installed on the apparatus, one (1) each side above the left and right side body compartments. The upper compartments will be constructed of smooth aluminum plate and painted to match the body. Both compartments to be full width and 16" tall with webbing for the top lid. (MAX HEIGHT NOT TO EXCEED 8'3")

**FOLD DOWN STEPS:** Six (6) fold down steps shall be provided for rear of apparatus. Placements TBD at pre build conference.

SPECIFICATION NO. 40

**STOKES STORAGE:** There shall be a storage area with the capacity to hold one (1) stokes basket. Location to be determined at pre build conference.

SPECIFICATION NO. 41

**ANGLE OF DEPARTURE REAR BODY STEP:** A structure shall be provided that is pulled out and drops down and acts as the rear step of the body. The rear step shall comply with NFPA 1901 Chapter 15.7. The stepping surface shall be .125 Alum Diamond plate and have slip resistance in accordance with NFPA 15.7. When the step is in the open position, the distance from the ground to the rear step surface shall be no more than 24". When the step is retracted into the body it shall have a positive means to hold the step in its retracted state.

SPECIFICATION NO. 42

**36" HAND RAIL:** A non-slip extruded aluminum hand rail, approximately 36" in length, shall be installed on the apparatus. The hand rail shall be secured to the body with chrome plated fittings.

The location shall be: installed vertically on each side of the rear door.

SPECIFICATION NO. 43

**12 VOLT ELECTRICAL SPECIFICATIONS**

**LOW VOLTAGE ELECTRICAL SYSTEM SPECIFICATIONS**

The following specifications describe the low voltage electrical system on the specified initial attack type fire apparatus. The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses and other electrical components.

The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest Federal DOT standards, and the requirements of the applicable NFPA standards.

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.

The wiring between the cab and body shall be split using Deutsche type connectors or an enclosed in a terminal junction panel area. This system will permit body removal with minimal impact on the apparatus electrical system. All connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

Any electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in an electrical junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified at least every two feet (2') by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA standards.

The electrical circuits shall be provided with low voltage over-current protective devices. Such devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. The over-current protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.

The electrical system shall include the following:

- a) Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. A corrosion preventative compound shall be applicable to all terminal plugs located outside of the cab or body.
- b) The electrical wiring shall be harnessed or be placed in a protective loom.
- c) Heat shrink material and sealed connectors shall be used to protect exposed connections.
- d) Holes made in the roof shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- e) Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.
- f) A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
- g) All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.

The warning lights shall be switched in the chassis cab with labeled switching in an accessible location. Individual rocker switches shall be provided only for warning lights provided over the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. The warning light switches shall be of the rocker type. For easy nighttime operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and "call for the right of way". When the parking brake is activated, a "blocking right of way" system shall be automatically activated per requirements of NFPA. All "clear" warning lights shall be automatically shed on actuation of parking brake.

#### **NFPA REQUIRED TESTING OF ELECTRICAL SYSTEM**

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The apparatus shall be electrical tested shall be completion of the vehicle and prior to prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

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

2. Alternator performance test at idle:

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

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA Standard, or a system voltage of less than 11.7 volts dc for a 12 volt nominal system, for more than 120 seconds, shall be considered a test failure.

4. Low voltage alarm test:

Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts dc for a 12 volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

**NFPA REQUIRED DOCUMENTATION**

The following documentation shall be provided on delivery of the apparatus:

- a. Documentation of the electrical system performance tests required above.
- b. A written load analysis, including:
  - 1. The nameplate rating of the alternator.
  - 2. The alternator rating under the conditions.
  - 3. Each specified component load.
  - 4. Individual intermittent loads.

**SPECIFICATION NO. 44**

**DOT LIGHTING PACKAGE:** The lighting on the body shall conform to DOT standards. LED lighting shall be used.

**STOP/TAIL, TURN AND BACK-UP LIGHTS:** The rear of the apparatus body shall be equipped with six (6) 4" LED lights. A red stop/tail LED, an amber turn LED, and a white reverse LED. The lights shall be flush mounted in a rubber grommet.

**REAR LICENSE PLATE MOUNT WITH LIGHT:** There shall be a license plate mount with light supplied at the rear of the apparatus.

**REAR STEP GROUND LIGHTS:** Two (2) LED lights shall be installed under the rear step. These lights

shall automatically activate when the vehicle is in park or neutral.

**LIGHTS, LED REAR SCENE** : Two (2) Whelen model 900 LED 7"x 9" scene light shall be provided. Shall be installed one per side upper rear of apparatus.

**LIGHTS, TELESCOPING** : Two-(2) Whelen PFP2 telescoping flood lights shall be installed, one per side on front of body. Pole system shall be Whelen.

**DECK LIGHT**: One (1) 4" x 6" pedestal light shall be provided. The location shall be mounted over pump/plumbing area with the switch on the pump panel.

**LED COMPARTMENT LIGHTS**: Six (6) compartments shall each be equipped with one (1) LED light fixture that shall be recessed mounted in compartment wall. The light shall have a clear lens. The compartment light shall be activated by an automatic door switch wired to the tell-tale warning in the cab.

**HAZARD WARNING LIGHT**: A flashing LED light with a red lens, located in the driving compartment, shall be illuminated automatically whenever any cab door or equipment compartment door is open. An audible alarm shall also be located in the driving compartment and will activate with the hazard light.

**The light shall be marked, "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".**

SPECIFICATION NO. 45

**WARNING LIGHTS**

**UPPER FRONT WARNING LIGHTS**: Four (4) Whelen M9 Series shall be installed across front of apparatus body. The lenses shall be clear with red light.

**LED FRONT GRILLE WARNING LIGHTS**: Two (2) Whelen Model LINZ6R LED warning lights shall be installed. Lens color shall be clear with red light. Location shall be: Front grille.

**LED FRONT CORNER WARNING LIGHTS**: Two (2) Whelen Model LINZ6R LED warning lights shall be installed. Lens color shall be clear with red light. Location shall be: Front corner fender

**SIDE BODY WARNING LIGHTS**: Two (6) Whelen M6 Series LED warning lights shall be installed. Lens color shall be clear with red light Location shall be: Three per side two high one low.

**LED REAR OF BODY WARNING LIGHTS**: Four (4) Whelen M6 Series LED warning lights shall be installed. Lens color shall be clear with red light. Location shall be: Rear of body two high two low.

SPECIFICATION NO. 46

**ELECTRIC SIREN AND CONTROL**: One (1) Whelen Model #295SLSA1 electronic siren shall be mounted in the cab. This unit shall feature an electronic air horn, wail, yelp, hi-lo and shall have a hard wired PA microphone.

**WHELEN SA315P ELECTRIC SIREN SPEAKER**: A Whelen Model #SA315P speaker shall be installed. The speaker shall be wired to the electric siren located in the cab.

**BACK-UP ALARM**: An automatic electric back-up alarm shall be wired to the back-up light circuit, and mounted under the rear of the apparatus body.

SPECIFICATION NO. 47

**EQUIPMENT PAYLOAD WEIGHT ALLOWANCE**: In compliance with NFPA #1901 standards, the apparatus shall be engineered to provide an allowance of 1000 pounds of fire department provided loose equipment.

SPECIFICATION NO. 48

**PAINT SPECIFICATIONS**: PAINT shall match Clark County Fire Department yellow N3452 Dupont. A container of touch up paint matching the apparatus' primary color shall be shipped with the apparatus.

**DECALS/STIPES**: Provide and install Clark County matched door legends, reflective S stripes, 10" equipment number shall be provided for all four sides. Up to sixty (60) 3" letters provided. A Scotchlite reflective stripe for the cab and body shall be supplied. The straight stripe shall conform to current NFPA standards. The color of the material and location are to be specified by the purchaser. The stripe shall be 4" minimum in width.

**NFPA INNER DOOR STRIPING (4 DOOR):** There shall be 96 square inches of reflective material located inside each cab door. The reflective material shall be visible to traffic approaching from the rear of the apparatus.

**REAR BODY CHEVRON STRIPING:** A Scotchlite reflective stripe for the rear body only shall be supplied. The chevron striping shall cover the rear body panels. The chevron striping will be made up of 6" reflective red stripe that alternates with a 6" reflective yellow stripe. The stripe shall be in an inverted "V" pattern, also known as an "A" pattern.

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# CLARK COUNTY, NEVADA

## V - BID FORM

**BID NO. 603291-14**

### CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESCUES & TYPE 6 SQUAD UNITS

Name of Firm

This bid is submitted in response to COUNTY'S Invitation to Bid and is in accordance with all conditions and specifications in this document.

Item No.	Description	Quantity	Unit Price	Extended Total
1.	<b>Current Production Model 750 Gallon Fire Engine 4x4 with Height Restriction</b> <hr/> (Model Year)                      (Make)                      (Manufacturer) Delivery _____ Calendar Days (maximum 120 days)	1 Each	\$ _____	\$ _____
2.	<b>Current Production Model Emergency Medical Service Ambulance</b> <hr/> (Model Year)                      (Make)                      (Manufacturer) Delivery _____ Calendar Days (maximum 120 days)	3 Each	\$ _____	\$ _____
3	<b>Current Production Model 300 Gallon 4x4 Type Six Squad Unit</b> <hr/> (Model Year)                      (Make)                      (Manufacturer) Delivery _____ Calendar Days (maximum 120 days)	1 Each	\$ _____	\$ _____

**EXTENDED WARRANTY OPTIONS (IF ANY):**

Standard Warranties:	Type of Warranty	Number of Years/Hours
	Type of Warranty	Number of Years/Hours
	Type of Warranty	Number of Years/Hours
	Type of Warranty	Number of Years/Hours



# ATTACHMENTS TO BID FORM

**FAILURE TO SUBMIT REQUIRED ATTACHMENTS AS LISTED BELOW MAY RESULT IN REJECTION OF BID.**

- 1. **Attachment 1**, Subcontractor Information, is attached.

Bidder is responsible to ascertain the number of Addenda issued and hereby acknowledges receipt of the following Addendum: **FAILURE TO ACKNOWLEDGE ALL ADDENDA ISSUED AND USE THE CORRECT BID FORM AS REQUIRED, MAY RESULT IN REJECTION OF BID.**

Addendum No. _____	Addendum No. _____	Addendum No. _____
Addendum No. _____	Addendum No. _____	Addendum No. _____
Addendum No. _____	Addendum No. _____	Addendum No. _____

Bidder hereby offers and agrees to furnish the material(s) and service(s) in compliance with all terms, conditions, specifications, and amendments in the Invitation to Bid and any written exceptions in the offer. We understand that the items in this Invitation to Bid, including, but not limited to, all required certificates are fully incorporated herein as a material and necessary part of the contract.

The undersigned hereby states, under penalty of perjury, that all information provided is true, accurate, and complete, and states that he/she has the authority to submit this bid, which will result in a binding contract if accepted by Clark County, Nevada.

**I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:**

_____ SIGNATURE OF AUTHORIZED REPRESENTATIVE	_____ LEGAL NAME OF FIRM
_____ NAME AND TITLE OF AUTHORIZED REPRESENTATIVE (PRINT OR TYPE)	_____ ADDRESS OF FIRM
_____ PHONE NUMBER OF AUTHORIZED REPRESENTATIVE	_____ CITY, STATE ZIP
_____ FAX NUMBER OF AUTHORIZED REPRESENTATIVE	_____
_____ EMAIL ADDRESS	_____ DATE
<b>BUSINESS LICENSE INFORMATION:</b>	
_____ CURRENT STATE                      LICENSE NO.	_____ ISSUE DATE:                              EXPIRATION DATE:
_____ CURRENT COUNTY:                      LICENSE NO.	_____ ISSUE DATE:                              EXPIRATION DATE:
_____ CURRENT CITY:                              LICENSE NO.	_____ ISSUE DATE:                              EXPIRATION DATE:

**FOR INFORMATIONAL PURPOSES ONLY:**

The above referenced firm is a  MBE  WBE  PBE  SBE  NBE  LBE as defined below.

***STATE OF NEVADA BUSINESSES***

**MINORITY OWNED BUSINESS ENTERPRISE (MBE):**

An independent and continuing Nevada business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more minority persons of Black American, Hispanic American, Asian-Pacific American or Native American ethnicity.

**WOMEN OWNED BUSINESS ENTERPRISE (WBE):**

An independent and continuing Nevada business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more women.

**PHYSICALLY-CHALLENGED BUSINESS ENTERPRISE (PBE):**

An independent and continuing Nevada business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more disabled individuals pursuant to the federal Americans with Disabilities Act.

**SMALL BUSINESS ENTERPRISE (SBE):**

An independent and continuing Nevada business for profit which performs a commercially useful function, is not owned and controlled by individuals designated as minority, women, or physically-challenged, and where gross annual sales does not exceed \$2,000,000.

**NEVADA BUSINESS ENTERPRISE (NBE):**

Any Nevada business which has the resources necessary to sufficiently perform identified County projects, and is owned or controlled by individuals that are not designated as socially or economically disadvantaged.

***BUSINESSES IN OTHER STATES***

**LARGE BUSINESS ENTERPRISE (LBE):**

An independent and continuing business for profit which performs a commercially useful function and is not located in Nevada.

**ATTACHMENT 1**  
**BID NO. 603291-14**  
**CURRENT PRODUCTION MODEL FIRE ENGINE, MEDIUM DUTY RESUCES & TYPE 6 SQUAD UNITS**

**SUBCONTRACTOR INFORMATION**

It is our intent to utilize the following MBE, WBE, PBE, SBE, and NBE subcontractors in association with CONTRACT:

1. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE
  
2. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE
  
3. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE
  
4. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE
  
5. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE
  
6. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE
  
7. Subcontractor Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Description of Work: \_\_\_\_\_  
Estimated Percentage of Total Dollars: \_\_\_\_\_  
Business Type:     MBE             WBE             PBE             SBE             NBE

No MBE, WBE, PBE, SBE, NBE subcontractors will be used.



**INSTRUCTIONS FOR COMPLETING THE  
DISCLOSURE OF OWNERSHIP/PRINCIPALS FORM**

**Purpose of the Form**

The purpose of the Disclosure of Ownership/Principals Form is to gather ownership information pertaining to the business entity for use by the Board of County Commissioners (“BCC”) in determining whether members of the BCC should exclude themselves from voting on agenda items where they have, or may be perceived as having a conflict of interest, and to determine compliance with Nevada Revised Statute 281A.430, contracts in which a public officer or employee has interest is prohibited.

**General Instructions**

Completion and submission of this Form is a condition of approval or renewal of a contract or lease and/or release of monetary funding between the disclosing entity and the appropriate Clark County government entity. Failure to submit the requested information may result in a refusal by the BCC to enter into an agreement/contract and/or release monetary funding to such disclosing entity.

**Detailed Instructions**

All sections of the Disclosure of Ownership form must be completed. If not applicable, write in N/A.

**Business Entity Type** – Indicate if the entity is an Individual, Partnership, Limited Liability Company, Corporation, Trust, Non-profit Organization, or Other. When selecting ‘Other’, provide a description of the legal entity.

**Non-Profit Organization (NPO)** - Any non-profit corporation, group, association, or corporation duly filed and registered as required by state law.

**Business Designation Group** – Indicate if the entity is a Minority Owned Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), Small Business Enterprise (SBE), or Physically-Challenged Business Enterprise (PBE). This is needed in order to provide utilization statistics to the Legislative Council Bureau, and will be used only for such purpose.

**Minority Owned Business Enterprise (MBE):**

An independent and continuing business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more minority persons of Black American, Hispanic American, Asian-Pacific American or Native American ethnicity.

**Women Owned Business Enterprise (WBE):**

An independent and continuing business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more women.

**Physically-Challenged Business Enterprise (PBE):**

An independent and continuing business for profit which performs a commercially useful function and is at least 51% owned and controlled by one or more disabled individuals pursuant to the federal Americans with Disabilities Act.

**Small Business Enterprise (SBE):**

An independent and continuing business for profit which performs a commercially useful function, is not owned and controlled by individuals designated as minority, women, or physically-challenged, and where gross annual sales does not exceed \$2,000,000.

**Veteran Owned Enterprise (VET):**

A Nevada business at least 51% owned/controlled by a veteran.

**Disabled Veteran Owned Enterprise (DVET):**

A Nevada business at least 51% owned/controlled by a disabled veteran.

**Business Name (include d.b.a., if applicable)** – Enter the legal name of the business entity and enter the “Doing Business As” (d.b.a.) name, if applicable.

**Corporate/Business Address, Business Telephone, Business Fax, and Email** – Enter the street address, telephone and fax numbers, and email of the named business entity.

**Local Business Address, Local Business Telephone, Local Business Fax, and Email** – If business entity is out-of-state, but operates the business from a location in Nevada, enter the Nevada street address, telephone and fax numbers, point of contact and email of the local office. Please note that the local address must be an address from which the business is operating from that location. Please do not include a P.O. Box number, unless required by the U.S. Postal Service, or a business license hanging address.

**Number of Clark County Nevada Residents employed by this firm.**

**List of Owners/Officers** – Include the full name, title and percentage of ownership of each person who has ownership or financial interest in the business entity. If the business is a publicly-traded corporation or non-profit organization, list all Corporate Officers and Directors only.

**For All Contracts – (Not required for publicly-traded corporations)**

- 1) Indicate if any individual members, partners, owners or principals involved in the business entity are a Clark County full-time employee(s), or appointed/elected official(s). If yes, the following paragraph applies.

In accordance with NRS 281A.430.1, a public officer or employee shall not bid on or enter into a contract between a government agency and any private business in which he has a significant financial interest, except as provided for in subsections 2, 3, and 4.

- 2) Indicate if any individual members, partners, owners or principals involved in the business entity have a second degree of consanguinity or affinity relation to a Clark County full-time employee(s), or appointed/elected official(s) (reference form on Page 2 for definition). If **YES**, complete the Disclosure of Relationship Form. Clark County is comprised of the following government entities: Clark County, University Medical Center of Southern Nevada, Department of Aviation (McCarran Airport), and Clark County Water Reclamation District. Note: The Department of Aviation includes all of the General Aviation Airports (Henderson, North Las Vegas, and Jean).

A professional service is defined as a business entity that offers business/financial consulting, legal, physician, architect, engineer or other professional services.

**Signature and Print Name** – Requires signature of an authorized representative and the date signed.

**Disclosure of Relationship Form** – If any individual members, partners, owners or principals of the business entity is presently a Clark County employee, public officer or official, or has a second degree of consanguinity or affinity relationship to a Clark County employee, public officer or official, this section must be completed in its entirety.

## DISCLOSURE OF OWNERSHIP/PRINCIPALS

<b>Business Entity Type</b>						
<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Partnership	<input type="checkbox"/> Limited Liability Company	<input type="checkbox"/> Corporation	<input type="checkbox"/> Trust	<input type="checkbox"/> Non-Profit Organization	<input type="checkbox"/> Other
<b>Business Designation Group:</b>						
<b>MBE</b>	<b>WBE</b>	<b>DBE</b>	<b>PBE</b>	<b>SBE</b>	<b>VET</b>	<b>DVET</b>
Minority Owned	Women Owned	Disabled	Physically Challenged	Small Business	Veteran Owned	Disabled Veteran Owned
<b>Corporate/Business Entity Name:</b>						
<b>(Include d.b.a., if applicable)</b>						
<b>Street Address:</b>				<b>Website:</b>		
<b>City, State and Zip Code:</b>				<b>POC Name and Email:</b>		
<b>Telephone No:</b>				<b>Fax No:</b>		
<b>Local Street Address:</b>				<b>Website:</b>		
<b>City, State and Zip Code:</b>				<b>Local Fax No:</b>		
<b>Local Telephone No:</b>				<b>Local POC Name Email:</b>		
<b>Number of Clark County Nevada Residents Employed:</b>						

**All entities**, with the exception of publicly-traded and non-profit organizations, must list the names of individuals holding more than five percent (5%) ownership or financial interest in the business entity appearing before the Board.

**Publicly-traded entities and non-profit organizations shall list all Corporate Officers and Directors** in lieu of disclosing the names of individuals with ownership or financial interest. The disclosure requirement, as applied to land-use applications, extends to the applicant and the landowner(s).

**Entities** include all business associations organized under or governed by Title 7 of the Nevada Revised Statutes, including but not limited to private corporations, close corporations, foreign corporations, limited liability companies, partnerships, limited partnerships, and professional corporations.

Full Name	Title	% Owned <small>(Not required for Publicly Traded Corporations/Non-profit organizations)</small>
_____	_____	_____
_____	_____	_____
_____	_____	_____

***This section is not required for publicly-traded corporations.***

- Are any individual members, partners, owners or principals, involved in the business entity, a Clark County, University Medical Center, Department of Aviation, or Clark County Water Reclamation District full-time employee(s), or appointed/elected official(s)?  
 Yes     No    (If yes, please note that County employee(s), or appointed/elected official(s) may not perform any work on professional service contracts, or other contracts, which are not subject to competitive bid.)
- Do any individual members, partners, owners or principals have a spouse, registered domestic partner, child, parent, in-law or brother/sister, half-brother/half-sister, grandchild, grandparent, related to a Clark County, University Medical Center, Department of Aviation, or Clark County Water Reclamation District full-time employee(s), or appointed/elected official(s)?  
 Yes     No    (If yes, please complete the Disclosure of Relationship form on Page 2. If no, please print N/A on Page 2.)

I certify under penalty of perjury, that all of the information provided herein is current, complete, and accurate. I also understand that the Board will not take action on land-use approvals, contract approvals, land sales, leases or exchanges without the completed disclosure form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

## DISCLOSURE OF RELATIONSHIP

List any disclosures below:  
(Mark N/A, if not applicable.)

NAME OF BUSINESS OWNER/PRINCIPAL	NAME OF COUNTY* EMPLOYEE/OFFICIAL AND JOB TITLE	RELATIONSHIP TO COUNTY* EMPLOYEE/OFFICIAL	COUNTY* EMPLOYEE'S/OFFICIAL'S DEPARTMENT

\* County employee means Clark County, University Medical Center, Department of Aviation, or Clark County Water Reclamation District.

“Consanguinity” is a relationship by blood. “Affinity” is a relationship by marriage.

“To the second degree of consanguinity” applies to the candidate’s first and second degree of blood relatives as follows:

- Spouse – Registered Domestic Partners – Children – Parents – In-laws (first degree)
- Brothers/Sisters – Half-Brothers/Half-Sisters – Grandchildren – Grandparents – In-laws (second degree)

**For County Use Only:**

If any Disclosure of Relationship is noted above, please complete the following:

Yes  No Is the County employee(s) noted above involved in the contracting/selection process for this particular agenda item?

Yes  No Is the County employee(s) noted above involved in anyway with the business in performance of the contract?

Notes/Comments:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name  
Authorized Department Representative

## DISCLOSURE OF RELATIONSHIP

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Notes/Comments:

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Signature

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Print Name

Authorized Department Representative

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Notes/Comments:

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Signature

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