

MAY 15 '20 16:02

City of Windcrest



**DEPARTMENT HEAD REPORTS @ 5 P.M.
CITY COUNCIL MEETING @ 6 P.M.
CITY COUNCIL CHAMBERS & WEBEX TELECONFERENCE
MAY 18, 2020**

**CITY COUNCIL CHAMBERS @ 8601 MIDCROWN
WEBEX VIDEO CONFERENCE MEETING**

6:00 P.M.

NOTICE IS HEREBY GIVEN THAT A CITY OF WINDCREST CITY COUNCIL MEETING WILL BE HELD AT WINDCREST CITY HALL, 8601 MIDCROWN, WINDCREST, TEXAS ON THE 18TH DAY OF MAY 2020, STARTING AT 6:00 P.M. DURING THE MEETING THE FOLLOWING SUBJECTS WILL BE CONSIDERED AND THE COUNCIL MAY TAKE ACTION ON ANY OF THE LISTED SUBJECTS. DEPARTMENT HEAD REPORTS WILL BE HEARD BEGINNING AT 5:00 P.M.

DUE TO THE GOVERNOR'S SUSPENSION OF CERTAIN PROVISIONS OF THE TEXAS OPEN MEETINGS ACT TO HELP SLOW THE SPREAD OF COVID-19, THIS MEETING WILL BE AVAILABLE TELEPHONIC AND BY VIRTUAL PRESENCE ON WEBEX. MEMBERS OF THE PUBLIC WISHING TO LISTEN TO THE MEETING OR PROVIDE CITIZEN COMMENTS CAN FOLLOW THE INSTRUCTIONS AT THE BOTTOM OF THE AGENDA.

THE CITY COUNCIL RESERVES THE OPTION TO RECESS THE MEETING DURING THE EVENING OF MAY 18, 2020, AND TO RECONVENE THE MEETING ON THE FOLLOWING DAY, MAY 19, 2020, AT 9:00 A.M. AT THE WINDCREST CITY HALL, 8601 MIDCROWN, WINDCREST, TEXAS.

NOTICE OF ASSISTANCE AT THE PUBLIC MEETING

The City of Windcrest Council Chambers are wheelchair accessible, and accessible parking spaces are available. In compliance with Americans with Disabilities Act, the City of Windcrest will provide reasonable accommodations for persons attending the meeting. To better serve you, requests should be received 48 hours prior to the meeting. Please contact the City Secretary's Office, at 210-655-0022 ext. 2150 or Fax 210-655-8776, or 711 Texas Relay.

DURING THE MEETING THE FOLLOWING SUBJECTS WILL BE CONSIDERED AND THE COUNCIL MAY TAKE ACTION ON ANY OF THE LISTED SUBJECTS.

- I. CALL TO ORDER**
- II. ROLL CALL**
- III. PLEDGE OF ALLEGIANCE AND INVOCATION**
- IV. MONTHLY DEPARTMENT HEAD REPORTS FOR MONTH ENDING APRIL 2020 FOR FY 2019/2020**
 - a) Briefing and discussion on the monthly Fire Department reports for the month of April, to include Summary of Calls along with response times for the City, County, and Annex area. [Dan Kramer, Fire Chief]
 - b) Briefing and discussion on the monthly Windcrest Volunteer Fire Association financial report for the month of April. [Lilia Ayla, President]

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- c) Briefing and discussion on the monthly Police Department reports including Code Enforcement and Animal Control reports for the month of April. [Darrell Volz, Chief of Police]
- d) Briefing and discussion on the monthly Municipal Court report for the month of April. [Claudia Carrera, Municipal Assistant Court Administrator]
- e) Briefing and discussion on the monthly Public Works and Landscaping reports for the month of April. [Tom Garcia, Director of Public Works]
- f) Briefing and discussion on the monthly City of Windcrest Economic Development Corporation report for the month of April. [Jennifer Newman, President of City of Windcrest Economic Development Corporation]
- g) Briefing and discussion on the monthly Civic Center report for the month of April. [Don Hakala, Finance Director]
- h) Briefing and discussion on the monthly Office of the City Secretary reports for the month of April. [Rachel C. Dominguez, City Secretary]
- i) Briefing and discussion on past and upcoming City projects and events. [Elizabeth Dick, Public Affairs / PR / Marketing / Event Specialist]

V. CITIZENS TO BE HEARD/CITIZEN PARTICIPATION

- a) Citizens may address the City Council on topics not on the agenda for no more than three (3) minutes. Two-way communication is available through Webex connection. You must sign up through the Webex app for message participation. Messages will be provided to Council and available to the public not in attendance after the meeting. Comments may also be read to the Council during the meeting for no more than three minutes per person.
- b) In addition to the foregoing, citizens shall also have the opportunity to address the City Council during consideration of posted agenda items for no more than six (6) minutes. Two-way communication is available through Webex connection. You must sign up through the Webex app for message participation. Messages will be provided to Council and available to the public not in attendance after the meeting. Comments may also be read to the Council during the meeting for no more than six minutes per person.
- c) A person will have the opportunity to address City Council in City Hall Council Chambers during the meeting. Only a maximum of 4 public members will be allowed in the Chambers at a time. A web cam has been set up for a person to address City Council. All attendees will be required to be screened for present signs of COVID-19 prior to entering City Hall. Email the city secretary at citysecretary@windcrest-tx.gov to be added to the attendee list.
- d) A City Official may make a statement of specific factual information in response to an inquiry made by a member of the public, or a recitation of existing policy in response to an inquiry made by a member of the public.

THE FOLLOWING ITEMS MAY BE CONSIDERED AT ANY TIME DURING THE REGULAR COUNCIL MEETING:

VI. PRESENTATIONS

- a) Update from Fire Chief Dan Kramer on COVID-19 and local government awareness efforts.

VII. FINANCIAL REPORTS

- a) Presentation, discussion, and acceptance of the unaudited monthly financial report for the month ending April 30, 2020 (FY2019/2020). [Donald Hakala, Finance Director]

III. ORDINANCE

- a) City council will discuss and take action on Ordinance 2020-014(O), an ordinance amending the qualification for members of the Planning and Zoning Commission by amending section 113, Division 3, Section 113-62 (C) to align with the City Charter. [Rafael Castillo, Jr., City Manager] **2nd Reading**

IX. RESOLUTIONS

- a) City Council will discuss and act on a Resolution 2020-518, a resolution to award a contract for services for Phase II Eaglecrest Blvd Project. [Rafael Castillo, Jr., City Manager]
- b) City Council will discuss and act on a Resolution 2020-519, a resolution to award a contract for services for Phase II Midcrown Drive Walzem Rd to Golfcrest Drive Project. [Rafael Castillo, Jr., City Manager]
- c) City Council will review, discuss and act on a Resolution 2020-520, a resolution appointing a health authority for the City of Windcrest. [Dan Reese, Mayor]
- d) City Council will review, discuss and act on a Resolution 2020-521, a resolution approving the cancelation and dissolution of the purchase order for the purchase of one mid-mount platform fire truck from Lone Star Emergency Group. [Rafael Castillo, Jr., City Manager]
- e) City Council will review, discuss and act on Resolution 2020-522, a resolution entering into an agreement for the purchase of a quint fire apparatus for the Fire Department. [Rafael Castillo, Jr., City Manager]

X. DISCUSSION & ACTION

- a) City Council will review, discuss and may take action on a proposed Fiscal Year 2020-2021 Budget Process Calendar. [Rafael Castillo, Jr., City Manager]
- b) City Council will review, discuss and may take action on establishing an ordinance and amending current ordinances providing additional regulation of temporary mobile food vendor permit for special events and farmers markets. [Rafael Castillo, Jr., City Manager]
- c) City Council will review, discuss and may take action on an amendment to Chapter 24 – Fireworks. [Rafael Castillo, Jr., City Manager]

XI. CITY MANAGER'S REPORT**XII. EXECUTIVE SESSION**

The City Council may meet in executive session to discuss the following items:

- May 15 '20 16:02
- a) Update on the ongoing dispute regarding E-One ladder truck purchase from Lone Star Emergency Group, pursuant to Texas Local Government Code Sec. 552.071 (consultation with attorney)
 - b) Discuss the legal issues and use of a template for outside employment and authorizing City Manager to execute agreement, pursuant to Texas Local Government Code Sec. 552.071 (consultation with attorney) and pursuant to Sec. 552.074 (personnel matters).

XIII. RETURN TO OPEN SESSION

The City Council may discuss and take action on any item discussed in executive session.

XIV. GENERAL ANNOUNCEMENTS & FUTURE AGENDA ITEMS REQUESTED

Per Ordinance No. 618, repealing Ordinance No. 593; Section 9: Every agenda shall include an item entry granting a member the opportunity to propose an item for consideration of future agendas for Regular or Special Meetings. Any member may request the inclusion of such items at any meeting.

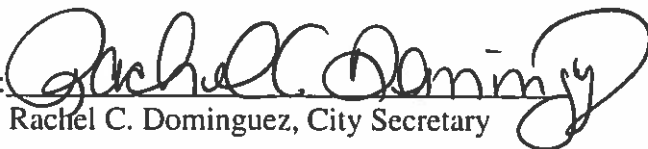
XV. ADJOURNMENT

The City Council reserves the right to retire into executive session whenever it is considered necessary and legally justified under the Texas Government Code, Subchapter D, Sections 551.071 et. seq. including, but not limited to, consultation with attorney, real property, prospective gifts, personnel matters, exclusion of witness, security devices, and economic development matters.

It is anticipated that members of other city boards, commissions and committees may attend the meeting in numbers that may constitute a quorum of such other city boards, commissions and committees, so that notice is hereby given that the meeting is also a meeting of the other city boards, commissions and committees whose members are in attendance. The members of the other city boards, commissions and committees may participate in discussions which occur at the meeting, but no action will be taken by the other boards, commissions and committees whose members are in attendance.

I, the undersigned authority, do hereby certify that the above Notice of Meeting of the City Council of the City of Windcrest is a true and correct copy of said Notice and was posted on the bulletin board at City Hall of said City in a convenient place to the public and said Notice was posted more than seventy-two (72) hours prior to the meeting on May 18, 2020.

BY:


Rachel C. Dominguez, City Secretary

AGENDA NOTICES:**VIRTUAL PRESENCE AND PARTICIPATION:****NOTICE TO THE PUBLIC TO CALL IN**

If you wish to dial in on the meeting/briefing and listen in on the updates, please refer use the call in information below.

CALL IN INFORMATION

- **CALL IN NUMBER: 1-408-418-9388 (US TOLL)**
- **MEETING NUMBER: 296913272**
- **MEETING PASSWORD: 0518**

JOIN ONLINE:

- **GO TO WWW.WEBEX.COM**
- **CLICK ON JOIN MEETING (UPPER RIGHT HAND CORNER)**
- **ENTER MEETING NUMBER: 296913272**
- **MEETING PASSWORD: 0518**

NOTE: THE CALL IN NUMBER IS NOT TOLL FREE FOR CHARGES MAY APPLY DEPENDING ON YOUR PHONE PROVIDER. HOWEVER, IT IS FREE TO LISTEN AND PARTICIPATE IN THE CHAT ROOM, BY FOLLOWING THE INSTRUCTIONS (ON SCREEN PROMPTS) ON THE FREE CISCO WEBEX WEB APPLICATION ON YOUR COMPUTER OR CISCO WEBEX APP ON YOUR MOBILE DEVICE. PARTICIPATION IN THE CHAT ROOM IS CONSIDERED PUBLIC COMMENTS FOR PURPOSES OF THIS MEETING.

DECORUM REQUIRED:

Any disruptive behavior, including shouting or derogatory statements or comments may be ruled out of order by the Presiding Officer. Continuation of this type of behavior could result in a request by the Presiding Officer that the individual leave the meeting, and if refused, an order of removal.

ACTION BY COUNCIL AUTHORIZED:

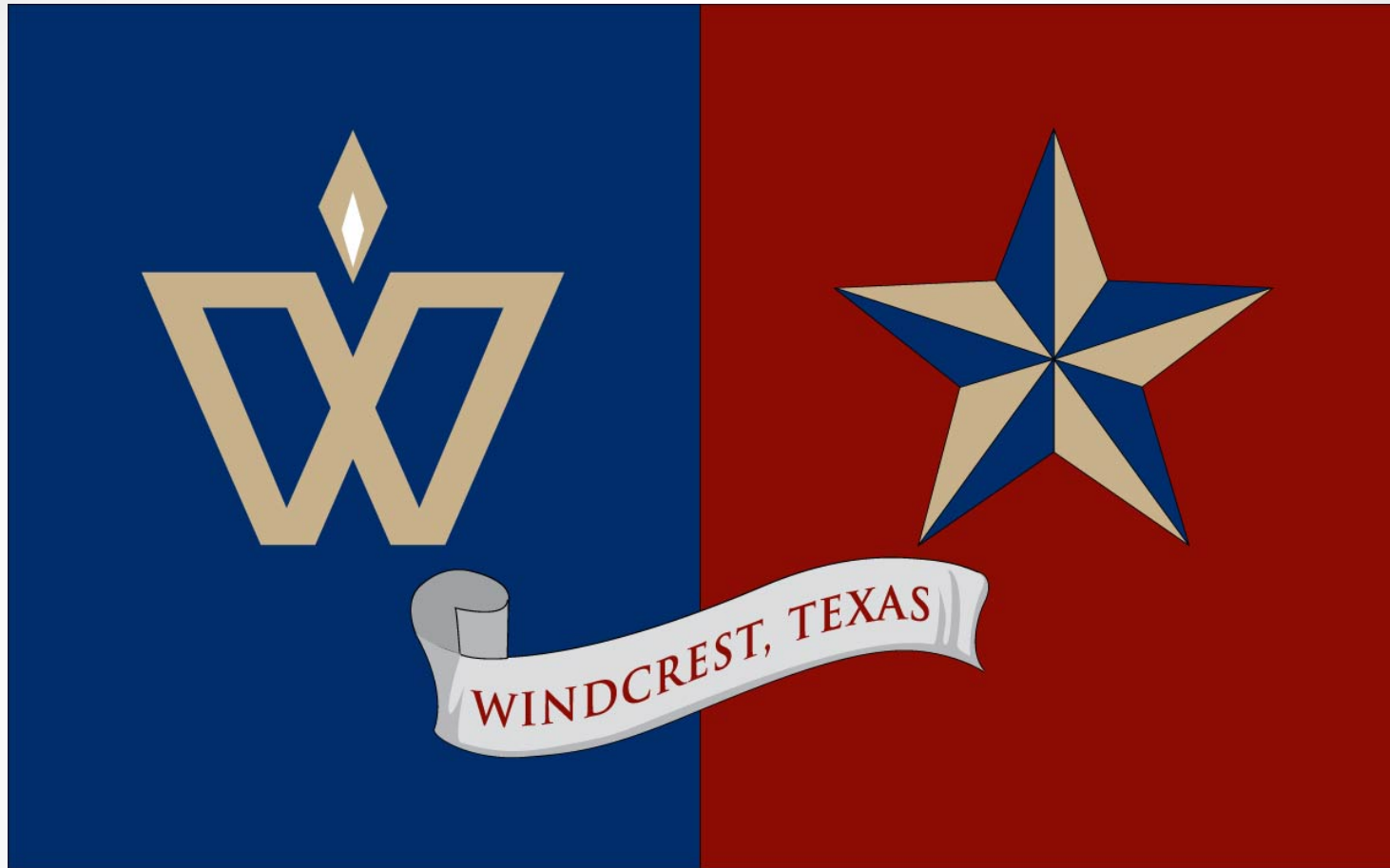
The City Council may vote and/or act upon any item within this Agenda. The Council reserves the right to retire into executive session concerning any of the items listed on this Agenda, pursuant to and in accordance with Texas Government Code § 551.072 (Deliberations about Real Property); § 551.073 (Deliberations about Gifts & Donations); § 551.076 (Deliberations about Security Devices); § 551.087 (Economic Development); and, § 551.071 to seek the advice of its attorney about pending or contemplated litigation, settlement offer or on a matter in which the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas conflict with the Open Meetings Act and may invoke this right where the City Attorney, the Mayor or a majority of the Governing Body deems an executive session is necessary to allow privileged consultation between the City Attorney and the governing body, if considered necessary and legally justified under the Open Meetings Act. The attorney may appear in person, or appear in executive session by conference call in accordance with applicable state law.

EXECUTIVE SESSIONS APPROVED BY CITY ATTORNEY:

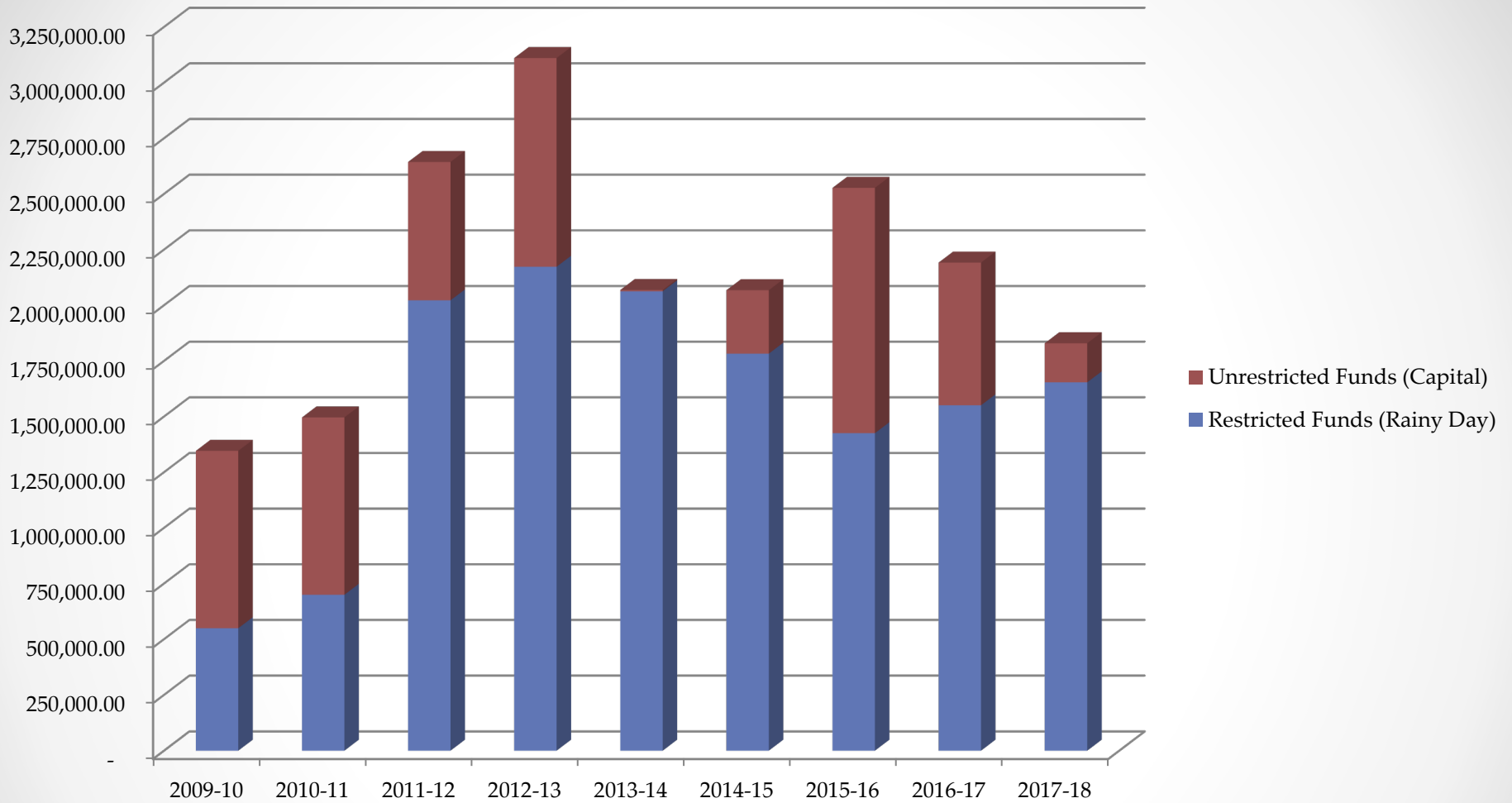
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This agenda has been reviewed and approved by the City's legal counsel and the presence of any subject in any Executive Session portion of the agenda constitutes a written interpretation of Texas Government Code Chapter 551 by legal counsel for the body and constitutes an opinion by the attorney that the items discussed therein may be legally discussed in the closed portion of the meeting considering available opinions of a court of record and opinions of the Texas Attorney General known to the attorney. This provision has been added to this agenda with the intent to meet all elements necessary to satisfy Texas Government Code Chapter 551.144(c) and the meeting is conducted by all participants in reliance on this opinion.

ATTENDANCE BY OTHER ELECTED OR APPOINTED OFFICIALS:

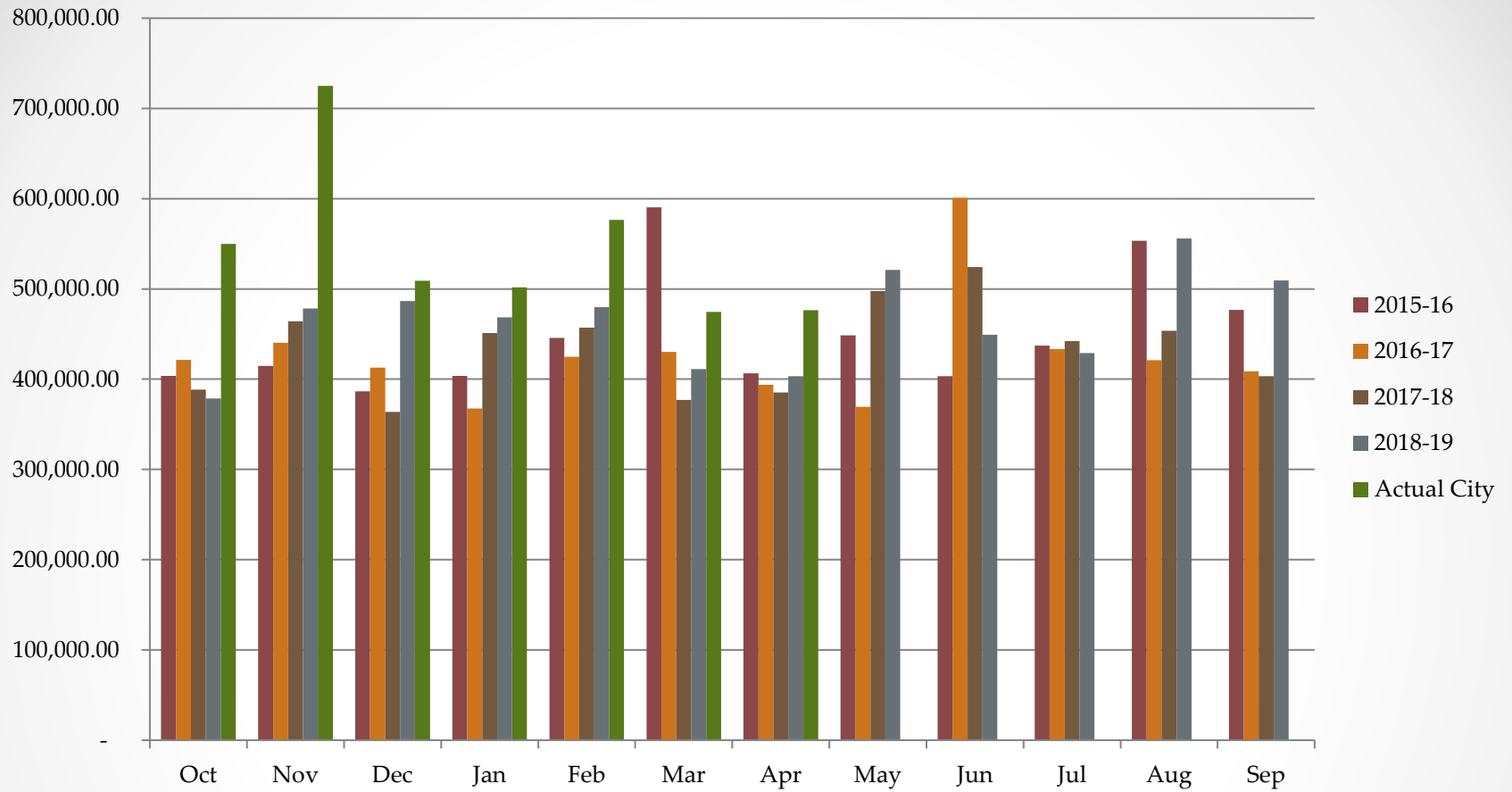
It is anticipated that members of the City Council, or other city board, commissions and/or committees may attend the meeting in numbers that may constitute a quorum of the other city boards, commissions and/or committees. Notice is hereby given that the meeting, to the extent required by law, is also noticed as a meeting of the other boards, commissions and/or committees of the City, whose members may be in attendance. The members of the boards, commissions and/or committees may participate in discussions on the same items listed on the agenda, which occur at the meeting, but no action will be taken by such in attendance unless such item and action is specifically provided for on an agenda for that board, commission or committee subject to the Texas Open Meetings Act.



Monthly Finance Report
April 2020

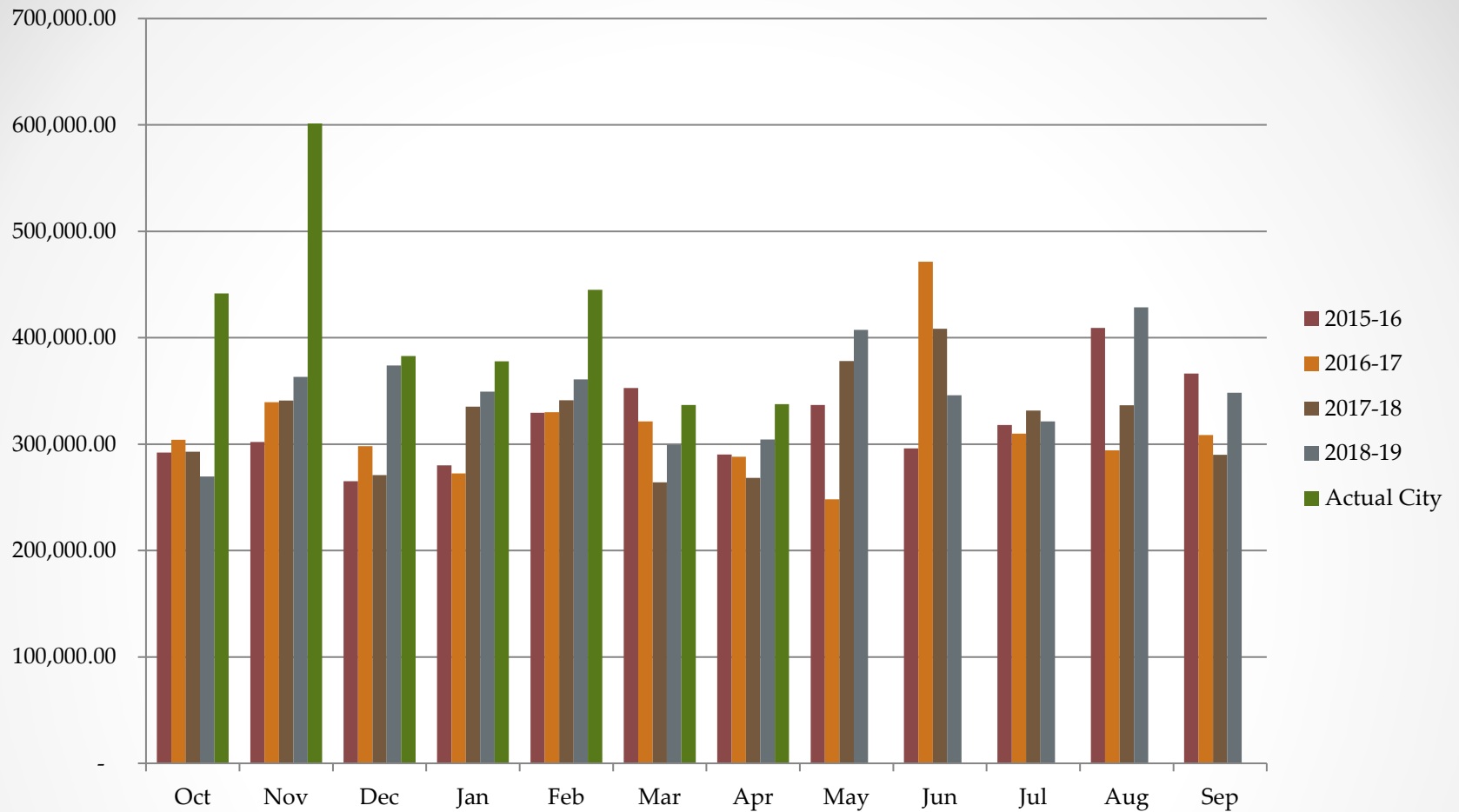


Fund Balance



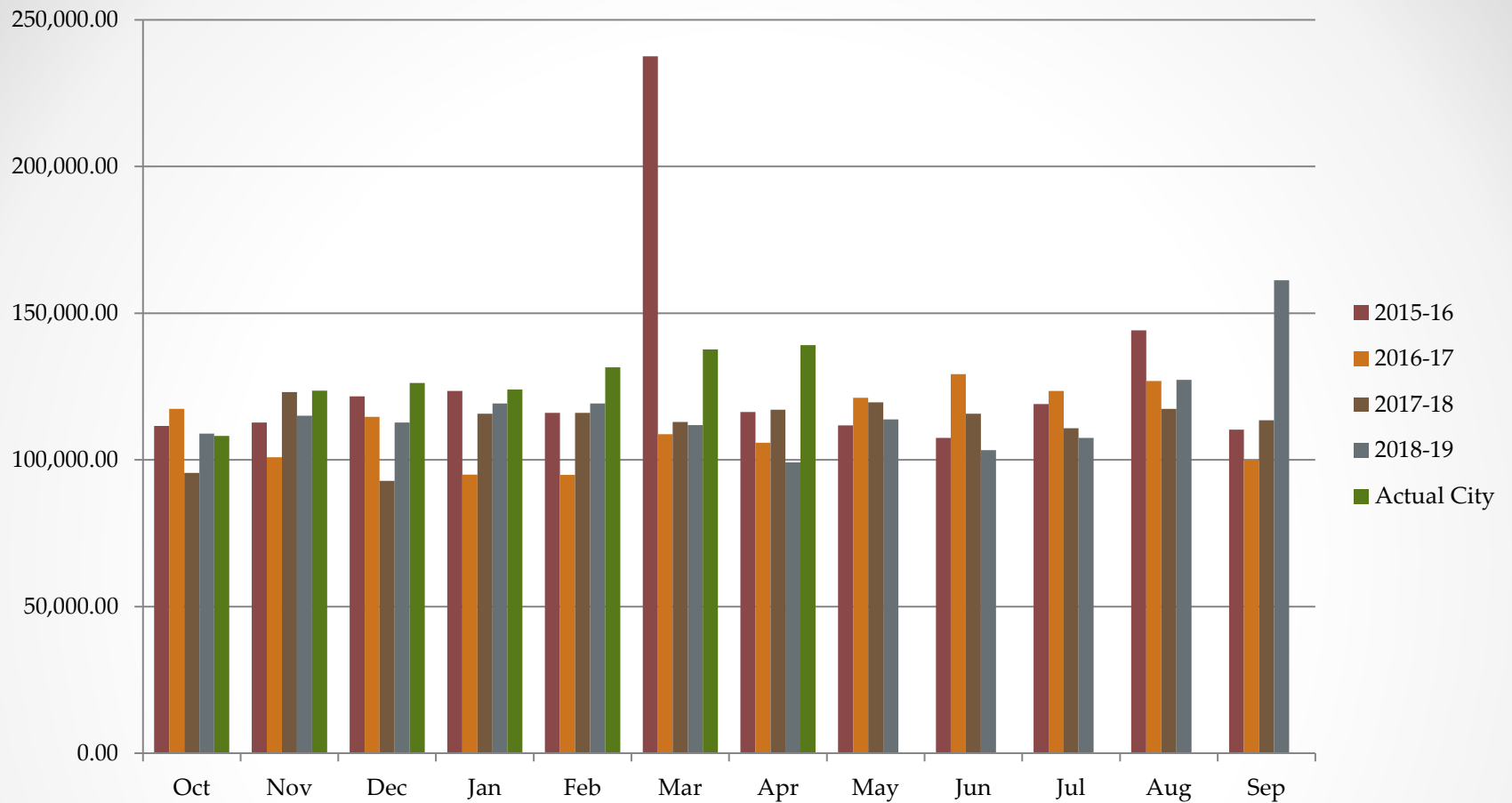
City of Windcrest

Total Sales Tax



City of Windcrest

Sales Tax less SA Annexation



City of Windcrest

Windcrest's Portion of SA Annexation

<u>Fund</u>	<u>YTD Revenues</u>	<u>YTD Expenditures</u>	<u>Current Cash Balance</u>
General	\$4,468,361.44	\$3,718,680.16	\$708,123.99
Garbage	\$986,341.31	\$562,572.74	\$27,402.21
Asset Seizure - Federal	\$2.10	\$0.00	\$359.98
County Fire Contribution	\$0.00	\$70.01	\$3,946.07
School Crossing Guard	\$3,973.20	\$1,572.80	\$14,613.12
Police Donations	\$585.06	\$220.07	\$1,698.95
Asset Seizure - State	\$2.33	\$0.00	\$398.32
Police Education Training	\$2,711.00	\$0.00	\$6,262.18
Economic Development Corp	\$274,669.44	\$127,780.31	\$1,193,055.90
Court Technology	\$10,268.54	\$14,086.23	\$21,604.55
Court Building Security	\$8,588.04	\$2,500.00	\$733.90
Hotel / Motel Tax	\$162,872.33	\$0.00	\$366,492.58
Debt Service	\$525,775.07	\$473,912.49	\$0.03
WCCPD	\$362,218.56	\$609,640.62	\$351,883.14
Capital Projects – Streets	\$268,830.99	\$536,367.11	\$35,756.66
Public, Education & Government	\$6,826.11	\$0.00	\$0.00
2019 Series A	\$39,039.82	\$1,133,273.30	6,200,444.81
2019 series B	\$27,819.15	\$23,806.79	1,341,360.01
Pooled Cash			<u>\$2,221,467.12</u>
<u>Total Cash</u>			<u>\$12,503,915.60</u>

**Monthly Financial Report (MFR) as of
April 30, 2020**

Table of Contents

Treasurer's Report

Bank Account Summary

Sales Tax Graphs

 Total City of Windcrest Sales Tax

 City of Windcrest Sales Tax - SA Annexation

 Sales tax associated with the SA Annexation

General Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Garbage Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Economic Development Corporation:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Hotel Motel Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Debt Service Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Windcrest Crime Control & Prevention District Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Capital Projects Street Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

2019 Series A Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

2019 Series B Fund:

 Balance Sheet, Financial Statement Summary and Financial Statement Summary

Summary of Total Assets in Non-Major Funds:

Asset Seizure Fund - Federal	\$	360
County Fire Contribution	\$	-
School Crossing Guard	\$	14,613
Police Donations	\$	1,699
Asset Seizure Fund - State	\$	398
Police Education Training Fund	\$	6,262
Court Technology Fund	\$	21,605
Court Building Security Fund	\$	734

April 30, 2020

4/30/2020

Treasurer's Report to Council Members:

The following summary and attached report is the monthly financial report for April 2020

This report covers **58.33%** of the current fiscal year. If you would like additional detail to support the report, it is available at the City Manager's office.

	Current Month	Prior Year	Current Y.T.D.	Prior Y.T.D.	Y.T.D. % to Budget
General Fund:					
Income (1)	\$ 239,830	\$ 438,064	\$ 4,468,361	\$ 4,180,923	57.70%
Expenditures (2)	\$ 348,161	\$ 455,948	\$ 3,718,680	\$ 4,306,433	50.37%
Net	\$ (108,331)	\$ (17,884)	\$ 749,681	\$ (125,510)	
Garbage Fund:					
Income	\$ 369,261	\$ 359,444	\$ 986,341	\$ 1,038,304	75.68%
Expenditures	\$ 91,163	\$ 88,998	\$ 562,573	\$ 821,624	44.59%
	\$ 278,098	\$ 270,446	\$ 423,769	\$ 216,679	
Debt Service Fund:					
Income	\$ -	\$ -	\$ 525,775	\$ -	
Transfers In	\$ -	\$ -	\$ -	\$ -	
Expenditures	\$ -	\$ -	\$ 473,912	\$ -	
Net	\$ -	\$ -	\$ 51,863	\$ -	
Capital Projects Fund:					
Income	\$ 28,550	\$ 57,691	\$ 268,831	\$ 255,626	
Expenditures	\$ -	\$ -	\$ 536,367	\$ 26,571	
Transfers Out	\$ -	\$ -	\$ -	\$ -	
Net	\$ 28,550	\$ 57,691	\$ (267,536)	\$ 229,055	
2019 Series A					
Income	\$ 549	\$ -	\$ 39,040	\$ -	
Expenditures	\$ 17,658	\$ -	\$ 1,133,273	\$ -	
Transfers Out	\$ -	\$ -	\$ -	\$ -	
Net	\$ (17,109)	\$ -	\$ (1,094,233)	\$ -	
2019 Series B					
Income	\$ 21,215	\$ -	\$ 27,700	\$ -	
Expenditures	\$ 23,807	\$ -	\$ 23,807	\$ -	
Transfers Out	\$ -	\$ -	\$ -	\$ -	
Net	\$ (2,592)	\$ -	\$ 3,894	\$ -	
Total Funds:					
Income	\$ 659,405	\$ 855,199	\$ 6,316,049	\$ 5,474,853	
Expenditures	\$ 480,789	\$ 544,946	\$ 6,448,613	\$ 5,154,628	
Transfers In / (Out)	\$ -	\$ -	\$ -	\$ -	
Net All Funds	\$ 178,616	\$ 310,253	\$ (132,564)	\$ 320,224	
Sales Tax Collections (Actual Received):					
Crime Control District	\$ 67,970	\$ 57,558	\$ 514,737	\$ 443,363	
EDC	\$ 68,080	\$ 57,633	\$ 520,317	\$ 443,811	
General Fund	\$ 272,319	\$ 230,530	\$ 2,149,062	\$ 1,775,246	
Ad Valorem Tax Offset	\$ 68,080	\$ 57,633	\$ 520,317	\$ 443,811	
For Street Maintenance	\$ 68,080	\$ 57,633	\$ 520,317	\$ 443,811	
Net Sales Tax	\$ 544,528	\$ 460,986	\$ 4,224,750	\$ 3,550,043	
Annexed Area to S.A.	\$ (137,663)	\$ (99,176)	\$ (889,612)	\$ (786,261)	

We recommend that this Treasurer's Report be approved.

Respectfully Submitted,

Donald Hakala/Rafael Castillo Jr.
Finance Director City Manager

CITY OF WINDCREST FINANCE SUMMARY
For the Period Ending April 2020

	Account	Interest Rate
Frost Bank Accounts:		
• Pooled Checking	\$ 2,221,467	0.12%
• General Fund Money Market	\$ 556,036	0.22%
• General Fund Development Escrow	\$ -	
• General Fund Certificate of Deposit	\$ 25,000	1.60%
• Garbage Fund Checking	\$ 26,493	0.12%
• Garbage Fund Money Market	\$ 477	0.12%
• Debt Service Fund	\$ 0	0.12%
• Capital Projects Street Fund	\$ 24,929	0.12%
• Hotel/Motel Occupancy Tax Fund	\$ 366,493	0.12%
• Windcrest Crime Control & Prevention Dist. Fund	\$ 351,883	0.12%
• Economic Development Corporation (Includes multiple accts.)	\$ 1,193,056	0.12%
• Asset Forfeiture/Seizure Savings (Federal)	\$ 360	0.12%
• County Fire Contribution Savings	\$ -	0.12%
• School Crossing Guard Savings	\$ 14,613	0.12%
• Police Donation Savings	\$ 1,699	0.12%
• Asset Forfeiture/Seizure Savings (State)	\$ 398	0.12%
• Police Education/Training Savings	\$ 6,262	0.12%
• Municipal Court Technology Fund	\$ 21,605	0.12%
• Municipal Court Building Security Fund	\$ 734	0.12%
• 2019 Series A	\$ 6,200,445	0.12%
• 2019 Series B	\$ 1,341,360	0.12%
Total - Frost National Bank	\$ 12,353,310	
INVESTMENTS:		
• Texpool (breakout by fund on following page)	\$ 139,778	0.4552%
• Texpool for Streets	\$ 10,827	0.4552%
Total TexPool	\$ 150,606	
TOTAL ALL FUNDS	\$ 12,503,916	

Texpool Breakout by Fund

Balance		
Fund #	Fund Name	4/30/2020
1	General Fund	127,088.03
2	Garbage	432.15
17	Debt Service	-
19	Capital Project Street	8,312.08
13	Economic Dev. Fund	-
5	County Fire Contribution	3,946.07
9	Asset Seizure Fund - State	-
	Total	139,778.33

2019 SERIES A FUND AS OF 4/30/2020

BEGINNING FUND BALANCE				\$ 7,277,019.97
REVENUES				
	INTEREST			\$ 39,039.82
EXPENDITURES				
	CAPITAL EXPENDITURES	11/21/2019	Texas Material Group	\$ 912,239.73
		1/9/2020	Texas Material Group	\$ 203,375.25
		4/13/2020	Texas Material Group	\$ 17,658.32
END FUND BALANCE AS OF 4/30/2020				\$ 6,182,786.49

2019 SERIES B FUND AS OF 4/30/2020

BEGINNING FUND BALANCE				\$ 1,903,178.78
REVENUES				
	INTEREST			\$ 7,819.15
	MISC. INCOME			\$ 20,000.00
EXPENDITURES				
	CAPITAL EXPENDITURES			
		3/18/2020	Sidons-Martin Emergency Group	\$ 23,806.79
END BALANCE AS OF 4/30/2020				\$ 1,907,191.14

01 -GENERAL FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE
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ASSETS

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01-1100	CASH - FROST OPERATING	0.00
01-1102	CLAIM ON CASH	1,495,519.74
01-1105	SAVINGS	556,035.96
01-1110	PETTY CASH	1,500.00
01-1111	STORE PETTY CASH	100.00
01-1112	VISA CARDS-PETTY CASH	0.00
01-1113	POOL PETTY CASH	0.00
01-1116	INVESTMENT/CERT DEPOSIT	0.00
01-1120	CERT. OF DEPOSIT-RESTRICTED	25,000.00
01-1125	INVESTMENT/TEXPOOL	127,088.03
01-1126	FROST ESCROW	0.00
01-1127	IBC BANK ESCROW	0.00
01-1128	EXPENSE CARD	4,676.81
01-1129	EXPENCE CARD A	1,164.27
01-1130	EXPENCE CARD B	641.84
01-1131	EXPENCE CARD C	475.89
01-1132	EXPENCE CARD D	1,176.49
01-1133	EXPENCE CARD E	827.75
01-1134	EXPENCE CARD F	695.63
01-1135	EXPENCE TRAVEL CARD 1	241.70
01-1136	EXPENCE TRAVEL CARD 2	9.76
01-1137	EXPENCE TRAVEL CARD 3	0.00
01-1138	EXPENCE TRAVEL CARD 4	318.45
01-1201	PREPAID INSURANCE	0.00
01-1204	PREPAID SALES TAX	0.00
01-1205	PREPAID EMS SERVICE	0.00
01-1210	PREPAID VOLUNTEER PENSION	0.00
01-1215	PREPAID MAINTENANCE CONTRACTS	0.00
01-1310	DUE FROM GARBAGE FUND	284,672.33
01-1320	DUE FROM ASSET FORF/SEIZ	0.00
01-1325	DUE FROM S C G FUND	0.00
01-1330	DUE FROM COUNTY FIRE CONT	0.00
01-1335	DUE FROM DARE PROGRAM FN	0.00
01-1340	DUE FROM POLICE DONATION ACCT	0.00
01-1345	DUE FROM ASSET SEIZ/STATE	0.00
01-1350	DUE FROM POLICE TRAINING FUND	0.00
01-1351	DUE FROM ROOSEVELT SCHOLARSHIP	0.00
01-1353	DUE FROM COURT TECH. FUND	0.00
01-1354	DUE FROM COURT BLDG. SEC. FUND	0.00
01-1355	DUE FROM EDC	145,000.00
01-1356	DUE FROM HOTEL/MOTEL TAX FUND	0.00
01-1357	DUE FROM TX TAX NOTES 2002 FUN	0.00
01-1380	DUE FROM WCCPD	0.00
01-1381	DUE FROM TX TAX NOTES 2005	0.00
01-1383	DUE FROM HRA	0.00
01-1501	A/R-ADVALOREM TAXES	47,671.75
01-1504	ALLOWANCE FOR DOUBT -WARRANTS	(465,148.24)
01-1505	ALLOW FOR DOUBTFUL ACCTS	(7,150.76)

01 -GENERAL FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE
01-1510	A/R-SALES TAX	(0.96)
01-1515	A/R-LIQUOR TAX	0.00
01-1562	A/R - GRANT FUNDS	0.00
01-1601	A/R-MISC FEES	6,798.10
01-1602	A/R WARRANTS - CITY PORTION	620,197.65
01-1605	A/R-FRANCHISE	0.00
01-1608	A/R - UNAPPLIED CREDITS	0.00
01-1620	A/R-WATER DISTRICT #10	0.00
01-1635	A/R-MISC. II	0.00
01-1636	A/R POST OFFICE PETTY CASH	<u>200.00</u>
		<u>2,847,712.19</u>
	TOTAL ASSETS	2,847,712.19
		=====
LIABILITIES		
=====		
01-2200	WAGES PAYABLE	0.00
01-2205	FED WITHHOLDING	0.00
01-2210	FICA PAYABLE - EMPLOYER	0.00
01-2215	FICA PAYABLE - EMPLOYEE	0.00
01-2220	MEDICARE PAYABLE EMPLOYER	0.00
01-2225	MEDICARE PAYABLE EMPLOYEE	0.00
01-2230	TMRS PAYABLE	15,093.78
01-2235	TWC TAXES PAYABLE	0.00
01-2240	TRUSTEE PAYABLE	0.00
01-2242	SEC 457B DEF.COMP. PAYABLE	64.24
01-2245	LIFE INSURANCE PAYABLE	(396.86)
01-2246	SHORT TERM DISABILITY	1,125.23
01-2248	LEGALSHIELD VOL DED	0.00
01-2250	SUPPLEMENTAL INSURANCE	9,240.30
01-2251	DEPENDENT DENTAL INSURANCE	(4,092.03)
01-2252	DEPENDENT VISION INSURANCE	(153.76)
01-2255	DEP HLTH/OPT LIFE PAYABLE	(4,143.61)
01-2256	A/P FSA Med Ded	(3,083.36)
01-2257	A/P FSA DEP DED	0.00
01-2258	DUE TO EWALD TRACTOR	0.00
01-2259	A/P MISC DED	0.00
01-2310	DUE TO GARBAGE FUND	0.00
01-2320	DUE TO ASSET FORF/SEIZ FN	0.00
01-2325	DUE TO S.C.G. FUND	144.70
01-2330	DUE TO COUNTY FIRE CONTRI	0.00
01-2335	DUE TO DARE PROGRAM FUND	0.00
01-2340	DUE TO POLICE DONATION FUND	0.00
01-2345	DUE TO ASSET SEIZURE/STAT	0.00
01-2350	DUE TO POLICE TRAINING FUND	0.00
01-2351	DUE TO ROOSEVELT SCHOLARSHIP	0.00
01-2353	DUE TO COURT TECHNOLOGY FUND	0.00
01-2354	DUE TO COURT BLDG SECURITY FUN	0.00
01-2355	DUE TO EDC FUND	0.00
01-2356	DUE TO HOTEL/MOTEL TAX FUND	0.00

01 -GENERAL FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE
01-2357	DUE TO TEXAS TAX NOTE FUND	0.00
01-2358	DUE TO WCC&PD FUND	0.00
01-2400	A/P PENDING	260.33
01-2401	A/P-GENERAL FUND	0.00
01-2402	A/P-COMP TO VICTIMS (CVC)	375.41
01-2403	A/P-REHABILITATION (CR)	0.00
01-2404	A/P-CRIMINAL JUSTICE (CJP)	10.00
01-2405	A/P-PERSONNEL TRAIN (JCPT)	50.07
01-2406	A/P-MANAGEMENT (LEMI)	0.00
01-2407	A/P-OFFICIERS ADM (LEOA)	0.00
01-2408	A/P-GENERAL REVENUE (GR)	0.00
01-2409	A/P-LIAB INS (OCL)	0.00
01-2410	A/P-SALES TAX	2,415.21
01-2411	BOND ESCROW (COURT)	22,759.00
01-2412	A/P-CONTINUING ED (LEOE)	0.00
01-2413	A/P TIME PAYMENT	36.82
01-2414	A/P MUN. BLDG. SECURITY (MCBS)	0.00
01-2415	A/P FUGITIVE APPREHENSION (FA)	15.00
01-2416	A/P CONSOLIDATED CRT COST (CCC)	8,411.63
01-2417	A/P JUVENILE CRIME (JCD)	10.01
01-2418	A/P FTA FEE (FTA)	(454.80)
01-2420	DEPOSITS-CONTRACTORS	0.00
01-2421	A/P-RESTITUTION	0.00
01-2422	DEPOSITS-VEHICLE STORAGE	3,819.38
01-2423	AP-CHILD SAFETY SEAT & BELT	326.80
01-2424	A/P CORRECTIONAL MGMT (CMI)	10.01
01-2425	DEPOSITS-CIVIC CENTER	3,210.00
01-2426	A/P INDIGENT DEFENSE FEE	174.70
01-2427	DEPOSITS - TACO CABANA	0.00
01-2428	A/P - MUNI SVC BUREAU	0.00
01-2429	A/P - STATE TRAFFIC FEES	3,493.78
01-2430	BOND REFUNDS (COURT)	3,176.00
01-2431	A/P - STATE JURY FEE (SJRF)	361.46
01-2432	A/P - EXPUNCTION FEE (EXPUNG)	0.00
01-2433	A/P-RESTITUT FEE-STATE (RSTS)	0.00
01-2434	A/P-JUDICIAL FEE-STATE (JFCT)	481.96
01-2436	A/P-LINEBARGER COURT COLLECTIO	1,565.69
01-2437	A/P-CIVIL JUSTICE FINE (CJFS)	2.27
01-2438	BONDS APPLIED (COURT)	0.00
01-2440	FROST BANK ESCROW FUNDS	0.00
01-2449	A/P CAPITAL LEASE	0.00
01-2450	A/P LEASE	0.00
01-2451	A/P SALES TAX PAYBACK	0.00
01-2455	A/P VFFP	0.00
01-2470	ACCRUED COMPENSATED ABSENCES	0.00
01-2471	PENDING PRIOR PERIOD AJE	(0.07)
01-2475	ENCUMBRANCES	0.00
01-2476	RESERVE FOR ENCUMBRANCES	0.00
01-2477	PRIOR YEAR ENCUMBRANCES	0.00
01-2478	RESERVE PRIOR YEAR ENCUMBRANCE	0.00

01 -GENERAL FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
01-2501	DEFERRED REVENUE-TAXES	40,520.99	
01-2502	DEFERRED REVENUE - OTHER	0.00	
01-2503	DEFERRED REVENUE - WARRANTS	<u>155,049.41</u>	
	TOTAL LIABILITIES		<u>259,879.69</u>
EQUITY			
=====			
01-3201	FUND BALANCE	1,838,151.22	
01-3202	FUND BALANCE-RESTRICTED	0.00	
01-3205	FOR ECONOMIC IMPACT	0.00	
01-3207	FOR CASHFLOW	0.00	
01-3209	FOR EMERGENCY CONTINGENCY	0.00	
01-3213	FOR STREET MAINTENANCE	0.00	
01-3214	FOR STREET SWEEPER	<u>0.00</u>	
	TOTAL BEGINNING EQUITY	1,838,151.22	
	TOTAL REVENUE	4,468,361.44	
	TOTAL EXPENSES	<u>3,718,680.16</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	749,681.28	
	TOTAL EQUITY & FUND BALANCE		<u>2,587,832.50</u>
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		2,847,712.19
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>7,744,046</u>	<u>7,744,046</u>	<u>239,830.41</u>	<u>4,468,361.44</u>	<u>4,183,710.44</u>	<u>0.00</u>	<u>57.70</u>	<u>3,275,684.20</u>
TOTAL REVENUES	7,744,046	7,744,046	239,830.41	4,468,361.44	4,183,710.44	0.00	57.70	3,275,684.20
<u>EXPENDITURE SUMMARY</u>								
<u>01-ADMINISTRATION</u>								
SALARIES & BENEFITS	241,613	241,613	19,142.96	120,847.17	115,471.34	0.00	50.02	120,765.93
OTHER EXPENSES	84,800	84,800	182.83	50,546.29	84,334.76	0.00	59.61	34,253.71
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 01-ADMINISTRATION	326,413	326,413	19,325.79	171,393.46	199,806.10	0.00	52.51	155,019.64
<u>02-POLICE DEPARTMENT</u>								
SALARIES & BENEFITS	2,211,860	2,115,668	138,451.96	1,167,514.99	1,274,844.73	0.00	55.18	948,153.20
OTHER EXPENSES	125,800	175,800	(2,120.19)	48,100.57	63,968.29	832.50	27.83	126,866.93
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 02-POLICE DEPARTMENT	2,337,660	2,291,468	136,331.77	1,215,615.56	1,338,813.02	832.50	53.09	1,075,020.13
<u>03-FIRE DEPARTMENT</u>								
SALARIES & BENEFITS	224,398	404,623	21,178.71	118,756.68	105,243.70	0.00	29.35	285,866.35
OTHER EXPENSES	227,500	227,500	3,620.86	149,174.27	48,677.86	20,312.10	74.50	58,013.63
CAPITAL EXPENSES	0	14,838	0.00	0.00	18,640.10	0.00	0.00	14,838.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 03-FIRE DEPARTMENT	451,898	646,961	24,799.57	267,930.95	172,561.66	20,312.10	44.55	358,717.98
<u>04-SPECIAL SERVICES</u>								
SALARIES & BENEFITS	83,787	83,787	2,306.30	26,609.83	17,756.19	0.00	31.76	57,176.77
OTHER EXPENSES	140,200	140,200	2,159.11	72,569.81	80,406.68	0.00	51.76	67,630.19
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 04-SPECIAL SERVICES	223,987	223,987	4,465.41	99,179.64	98,162.87	0.00	44.28	124,806.96
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>06-PARKS & RECREATION</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER EXPENSES	161,000	161,000	8,890.70	51,416.04	80,251.57	0.00	31.94	109,583.96
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 06-PARKS & RECREATION	161,000	161,000	8,890.70	51,416.04	80,251.57	0.00	31.94	109,583.96
<u>07-FLEET MECHANIC</u>								
SALARIES & BENEFITS	64,860	64,860	5,073.76	34,729.60	39,264.77	0.00	53.55	30,130.25
OTHER EXPENSES	110,450	110,450	6,417.67	47,771.65	54,319.89	0.00	43.25	62,678.35
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 07-FLEET MECHANIC	175,310	175,310	11,491.43	82,501.25	93,584.66	0.00	47.06	92,808.60
<u>08-COURT</u>								
SALARIES & BENEFITS	355,207	355,207	27,761.52	191,211.38	181,359.30	0.00	53.83	163,995.37
OTHER EXPENSES	37,150	37,150	471.54	11,124.87	13,514.71	0.00	29.95	26,025.13
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 08-COURT	392,357	392,357	28,233.06	202,336.25	194,874.01	0.00	51.57	190,020.50
<u>DEPT 09</u>								
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL DEPT 09	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>10-FACILITY DIVISION</u>								
OTHER EXPENSES	222,000	222,000	5,905.42	68,326.60	106,035.63	663.84	31.08	153,009.56
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 10-FACILITY DIVISION	222,000	222,000	5,905.42	68,326.60	106,035.63	663.84	31.08	153,009.56
<u>11-CIVIC CENTER</u>								
SALARIES & BENEFITS	146,104	146,104	11,431.96	53,281.21	46,495.58	0.00	36.47	92,822.80
OTHER EXPENSES	60,000	60,000	1,959.68	35,523.68	31,729.91	2,145.94	62.78	22,330.38
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 11-CIVIC CENTER	206,104	206,104	13,391.64	88,804.89	78,225.49	2,145.94	44.13	115,153.18
<u>14-CONTRACT SERVICES</u>								
OTHER EXPENSES	443,046	443,046	5,362.20	310,602.84	347,927.63	0.00	70.11	132,443.06
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 14-CONTRACT SERVICES	443,046	443,046	5,362.20	310,602.84	347,927.63	0.00	70.11	132,443.06
<u>15-TECH SUPPORT</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER EXPENSES	360,500	360,500	8,834.15	154,218.79	226,222.83	0.00	42.78	206,281.21
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 15-TECH SUPPORT	360,500	360,500	8,834.15	154,218.79	226,222.83	0.00	42.78	206,281.21

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>16-PUBLIC WORKS</u>								
SALARIES & BENEFITS	524,217	524,217	33,847.99	302,086.62	378,373.04	0.00	57.63	222,130.20
OTHER EXPENSES	95,000	95,000	12,330.21	48,519.25	31,598.88	0.00	51.07	46,480.75
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 16-PUBLIC WORKS	619,217	619,217	46,178.20	350,605.87	409,971.92	0.00	56.62	268,610.95
<u>17-ANIMAL CONTROL</u>								
SALARIES & BENEFITS	115,061	115,061	8,723.26	60,426.10	69,498.43	0.00	52.52	54,634.97
OTHER EXPENSES	58,800	58,800	1,931.69	23,502.85	14,239.41	0.00	39.97	35,297.15
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 17-ANIMAL CONTROL	173,861	173,861	10,654.95	83,928.95	83,737.84	0.00	48.27	89,932.12
<u>18-WCCPD</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 18-WCCPD	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>19-CODE ENFORCEMENT</u>								
SALARIES & BENEFITS	65,159	65,159	5,847.95	37,061.93	42,145.34	0.00	56.88	28,097.19
OTHER EXPENSES	2,385	2,385	0.00	428.30	179.99	0.00	17.96	1,956.70
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 19-CODE ENFORCEMENT	67,544	67,544	5,847.95	37,490.23	42,325.33	0.00	55.50	30,053.89
<u>20-FINANCE</u>								
SALARIES & BENEFITS	308,621	308,621	25,100.38	165,761.16	177,409.57	0.00	53.71	142,859.58
OTHER EXPENSES	38,250	38,250	1,988.96	23,821.67	20,686.18	0.00	62.28	14,428.33
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 20-FINANCE	346,871	346,871	27,089.34	189,582.83	198,095.75	0.00	54.66	157,287.91
<u>21-ECONOMIC DEVELOPMENT (E</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 21-ECONOMIC DEVELOPMENT (E	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>23-DEPT</u>								
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 23-DEPT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>25-CITY MANAGEMENT</u>								
SALARIES & BENEFITS	187,529	187,529	14,793.73	100,243.69	104,286.68	0.00	53.46	87,284.90
OTHER EXPENSES	10,550	10,550	7.50	6,894.18	461.00	0.00	65.35	3,655.82
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 25-CITY MANAGEMENT	198,079	198,079	14,801.23	107,137.87	104,747.68	0.00	54.09	90,940.72

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>26-POOL</u>								
SALARIES & BENEFITS	101,261	101,261	0.00	415.24	3,500.00	0.00	0.41	100,845.73
OTHER EXPENSES	45,800	45,800	538.25	3,502.12	7,825.62	0.00	7.65	42,297.88
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 26-POOL	147,061	147,061	538.25	3,917.36	11,325.62	0.00	2.66	143,143.61
<u>27-POST OFFICE</u>								
SALARIES & BENEFITS	51,676	51,676	799.00	23,365.10	29,673.50	0.00	45.21	28,311.31
OTHER EXPENSES	21,800	21,800	0.00	7,149.85	2,342.18	0.00	32.80	14,650.15
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 27-POST OFFICE	73,476	73,476	799.00	30,514.95	32,015.68	0.00	41.53	42,961.46
<u>28-HUMAN RESOURCES</u>								
OTHER EXPENSES	131,000	131,000	5,412.20	57,038.99	72,869.33	0.00	43.54	73,961.01
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 28-HUMAN RESOURCES	131,000	131,000	5,412.20	57,038.99	72,869.33	0.00	43.54	73,961.01
<u>29-MERIT INCREASES</u>								
SALARIES & BENEFITS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 29-MERIT INCREASES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>30-CAPITAL</u>								
OTHER EXPENSES	0	0	0.00	0.00	7,677.95	0.00	0.00	0.00
CAPITAL EXPENSES	224,212	224,212 (	1,798.46)	146,136.84	340,945.32	0.00	65.18	78,075.25
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 30-CAPITAL	224,212	224,212 (	1,798.46)	146,136.84	348,623.27	0.00	65.18	78,075.25
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES	7,281,595	7,430,466	348,161.10	3,718,680.16	4,240,177.89	23,954.38	50.37	3,687,831.70
REVENUE OVER/ (UNDER) EXPENDITURES	462,451	313,579 (	108,330.69)	749,681.28 (	56,467.45) (	23,954.38)	231.43 (	412,147.50)

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
01-4101 ADVALOREM TAX CURRENT	2,473,069	2,473,069	21,311.63	2,344,632.29	2,021,296.75	0.00	94.81	128,436.71
01-4105 ADVALOREM TAX DELINQUENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4106 STREET FUND TRANSFER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4110 ADVALOREM TAX PEN & INT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4115 SALES TAX	2,524,118	2,524,118	114,174.40	1,074,387.23	1,020,990.53	0.00	42.56	1,449,730.77
01-4116 SALES TX-AD VALOREM TX OFFSET	631,030	631,030	28,543.58	268,596.90	255,247.62	0.00	42.56	362,433.10
01-4117 SALES TAX FOR STREET MAINT.	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4118 HOTEL OCC. TAX FUND TRANSER	250,000	250,000	0.00	0.00	0.00	0.00	0.00	250,000.00
01-4119 HOTEL OCC.TAX F. TRSFR CAPITAL	20,000	20,000	0.00	0.00	0.00	0.00	0.00	20,000.00
01-4120 MIXED BEVERAGE GROSS RECEIPTS	26,000	26,000	7,880.23	15,474.71	15,138.06	0.00	59.52	10,525.29
01-4121 HOTEL OCC. TAX SPECIAL EVENTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4201 CPS ENERGY FRANCHISE FEES	496,095	496,095	0.00	144,149.75	148,662.66	0.00	29.06	351,945.08
01-4205 AT&T TELECOM FRANCHISE FEES	30,000	30,000	935.72	24,934.83	13,797.74	0.00	83.12	5,065.17
01-4210 TIME WARNER CABLE & TEL FEES	35,000	35,000	0.00	39,696.52	39,357.86	0.00	113.42 (	4,696.52)
01-4211 TWC - PEG Fee 1%	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4215 OTHER TELECOM FEES	2,000	2,000	0.00	1,373.32	1,564.50	0.00	68.67	626.68
01-4230 FRANCHISE FEES -WATER	2,600	2,600	0.00	0.00	0.00	0.00	0.00	2,600.00
01-4301 INTEREST	33,780	33,780	369.11	17,169.65	20,598.84	0.00	50.83	16,610.35
01-4302 FRANCHISE FEE- SANITATION	1,125	1,125	26.12	78.61	333.38	0.00	6.99	1,046.39
01-4310 COURT FINES	563,896	563,896	33,744.37	351,420.30	275,774.79	0.00	62.32	212,475.86
01-4320 WINDCREST GIFT SHOP	0	0	0.00	0.00	479.30	0.00	0.00	0.00
01-4352 WINDFEST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4354 FOREST OF ANGELS MEMORIAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4355 LITTLE LEAGUE FEES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4357 CRAPE MYRTLE DONATIONS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4401 SWIMMING POOL FEES	27,000	27,000	0.00	0.00	0.00	0.00	0.00	27,000.00
01-4402 SWIMMING POOL CONCESSIONS	3,000	3,000	0.00	0.00	0.00	0.00	0.00	3,000.00
01-4403 SWIMMING POOL B-PARTIES	3,000	3,000	0.00	0.00	0.00	0.00	0.00	3,000.00
01-4408 CONTRACTOR ANNUAL REGISTRATION	5,520	5,520	140.00	2,265.00	1,930.00	0.00	41.03	3,255.00
01-4409 BUILDING PERMIT FEES	210,000	210,000	8,151.55	65,821.55	128,411.96	0.00	31.34	144,178.45
01-4410 FOOD PERMIT FEES	26,463	26,463	300.00	16,462.50	14,200.00	0.00	62.21	10,000.15
01-4420 LIQUOR LICENSE FEES	2,100	2,100	0.00	2,737.50	2,197.50	0.00	130.36 (	637.50)
01-4425 VEHICLE STORAGE FEES	18,000	18,000	0.00	0.00	1,080.00	0.00	0.00	18,000.00
01-4430 CIVIC CENTER FEES	28,000	28,000	0.00	12,065.00	16,575.00	0.00	43.09	15,935.00
01-4435 DOG TAG & IMPOUNDMENT FEES	450	450	0.00	120.00	205.00	0.00	26.67	330.00
01-4440 MISCELLANEOUS FEES	2,000	2,000	10.00	1,936.95	1,125.50	0.00	96.85	63.05
01-4441 ALARM & PERMIT FEES	4,500	4,500	0.00	2,650.00	1,950.00	0.00	58.89	1,850.00
01-4442 PLATTING/ZONING/VAR FEES	300	300	0.00	0.00	35.00	0.00	0.00	300.00
01-4444 FOOD HANDLER TRAINING FEES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4450 POST OFFICE SUBSIDY	25,000	25,000	0.00	12,499.98	14,583.31	0.00	50.00	12,500.02
01-4451 EDC REIMBURSEMENT	0	0	0.00	10,000.00	0.00	0.00	0.00 (	10,000.00)
01-4455 WCCPD REIMBURSEMENT	53,000	53,000	0.00	0.00	0.00	0.00	0.00	53,000.00
01-4460 MISCELLANEOUS INCOME	60,000	60,000	10,660.36	19,154.96	37,618.20	0.00	31.92	40,845.04
01-4461 WORKER'S COMP	12,000	12,000	0.00	0.00	556.92	0.00	0.00	12,000.00
01-4462 DONATIONS FD	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4463 DONATIONS SPECIAL EVENTS	0	0	0.00	1,122.20	0.00	0.00	0.00 (	1,122.20)
01-4470 LEASE OF LAND	50,000	50,000	8,333.34	29,166.69	25,000.02	0.00	58.33	20,833.31
01-4471 LEASE OF BUILDING SPACE	0	0	0.00	1,200.00	0.00	0.00	0.00 (	1,200.00)
01-4475 INCOME - BAD DEBT	0	0	0.00	0.00	0.00	0.00	0.00	0.00

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
01-4500 COURT TECHNOLOGY TRANS IN	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4501 GARBAGE FUND ADMIN TRANSFER	125,000	125,000	0.00	0.00	125,000.00	0.00	0.00	125,000.00
01-4502 FIRE TRUCK REIMBURSEMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4503 LASERFICHE RECORD SYS TRANSFER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4504 COURT SECURITY FUND TRANSFER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4505 GARBAGE FUND TRANSFER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4507 GRANT PROCEEDS CJD	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4508 GRANT PROCEEDS - AACOG	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4509 GRANT PROCEEDS-TP&W	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4510 GRANT PROCEEDS-TCFP	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4511 GRANT PROCEEDS-DOJ	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4512 GRANT PROCEEDS - TXDOT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4513 GRANT PROCEEDS WFD	0	0	5,250.00	9,245.00	0.00	0.00	0.00 (	9,245.00)
01-4548 TRANSFER FROM FUNF 03	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4549 PROCEEDS SALES OF FIXED ASSETS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4550 CAPITAL LEASE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-4900 PROCEEDS FROM CAPITAL LEASE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	7,744,046	7,744,046	239,830.41	4,468,361.44	4,183,710.44	0.00	57.70	3,275,684.20

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
01-ADMINISTRATION =====								
<u>SALARIES & BENEFITS</u>								
01-501-010 ADMIN. SALARIES	173,943	173,943	13,709.85	89,166.82	70,358.62	0.00	51.26	84,776.38
01-501-011 ADMIN.LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-501-014 STIPEND	0	0	0.00	0.00	3,474.23	0.00	0.00	0.00
01-501-015 ADMIN INCENTIVE PAY-BILINGUA	600	600	46.16	323.12	334.66	0.00	53.85	276.88
01-501-018 ADMIN.EDUCATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-501-020 ADMIN. OVERTIME	2,700	2,700	0.00	854.03	345.55	0.00	31.63	1,845.97
01-501-030 SOCIAL SECURITY	13,513	13,513	977.25	6,385.73	5,644.66	0.00	47.26	7,127.47
01-501-040 HEALTH INSURANCE	35,738	35,738	2,915.00	16,043.46	12,157.61	0.00	44.89	19,694.25
01-501-045 INSURANCE - BCWID	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-501-050 RETIREMENT	13,663	13,663	1,027.47	6,760.24	5,906.79	0.00	49.48	6,903.11
01-501-060 WORKERS' COMPENSATION	808	808	0.00	807.64	1,000.00	0.00	100.00	0.00
01-501-070 UNEMPLOYMENT COMPENSATION	648	648	467.23	506.13	5.72	0.00	78.11	141.87
01-501-080 CONTRACT LABOR	0	0	0.00	0.00	16,243.50	0.00	0.00	0.00
01-501-095 TERMINATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	241,613	241,613	19,142.96	120,847.17	115,471.34	0.00	50.02	120,765.93
<u>OTHER EXPENSES</u>								
01-501-120 DUES & SUBSCRIPTIONS	0	0	14.00	90.69	0.00	0.00	0.00 (	90.69)
01-501-130 BONDS & TRAINING	6,000	6,000	0.00	2,719.08	470.73	0.00	45.32	3,280.92
01-501-151 Contract Svc - Inspections	60,000	60,000	0.00	39,390.00	53,608.00	0.00	65.65	20,610.00
01-501-420 OFFICE SUPPLIES	4,500	4,500	168.83	2,511.72	2,229.49	0.00	55.82	1,988.28
01-501-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-501-440 ELECTION SUPPLIES	13,000	13,000	0.00	4,585.00	27,026.54	0.00	35.27	8,415.00
01-501-500 GENERAL/GIFT SHOP	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-501-590 POSTAGE	300	300	0.00	249.80	0.00	0.00	83.27	50.20
01-501-600 OFFICE EQUIPMENT & MAINT	1,000	1,000	0.00	1,000.00	1,000.00	0.00	100.00	0.00
01-501-650 VEHICLE EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-501-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	84,800	84,800	182.83	50,546.29	84,334.76	0.00	59.61	34,253.71
<u>CAPITAL EXPENSES</u>								
01-501-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-501-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 01-ADMINISTRATION	326,413	326,413	19,325.79	171,393.46	199,806.10	0.00	52.51	155,019.64

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
02-POLICE DEPARTMENT =====								
<u>SALARIES & BENEFITS</u>								
01-502-010 POLICE SALARIES	1,188,200	1,115,459	94,682.08	735,858.99	756,816.52	0.00	65.97	379,599.90
01-502-011 POLICE LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-012 CIVILIAN SALARIES	229,278	229,278	6,163.55	44,920.19	64,458.62	0.00	19.59	184,357.81
01-502-013 CIVILIAN LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-014 POLICE SPECIAL ASSIGNMENT SA	9,600	9,600	346.16	2,423.12	2,509.66	0.00	25.24	7,176.88
01-502-015 POL INCENTIVE PAY-BILING & S	12,300	12,000	427.39	3,503.28	3,924.65	0.00	29.19	8,496.72
01-502-016 CIV.INCENTIVE PAY-BILING & S	2,400	2,400	64.96	442.35	517.11	0.00	18.43	1,957.65
01-502-017 POLICE SALARIES-CERTIFICATIO	10,000	9,250	577.00	5,008.36	5,533.43	0.00	54.14	4,241.64
01-502-018 POLICE EDUCATION PAY	2,000	2,000	161.56	1,061.68	698.17	0.00	53.08	938.32
01-502-019 POLICE TUITION REIMBURSEMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-020 POLICE OVERTIME	90,000	90,000	0.00	26,347.56	37,320.27	0.00	29.28	63,652.44
01-502-021 7K HOURS	40,000	40,000	454.02	25,174.42	29,133.26	0.00	62.94	14,825.58
01-502-022 CIVILIAN OVERTIME	30,000	30,000	0.00	4,044.51	10,734.46	0.00	13.48	25,955.49
01-502-023 POL INCENTIVE PAY - SDP	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-025 STIPEND (CIVILIAN & POLICE)	0	0	0.00	0.00	36,131.97	0.00	0.00	0.00
01-502-026 HAZARDOUS DUTY PAY	12,600	10,740	641.64	6,009.93	6,508.31	0.00	55.96	4,730.07
01-502-030 SOCIAL SECURITY	119,820	114,033	7,303.74	60,009.17	64,957.22	0.00	52.62	54,023.79
01-502-030CSOCIAL SECURITY CIVILIAN	14,537	14,537	475.56	3,773.21	6,083.73	0.00	25.96	10,763.79
01-502-040 HEALTH INSURANCE	253,825	244,923	18,528.69	109,645.81	124,436.33	0.00	44.77	135,277.40
01-502-050 RETIREMENT	106,452	100,600	7,268.99	60,457.86	68,692.40	0.00	60.10	40,142.53
01-502-050CRETIREMENT CIVILIAN	14,699	14,699	465.89	3,725.37	6,345.77	0.00	25.34	10,973.63
01-502-060 WORKERS' COMPENSATION	71,613	71,613 (	3,000.00)	70,968.43	50,000.00	0.00	99.10	644.31
01-502-070 UNEMPLOYMENT COMPENSATION	4,536	4,536	3,890.73	4,140.75	42.85	0.00	91.29	395.25
01-502-095 TERMINATION PAY-OUT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-096 EXEMPT VACATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	2,211,860	2,115,668	138,451.96	1,167,514.99	1,274,844.73	0.00	55.18	948,153.20
<u>OTHER EXPENSES</u>								
01-502-120 DUES & SUBSCRIPTIONS	500	500	175.00	225.00	0.00	0.00	45.00	275.00
01-502-130 BONDS & TRAINING	7,500	7,500	0.00	787.86	2,815.57	0.00	10.50	6,712.14
01-502-140 EMPLOYMENT SCREENING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-400 CITIZEN'S PATROL	2,500	2,500	0.00	0.00	267.00	0.00	0.00	2,500.00
01-502-420 OFFICE SUPPLIES	5,000	5,000	134.55	1,437.35	4,259.66	0.00	28.75	3,562.65
01-502-430 MISCELLANEOUS SUPPLIES	1,000	51,000 (	250.31)	1,366.55	8,576.16	0.00	2.68	49,633.45
01-502-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-432 MOBILE DATA/PHONE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-502-433 PD IT SOFTWARE HARDWARE & SU	14,000	14,000 (	1,276.52)	2,589.80	4,379.99	0.00	18.50	11,410.20
01-502-450 LAB FEES/CRIME SCENE SUPP	13,500	13,500	0.00	0.00	3,402.25	0.00	0.00	13,500.00
01-502-480 UNIFORM ALLOWANCE	20,000	20,000 (	902.91)	16,044.79	9,378.04	832.50	84.39	3,122.71
01-502-520 BICYCLE PARTS & MAINTENANCE	1,000	1,000	0.00	244.80	321.25	0.00	24.48	755.20
01-502-540 VEHICLE FUEL	60,000	60,000	0.00	25,390.82	30,501.64	0.00	42.32	34,609.18
01-502-550 PRISONER EXPENSE	300	300	0.00	0.00	6.50	0.00	0.00	300.00
01-502-590 POSTAGE	500	500	0.00	13.60	60.23	0.00	2.72	486.40
01-502-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	125,800	175,800 (	2,120.19)	48,100.57	63,968.29	832.50	27.83	126,866.93

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>CAPITAL EXPENSES</u>								
01-502-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-502-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
 TOTAL 02-POLICE DEPARTMENT	 2,337,660	 2,291,468	 136,331.77	 1,215,615.56	 1,338,813.02	 832.50	 53.09	 1,075,020.13

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
03-FIRE DEPARTMENT =====								
<u>SALARIES & BENEFITS</u>								
01-503-010 FIRE DEPT. SALARIES	146,178	257,639	16,780.59	85,572.46	63,609.77	0.00	33.21	172,066.14
01-503-011 FIRE DEPT. LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-012 STIPEND	0	0	0.00	0.00	3,474.22	0.00	0.00	0.00
01-503-015 FIRE INCENTIVE PAY-BILINGUAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-020 FIRE OVERTIME	5,500	25,843	0.00	730.72	157.41	0.00	2.83	25,112.28
01-503-030 SOCIAL SECURITY	11,603	21,686	1,234.58	5,785.63	5,040.07	0.00	26.68	15,900.71
01-503-040 HEALTH INSURANCE	27,005	53,110	1,502.52	11,071.86	9,309.42	0.00	20.85	42,038.48
01-503-050 RETIREMENT	11,732	21,927	1,255.18	6,500.01	5,288.36	0.00	29.64	15,427.25
01-503-060 WORKERS' COMPENSATION	693	2,230 (	101.80)	2,126.69	14,840.00	0.00	95.35	103.80
01-503-070 UNEMPLOYMENT COMPENSATION	486	987	507.64	536.98	7.97	0.00	54.41	450.02
01-503-080 VOLUNTEER PENSION FUND	21,200	21,200	0.00	6,432.33	3,516.48	0.00	30.34	14,767.67
01-503-095 TERMINATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	224,398	404,623	21,178.71	118,756.68	105,243.70	0.00	29.35	285,866.35
<u>OTHER EXPENSES</u>								
01-503-130 TRAINING	16,000	16,000 (	103.47)	14,535.80	4,266.38	325.00	92.88	1,139.20
01-503-140 EMPLOYMENT SCREENING	0	0 (	2,500.00) (	2,500.00)	3,019.37	0.00	0.00	2,500.00
01-503-150 HAZMAT PROGRAM	300	300	0.00	0.00	0.00	0.00	0.00	300.00
01-503-215 MOBILE PHONES CONTRACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-220 MOBILE PHONES MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-221 MOBILE DATA TERMINAL SERVICE	3,000	3,000	0.00	0.00	601.80	0.00	0.00	3,000.00
01-503-223 PAGER CONTRACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-224 PAGER MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-226 PAGER MAINTENANCE - FIRE	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-503-227 RADIO CONTRACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-229 RADIO MAINTENANCE	7,500	7,500 (	22.50) (	22.50)	0.00	0.00	0.30-	7,522.50
01-503-396 EOC EQUIPMENT & SUPPLIES	5,000	5,000	699.87	1,602.79	2,855.00	0.00	32.06	3,397.21
01-503-420 OFFICE SUPPLIES	4,500	4,500	177.61	5,105.43	1,485.84	0.00	113.45 (	605.43)
01-503-430 SUPPLIES & EQUIPMENT	36,000	36,000	3,247.14	12,147.23	4,074.89	4,627.52	46.60	19,225.25
01-503-431 EMPLOYEE APPRECIATION LUNCHE	1,200	1,200	0.00	79.00	162.39	0.00	6.58	1,121.00
01-503-450 MEDICAL SUPPLIES	20,000	20,000	0.00	9,932.32	106.99	2,504.23	62.18	7,563.45
01-503-460 MEDICAL TRAINING	10,000	10,000 (	1,285.00) (	1,285.00)	3,070.00	0.00	12.85-	11,285.00
01-503-480 UNIFORM ALLOWANCE	16,000	16,000	288.86	11,655.74	1,219.94	1,451.92	81.92	2,892.34
01-503-503 VEHICLE PARTS - FIRE	8,000	8,000 (	902.89)	13,474.21	89.74	0.00	168.43 (	5,474.21)
01-503-540 VEHICLE FUEL	16,800	16,800	0.00	11,847.22	5,205.48	0.00	70.52	4,952.78
01-503-590 POSTAGE	200	200	0.00	8.55	12.02	0.00	4.28	191.45
01-503-603 VEHICLE OUTSIDE MAINT. FIRE	30,000	30,000 (	1,913.58)	21,366.43	16,466.39	11,403.43	109.23 (	2,769.86)
01-503-610 DORM - TELEPHONE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-620 DORM - UTILITIES & CABLE	10,000	10,000	471.05	8,449.84	2,000.86	0.00	84.50	1,550.16
01-503-630 DORM - REPAIRS & MAINT	15,000	15,000	2,963.77	14,798.43	302.55	0.00	98.66	201.57
01-503-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-703 LEASE PURCHASE - FIRE DEPT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-704 LEASE PURCHASE - INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-710 TRAVEL	5,500	5,500	0.00	2,019.36	0.00	0.00	36.72	3,480.64
01-503-730 ANNUAL PUMP TESTS	2,500	2,500	0.00	0.00	715.00	0.00	0.00	2,500.00
01-503-740 MAINTENANCE CONTRACTS	12,000	12,000	2,500.00	19,195.65	495.00	0.00	159.96 (	7,195.65)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
01-503-741 EMS MEDICAL DIRECTION	0	0	0.00	5,000.00	0.00	0.00	0.00	(5,000.00)
01-503-750 SCBA TESTS	4,000	4,000	0.00	1,763.77	2,528.22	0.00	44.09	2,236.23
01-503-760 LADDER TESTS	<u>3,000</u>	<u>3,000</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>3,000.00</u>
TOTAL OTHER EXPENSES	227,500	227,500	3,620.86	149,174.27	48,677.86	20,312.10	74.50	58,013.63
<u>CAPITAL EXPENSES</u>								
01-503-800 CAPITAL EXPENDITURES	0	14,838	0.00	0.00	18,640.10	0.00	0.00	14,838.00
01-503-801 CAPITAL EQUIPMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-802 CAPITAL FACILITIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-803 CAPITAL FLEET	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-503-804 CAPITAL PPE (PERS. PROTECT.EQ)	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	14,838	0.00	0.00	18,640.10	0.00	0.00	14,838.00
<u>OTHER INCOME/EXPENSES</u>								
01-503-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
 TOTAL 03-FIRE DEPARTMENT	 451,898	 646,961	 24,799.57	 267,930.95	 172,561.66	 20,312.10	 44.55	 358,717.98

CITY OF WINCREST
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<u>04-SPECIAL SERVICES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-504-009 SALARIES	50,773	50,773	1,394.00	11,092.50	4,968.00	0.00	21.85	39,680.30
01-504-010 SALARIES - MAYOR & COUNCIL	14,400	14,400	780.00	14,050.00	11,182.50	0.00	97.57	350.00
01-504-011 SALARIES - PLANNING & ZONING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-012 SALARIES-CITY MANAGER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-013 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-014 STIPEND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-030 SOCIAL SECURITY	5,129	5,129	59.67	1,074.85	872.67	0.00	20.96	4,054.32
01-504-040 HEALTH INSURANCE	8,962	8,962	0.00	0.00	21.52	0.00	0.00	8,961.87
01-504-050 RETIREMENT	4,054	4,054	0.00	0.00	0.00	0.00	0.00	4,054.21
01-504-060 WORKERS COMPENSATION	307	307	0.00	306.55	600.00	0.00	100.00	0.00
01-504-070 UNEMPLOYMENT COMP	162	162	72.63	85.93	111.50	0.00	53.04	76.07
01-504-095 TERMINATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	83,787	83,787	2,306.30	26,609.83	17,756.19	0.00	31.76	57,176.77
<u>OTHER EXPENSES</u>								
01-504-110 BANK ACTIVITY CHARGES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-120 DUES & SUBSCRIPTIONS	2,000	2,000 (	73.77)	1,951.34	357.00	0.00	97.57	48.66
01-504-135 EMPLOYEE RECOGNITION PROG	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-140 EMPLOYEE APPRECIATION FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-145 EMPLOYEE WELLNESS PROGRAM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-400 CITIZEN'S PATROL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-420 OFFICE SUPPLIES	1,000	1,000	0.00	203.87	463.57	0.00	20.39	796.13
01-504-440 ELECTION SUPPLIES/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-460 SPECIAL EVENTS	30,000	30,000 (	368.94)	23,762.23	17,644.67	0.00	79.21	6,237.77
01-504-465 JULY 4TH EVENT	10,000	10,000	0.00	0.00	0.00	0.00	0.00	10,000.00
01-504-470 LIGHT UP	35,000	35,000 (	50.00)	24,776.83	35,747.74	0.00	70.79	10,223.17
01-504-475 50th ANNIVERSARY EVENTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-480 WINDCREST PROUD	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-485 WINDFEST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-486 FIREMAN'S PICNIC & WINDFEST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-490 WINDCREST YOUTH ACTIVITIES	1,200	1,200	0.00	0.00	0.00	0.00	0.00	1,200.00
01-504-590 POSTAGE	15,000	15,000	0.00	0.00	3,296.27	0.00	0.00	15,000.00
01-504-609 TRANSFER TO TXWEACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-504-610 NEWSLETTER	15,000	15,000	1,273.04	8,704.51	10,229.25	0.00	58.03	6,295.49
01-504-630 LEGAL ADVERTISING	13,000	13,000	66.70	4,331.93	7,745.61	0.00	33.32	8,668.07
01-504-635 ADVERTISING	9,000	9,000 (	85.00)	3,538.10	1,144.30	0.00	39.31	5,461.90
01-504-645 MAYOR - COUNCIL EXPENSES	6,000	6,000	0.00	2,462.40	3,778.27	0.00	41.04	3,537.60
01-504-650 MILEAGE & ENTERTAINMENT EXPE	<u>3,000</u>	<u>3,000</u>	<u>1,397.08</u>	<u>2,838.60</u>	<u>0.00</u>	<u>0.00</u>	<u>94.62</u>	<u>161.40</u>
TOTAL OTHER EXPENSES	140,200	140,200	2,159.11	72,569.81	80,406.68	0.00	51.76	67,630.19
<u>CAPITAL EXPENSES</u>								
01-504-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00

CITY OF WINCREST
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<u>OTHER INCOME/EXPENSES</u>								
01-504-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 04-SPECIAL SERVICES	223,987	223,987	4,465.41	99,179.64	98,162.87	0.00	44.28	124,806.96

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>SALARIES & BENEFITS</u>								
01-505-010 SALARIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-011 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-020 OVERTIME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-030 SOCIAL SECURITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-040 HEALTH INSURANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-050 RETIREMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-060 WORKERS' COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-070 UNEMPLOYMENT COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER EXPENSES</u>								
01-505-100 UTILITIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-130 TRAINING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-225 RADIO MAINTNANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-240 CONTRACT MAINTENANCE OUTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-430 SUPPLIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-480 UNIFORM ALLOWANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-500 VEHICLE PARTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-510 VEHICLE OUTSIDE MAINTENAN	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-520 EQUIPMENT REPAIR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-525 EQUIPMENT RENTAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-530 STREET SIGNS & MARKERS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-710 STREET CRACK FILLING MATERIA	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-720 ALLEY CURB/SIDEWALK REPAIR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-750 1998 FLOOD DAMAGE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
01-505-800 CAPITAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-505-810 STREET CAPITAL REPAIRS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-505-900 UNALLOCATED FUNDS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>06-PARKS & RECREATION</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-506-010 POOL SALARIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-011 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-020 OVERTIME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-030 SOCIAL SECURITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-040 HEALTH INSURANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-050 RETIREMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-060 WORKERS' COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-070 UNEMPLOYMENT COMP-POOL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER EXPENSES</u>								
01-506-100 UTILITIES	25,000	25,000	951.15	7,347.09	3,485.85	0.00	29.39	17,652.91
01-506-130 TRAINING	2,000	2,000	0.00	0.00	0.00	0.00	0.00	2,000.00
01-506-240 CONTRACT MAINTENANCE OUTS	8,000	8,000	0.00	1,500.00	6,641.02	0.00	18.75	6,500.00
01-506-250 CONTRACT MAINT.-GREEN BEL	60,000	60,000	6,745.80	21,077.96	37,336.98	0.00	35.13	38,922.04
01-506-255 CONTRACT SERVICES - POOL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-260 GREEN BELT CLEANING	3,000	3,000	0.00	86.60	1,109.19	0.00	2.89	2,913.40
01-506-430 SUPPLIES	8,500	8,500	179.14	1,590.99	4,682.86	0.00	18.72	6,909.01
01-506-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-520 EQUIPMENT REPAIR	9,500	9,500 (	46.00)	3,991.32	5,042.91	0.00	42.01	5,508.68
01-506-630 FACILITY MAINTENANCE	25,000	25,000	921.21	10,986.99	19,199.04	0.00	43.95	14,013.01
01-506-631 POND MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-635 TREES / SHRUBS/LANDSCAPING	20,000	20,000	139.40	4,835.09	2,753.72	0.00	24.18	15,164.91
01-506-640 LITTLE LEAGUE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-701 LEASE PURCHASE PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-702 LEASE PURCHASE INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER EXPENSES	161,000	161,000	8,890.70	51,416.04	80,251.57	0.00	31.94	109,583.96
<u>CAPITAL EXPENSES</u>								
01-506-800 CAPITAL EXPENDITURE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-810 CAPITAL IMPROVEMENTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-819 PARKS LIGHTS PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-820 PARKS LIGHTS PROJECT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-506-892 INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-506-900 UNALLOCATED FUNDS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 06-PARKS & RECREATION	161,000	161,000	8,890.70	51,416.04	80,251.57	0.00	31.94	109,583.96

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
07-FLEET MECHANIC =====								
<u>SALARIES & BENEFITS</u>								
01-507-010 MECHANIC SALARIES	47,161	47,161	3,704.80	25,740.05	26,373.61	0.00	54.58	21,420.62
01-507-011 MECHANIC LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-012 STIPEND	0	0	0.00	0.00	1,389.69	0.00	0.00	0.00
01-507-015 MECHANIC INCENTIVE PAY-BILIN	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-020 OVERTIME	1,000	1,000	0.00	595.09	408.06	0.00	59.51	404.91
01-507-030 SOCIAL SECURITY	3,684	3,684	235.68	1,680.45	1,815.65	0.00	45.62	2,003.30
01-507-040 HEALTH INSURANCE	8,909	8,909	728.71	4,372.26	5,056.59	0.00	49.08	4,536.32
01-507-050 RETIREMENT	3,725	3,725	277.12	1,985.14	2,221.17	0.00	53.30	1,739.54
01-507-060 WORKERS' COMPENSATION	220	220	0.00	220.17	2,000.00	0.00	100.00	0.00
01-507-070 UNEMPLOYMENT COMPENSATION	162	162	127.45	136.44	0.00	0.00	84.22	25.56
01-507-090 TERMINATION PAY-OUT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	64,860	64,860	5,073.76	34,729.60	39,264.77	0.00	53.55	30,130.25
<u>OTHER EXPENSES</u>								
01-507-120 DUES & SUBSCRIPTIONS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-130 TRAINING	1,000	1,000	0.00	405.00	0.00	0.00	40.50	595.00
01-507-315 VEHICLE DEDUCTIBLE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-420 OFFICE SUPPLIES	250	250	0.00	0.00	0.00	0.00	0.00	250.00
01-507-430 FLEET TOOLS & SUPPLIES	6,000	6,000	418.29	4,142.53	7,667.87	0.00	69.04	1,857.47
01-507-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-450 ENVIRONMENTAL FEES	700	700	0.00	0.00	0.00	0.00	0.00	700.00
01-507-480 UNIFORM ALLOWANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-501 VEHICLE PARTS-ADMIN	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-502 VEHICLE PARTS-POLICE	18,000	18,000	2,119.27	6,663.26	10,664.53	0.00	37.02	11,336.74
01-507-503 VEHICLE PARTS-FIRE	3,500	3,500	0.00	408.38	68.09	0.00	11.67	3,091.62
01-507-506 VEHICLE PARTS-PARKS & REC	1,000	1,000	0.00	94.33	0.00	0.00	9.43	905.67
01-507-508 VEHICLE PARTS-WARRANT OFFICE	0	0	0.00	33.10	0.00	0.00	0.00	(33.10)
01-507-515 VEHICLE PARTS-EMC/TECH	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-516 VEHICLE PARTS-PUBLIC WORKS	10,000	10,000	1,112.40	3,908.55	2,532.82	0.00	39.09	6,091.45
01-507-518 DEBT SERVICE - INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-519 VEHICLE PARTS-INSPECTION	500	500	0.00	107.32	161.51	0.00	21.46	392.68
01-507-520 EQUIPMENT REPAIR	15,000	15,000	2,472.36	7,223.81	2,674.12	0.00	48.16	7,776.19
01-507-540 VEHICLE FUEL	20,000	20,000	0.00	12,165.96	13,942.69	0.00	60.83	7,834.04
01-507-602 VEHICLE OUTSIDE MAINT-POLICE	25,000	25,000	(589.31)	852.52	13,942.58	0.00	3.41	24,147.48
01-507-603 VEHICLE OUTSIDE MAINT-FIRE	4,000	4,000	0.00	0.00	0.00	0.00	0.00	4,000.00
01-507-606 VEHICLE OUTSIDE MAINT-PARKS&	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-507-608 VEHICLE OUTSIDE MAINT-WRNT O	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-615 VEHICLE OUTSIDE MAINT-EMC/TE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-616 VEHICLE OUTSIDE MAINT-PW	3,500	3,500	884.66	11,271.05	2,665.68	0.00	322.03	(7,771.05)
01-507-619 VEHICLE OUTSIDE MAINT-INSP	0	0	0.00	495.84	0.00	0.00	0.00	(495.84)
01-507-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-701 TML STORM DAMAGE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-702 LEASE PURCHASE-POLICE PRINCI	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-703 LEASE PURCHASE-FIRE PRINCIPA	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-704 DEBT SERVICE - INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-706 LEASE PURCHASE-PARKS	0	0	0.00	0.00	0.00	0.00	0.00	0.00

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
01-507-716 DEBT SERVICE - PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-717 DEBT SERVICE - INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-719 LEASE PURCHASE-INSPECTION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-721 LEASE PURCHASE-EDC	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-725 LEASE PURCHASE - CITY MGMT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-507-730 VEHICLE/EQUIPMENT TESTING	<u>1,000</u>	<u>1,000</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>1,000.00</u>
TOTAL OTHER EXPENSES	110,450	110,450	6,417.67	47,771.65	54,319.89	0.00	43.25	62,678.35
<u>CAPITAL EXPENSES</u>								
01-507-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-507-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
 TOTAL 07-FLEET MECHANIC	 175,310	 175,310	 11,491.43	 82,501.25	 93,584.66	 0.00	 47.06	 92,808.60

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
08-COURT =====								
<u>SALARIES & BENEFITS</u>								
01-508-010 COURT SALARIES	255,571	255,571	20,410.26	143,746.39	131,093.76	0.00	56.25	111,824.11
01-508-011 COURT LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-508-012 STIPEND	0	0	0.00	0.00	7,553.01	0.00	0.00	0.00
01-508-015 COURT INCENTIVE PAY-BILINGUA	600	600	51.89	332.40	336.61	0.00	55.40	267.60
01-508-017 CERTIFICATION PAY - COURT	0	0	46.16	323.12	0.00	0.00	0.00	323.12
01-508-018 COURT EDUCATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-508-020 COURT OVERTIME	10,000	10,000	0.00	2,577.26	3,709.85	0.00	25.77	7,422.74
01-508-030 SOCIAL SECURITY	20,853	20,853	1,589.98	11,104.32	11,242.54	0.00	53.25	9,748.85
01-508-040 HEALTH INSURANCE	44,718	44,718	3,615.92	21,719.09	15,138.80	0.00	48.57	22,998.78
01-508-050 RETIREMENT	21,085	21,085	1,262.11	9,319.95	9,279.84	0.00	44.20	11,764.93
01-508-060 WORKER'S COMPENSATION	1,246	1,246	0.00	1,246.33	3,000.00	0.00	100.00	0.00
01-508-070 UNEMPLOYMENT COMPENSATION	1,134	1,134	785.20	842.52	4.89	0.00	74.30	291.48
01-508-095 TERMINATION PAY-OUT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	355,207	355,207	27,761.52	191,211.38	181,359.30	0.00	53.83	163,995.37
<u>OTHER EXPENSES</u>								
01-508-120 DUES & SUBSCRIPTIONS	500	500	0.00	100.00	80.00	0.00	20.00	400.00
01-508-130 BONDS & TRAINING	7,250	7,250	0.00	2,834.60	2,842.16	0.00	39.10	4,415.40
01-508-150 JUDGE	5,250	5,250	346.16	2,573.12	3,034.66	0.00	49.01	2,676.88
01-508-160 PROSECUTOR	1,000	1,000	0.00	0.00	400.00	0.00	0.00	1,000.00
01-508-165 WARRANT JAIL COSTS	8,500	8,500	0.00	350.00	2,750.00	0.00	4.12	8,150.00
01-508-170 JURY SERVICE FEES	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-508-180 COURT OF RECORD/STENOGRAPHER	500	500	0.00	0.00	0.00	0.00	0.00	500.00
01-508-185 EQUIPMENT MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-508-420 OFFICE SUPPLIES	9,250	9,250	125.38	3,257.65	3,222.95	0.00	35.22	5,992.35
01-508-431 EMPLOYEE APPRECIATION LUNCHE	300	300	0.00	122.86	0.00	0.00	40.95	177.14
01-508-480 UNIFORM ALLOWANCE	1,600	1,600	0.00	81.99	0.00	0.00	5.12	1,518.01
01-508-481 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-508-540 FUEL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-508-590 POSTAGE	2,000	2,000	0.00	1,804.65	1,184.94	0.00	90.23	195.35
TOTAL OTHER EXPENSES	37,150	37,150	471.54	11,124.87	13,514.71	0.00	29.95	26,025.13
<u>CAPITAL EXPENSES</u>								
01-508-800 CAPITAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-508-810 TRANSFER TO COURT SEC. FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-508-900 UNALLOCATED FUNDS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 08-COURT	392,357	392,357	28,233.06	202,336.25	194,874.01	0.00	51.57	190,020.50

% OF YEAR COMPLETED: 58.33

TOTAL DEPT 09	0	0	0.00	0.00	0.00	0.00	0.00	0.00
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01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>10-FACILITY DIVISION</u>								
=====								
<u>OTHER EXPENSES</u>								
01-510-100 UTILITIES	140,000	140,000	3,809.54	33,634.55	50,535.14	0.00	24.02	106,365.45
01-510-115 MOBILE TELEPHONES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-510-170 JANITORIAL SERVICES	27,000	27,000	0.00	12,052.37	19,533.31	0.00	44.64	14,947.63
01-510-240 CONTRACT MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-510-430 SUPPLIES	12,000	12,000	1,552.71	5,474.75	5,608.19	663.84	51.15	5,861.41
01-510-630 FACILITY MAINTENANCE	40,000	40,000	543.17	16,739.93	29,930.99	0.00	41.85	23,260.07
01-510-650 FIRE ALARM & EXT. INSPECTION	3,000	3,000	0.00	425.00	300.00	0.00	14.17	2,575.00
01-510-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>128.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	222,000	222,000	5,905.42	68,326.60	106,035.63	663.84	31.08	153,009.56
<u>CAPITAL EXPENSES</u>								
01-510-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-510-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 10-FACILITY DIVISION	222,000	222,000	5,905.42	68,326.60	106,035.63	663.84	31.08	153,009.56

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>11-CIVIC CENTER</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-511-010 CIVIC CENTER SALARIES	97,760	97,760	9,180.68	40,177.06	29,205.57	0.00	41.10	57,582.94
01-511-011 CIVIC CENTER LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-511-012 STIPEND	0	0	0.00	0.00	1,389.69	0.00	0.00	0.00
01-511-018 CC EDUCATION PAY	0	0	23.08	23.08	0.00	0.00	0.00 (	23.08)
01-511-020 OVERTIME - CIVIC CENTER	5,000	5,000	0.00	1,772.05	1,013.82	0.00	35.44	3,227.95
01-511-030 SOCIAL SECURITY	7,861	7,861	633.05	2,633.13	1,915.92	0.00	33.50	5,228.01
01-511-040 HEALTH INSURANCE	26,579	26,579	724.81	4,348.86	5,004.51	0.00	16.36	22,229.68
01-511-050 RETIREMENT	7,948	7,948	619.40	2,597.02	1,963.07	0.00	32.67	5,351.47
01-511-060 WORKERS' COMPENSATION	470	470	0.00	1,469.84	6,000.00	0.00	312.84 (	1,000.00)
01-511-070 UNEMPLOYMENT COMPENSATION	486	486	250.94	260.17	3.00	0.00	53.53	225.83
01-511-095 TERMINATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	146,104	146,104	11,431.96	53,281.21	46,495.58	0.00	36.47	92,822.80
<u>OTHER EXPENSES</u>								
01-511-100 UTILITIES	27,000	27,000	1,503.24	9,331.90	5,498.32	0.00	34.56	17,668.10
01-511-430 SUPPLIES	15,000	15,000	1,053.64	7,897.74	10,797.48	2,145.94	66.96	4,956.32
01-511-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-511-512 STIPEND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-511-630 FACILITY MAINTENANCE	18,000	18,000 (	597.20)	18,294.04	15,434.11	0.00	101.63 (	294.04)
01-511-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	60,000	60,000	1,959.68	35,523.68	31,729.91	2,145.94	62.78	22,330.38
<u>CAPITAL EXPENSES</u>								
01-511-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-511-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 11-CIVIC CENTER	206,104	206,104	13,391.64	88,804.89	78,225.49	2,145.94	44.13	115,153.18

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>14-CONTRACT SERVICES</u>								
=====								
<u>OTHER EXPENSES</u>								
01-514-220 FOOD HEALTH OFFICER FEES	15,000	15,000	0.00	5,015.00	4,440.00	0.00	33.43	9,985.00
01-514-250 LEGAL & CITY ATTORNEY	34,646	34,646 (	33,585.00)	54,711.47	20,109.50	0.00	157.92 (	20,065.57)
01-514-255 SPECIAL LEGAL FEES	95,000	95,000	22,417.80	39,189.60	91,586.59	0.00	41.25	55,810.40
01-514-258 FINANCIAL SERVICES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-260 DUES & FEES-BCAD	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-270 DUES & FEES - BEXAR CO ELECT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-280 FEES-DELINQUENT COLLECTOR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-285 Contract Services - MFO	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-290 AUDIT	30,000	30,000	0.00	10,500.00	32,065.00	0.00	35.00	19,500.00
01-514-300 EMS	70,000	70,000	5,000.00	35,000.00	30,000.00	0.00	50.00	35,000.00
01-514-310 MUNICIPAL INSURANCE	100,000	100,000	0.00	109,708.28	97,397.86	0.00	109.71 (	9,708.28)
01-514-320 ENGINEER / ARCHITECT	30,000	30,000	0.00	0.00	5,580.00	0.00	0.00	30,000.00
01-514-321 CONTRACT PLANNING SERVICES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-325 SALES TAX COLLECTION SERVICE	25,000	25,000	0.00	30,398.00	27,109.00	0.00	121.59 (	5,398.00)
01-514-328 CABLE TV FRANC FEE COMPLIANC	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-360 MOBILITY IMPAIRED TRANSPORT	12,000	12,000	0.00	0.00	12,000.00	0.00	0.00	12,000.00
01-514-367 WATER RESOURCES STUDY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-368 WASTE MANAGEMENT ADD ON	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-385 SALARY SURVEY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-400 CREDIT CARD TERMINAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-403 RECORDS MANAGEMENT	22,000	22,000	0.00	20,769.49	22,853.68	0.00	94.41	1,230.51
01-514-405 RECORDS STORAGE RENTAL	8,200	8,200	805.00	4,991.00	4,686.00	0.00	60.87	3,209.00
01-514-410 RECORDS DESTRUCTION	1,200	1,200	0.00	320.00	100.00	0.00	26.67	880.00
01-514-430 SUPPLIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-514-500 PURCHASE OF LAND	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	443,046	443,046 (	5,362.20)	310,602.84	347,927.63	0.00	70.11	132,443.06
<u>CAPITAL EXPENSES</u>								
01-514-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-514-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 14-CONTRACT SERVICES	443,046	443,046 (	5,362.20)	310,602.84	347,927.63	0.00	70.11	132,443.06

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>15-TECH SUPPORT</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-515-010 EMC/TECH SUPPORT SALARIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-011 EMC/TECH LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-020 EMT/TECH SUPPORT OVERTIME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-030 EMC/TECH SOCIAL SECURITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-040 EMC/TECH HEALTH INSURANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-050 EMC/TECH RETIREMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-060 WORKER'S COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-070 UNEMPLOYMENT COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-090 EMC/TECH TERM.PAY-OUT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER EXPENSES</u>								
01-515-120 DUES & SUBSCRIPTIONS	0	0	0.00	202.76	0.00	0.00	0.00 (	202.76)
01-515-130 EMC/TECH TRAINING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-200 COMPUTER CONTRACTS	95,000	95,000 (	11,148.67)	60,540.10	85,303.23	0.00	63.73	34,459.90
01-515-201 COMPUTER MAINTENANCE	7,000	7,000	0.00	3,834.75	4,800.53	0.00	54.78	3,165.25
01-515-205 TELECOMMUNICATIONS CONTRACT	80,000	80,000 (	1,451.00)	10,122.29	44,821.50	0.00	12.65	69,877.71
01-515-210 TELEPHONE MAINT.CONTRACT	3,000	3,000	0.00	0.00	545.00	0.00	0.00	3,000.00
01-515-215 MOBILE PHONES CONTRACT	25,000	25,000	4,879.03	16,107.60	19,398.38	0.00	64.43	8,892.40
01-515-220 MOBILE PHONES MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-221 MOBILE DATA TERMINAL SERVICE	7,000	7,000	0.00	17,970.86	6,160.09	0.00	256.73 (	10,970.86)
01-515-223 PAGER CONTRACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-225 PAGER MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-226 PAGER MAINTENANCE-FIRE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-227 RADIO CONTRACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-229 RADIO MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-286 CONTRACTSERVICES - IT	110,000	110,000 (	1,026.62)	36,671.10	48,791.46	0.00	33.34	73,328.90
01-515-330 WEBSITE SUPPORT CONTRACT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-332 WEBSITE MAINTENANCE	6,500	6,500 (	137.50) (	137.50)	0.00	0.00	2.12-	6,637.50
01-515-333 CLOUD HOSTING FEES	0	0	0.00	887.76	0.00	0.00	0.00 (	887.76)
01-515-395 EMERGENCY MGMT SUPPORT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-396 EOC EQUIPMENT & SUPPLIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-430 TECH SUPPLIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-460 COPIER CONTRACT & SUPPLIES	27,000	27,000	50.61	8,019.07	16,402.64	0.00	29.70	18,980.93
01-515-480 UNIFORM ALLOWANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-520 EQUIPMENT REPAIR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-522 AUDIO VISUAL MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-525 LEASE PURCHASE-RECORDS MGMT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-515-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER EXPENSES	360,500	360,500 (	8,834.15)	154,218.79	226,222.83	0.00	42.78	206,281.21
<u>CAPITAL EXPENSES</u>								
01-515-800 CAPITAL EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>OTHER INCOME/EXPENSES</u>								
01-515-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 15-TECH SUPPORT	360,500	360,500 (	8,834.15)	154,218.79	226,222.83	0.00	42.78	206,281.21

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
16-PUBLIC WORKS								
=====								
<u>SALARIES & BENEFITS</u>								
01-516-010 PUBLIC WORKS SALARIES	366,929	366,929	23,642.36	206,015.90	236,546.94	0.00	56.15	160,912.80
01-516-011 PUBLIC WORKS LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-012 STIPEND	0	0	0.00	0.00	15,286.61	0.00	0.00	0.00
01-516-015 P.W .INCENTIVE PAY-BILINGUAL	600	600	46.16	323.12	334.66	0.00	53.85	276.88
01-516-018 P.W. EDUCATION PAY	300	300	0.00	138.48	167.33	0.00	46.16	161.52
01-516-020 PUBLIC WORKS OVERTIME	10,000	10,000	0.00	8,690.44	5,789.91	0.00	86.90	1,309.56
01-516-030 SOCIAL SECURITY	28,904	28,904	1,806.88	16,420.71	19,701.66	0.00	56.81	12,483.19
01-516-040 HEALTH INSURANCE	79,912	79,912	8,687.97	52,127.82	55,170.00	0.00	65.23	27,783.86
01-516-050 RETIREMENT	29,225	29,225	1,771.91	16,226.45	20,366.83	0.00	55.52	12,998.60
01-516-060 WORKERS' COMPENSATION	1,727	1,727 (	3,228.63)	944.20	25,000.00	0.00	54.66	783.29
01-516-070 UNEMPLOYMENT COMPENSATION	1,620	1,620	1,121.34	1,199.50	9.10	0.00	74.04	420.50
01-516-080 CONTRACT LABOR	5,000	5,000	0.00	0.00	0.00	0.00	0.00	5,000.00
01-516-095 TERMINATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	524,217	524,217	33,847.99	302,086.62	378,373.04	0.00	57.63	222,130.20
<u>OTHER EXPENSES</u>								
01-516-100 UTILITIES	25,000	25,000	11,129.94	17,545.37 (	5,844.62)	0.00	70.18	7,454.63
01-516-130 TRAINING	2,500	2,500 (	625.00)	(424.68)	337.25	0.00	16.99-	2,924.68
01-516-140 EMPLOYMENT SCREENING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-240 CONTRACT OUT MAINTENANCE	5,000	5,000	0.00	800.00	643.00	0.00	16.00	4,200.00
01-516-430 SUPPLIES	15,000	15,000	1,841.07	7,504.14	11,366.29	0.00	50.03	7,495.86
01-516-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-480 UNIFORM ALLOWANCE	18,000	18,000	0.00	12,939.57	13,501.32	0.00	71.89	5,060.43
01-516-510 VEHICLE OUTSIDE MAINTENAN	0	0	0.00	43.98	0.00	0.00	0.00 (	43.98)
01-516-525 EQUIPMENT RENTAL	4,500	4,500	0.00	0.00	379.73	0.00	0.00	4,500.00
01-516-530 STREET SIGNS & MARKERS	10,000	10,000 (	15.80)	5,330.41	4,267.79	0.00	53.30	4,669.59
01-516-590 POSTAGE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-630 FACILITIES MAINTENANCE	15,000	15,000	0.00	4,780.46	1,240.73	0.00	31.87	10,219.54
01-516-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-701 LEASE PURCHASE PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-702 LEASE PURCHASE INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-710 STREET CRACK FILLING MATERIA	0	0	0.00	0.00	5,707.39	0.00	0.00	0.00
01-516-720 ALLEY/CURB/SIDEWALK REPAIR	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	95,000	95,000	12,330.21	48,519.25	31,598.88	0.00	51.07	46,480.75
<u>CAPITAL EXPENSES</u>								
01-516-800 CAPITAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-810 STREET CAPITAL REPAIRS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-890 STREET SWEEPER PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-516-892 STREET SWEEPER INTEREST	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-516-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
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TOTAL 16-PUBLIC WORKS	619,217	619,217	46,178.20	350,605.87	409,971.92	0.00	56.62	268,610.95

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>17-ANIMAL CONTROL</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-517-010 SALARIES-ANIMAL CONTROL	72,904	72,904	5,853.86	39,834.08	41,475.65	0.00	54.64	33,069.92
01-517-011 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-517-012 STIPEND	0	0	0.00	0.00	2,779.39	0.00	0.00	0.00
01-517-013 Salaries - Animal on call	3,600	3,600	276.92	1,938.42	2,007.66	0.00	53.85	1,661.58
01-517-020 OVERTIME-ANIMAL CONTROL	7,000	7,000	0.00	2,518.37	2,557.25	0.00	35.98	4,481.63
01-517-030 SOCIAL SECURITY	6,526	6,526	476.07	3,437.67	3,730.01	0.00	52.68	3,088.09
01-517-040 HEALTH INSURANCE	17,719	17,719	1,450.45	8,702.70	10,061.97	0.00	49.11	9,016.33
01-517-050 RETIREMENT	6,598	6,598	465.49	3,386.57	3,886.50	0.00	51.33	3,211.69
01-517-060 WORKER'S COMPENSATION	390	390	0.00	390.02	3,000.00	0.00	100.00	0.00
01-517-070 UNEMPLOYMENT COMPENSATION	<u>324</u>	<u>324</u>	<u>200.47</u>	<u>218.27</u>	<u>0.00</u>	<u>0.00</u>	<u>67.37</u>	<u>105.73</u>
TOTAL SALARIES & BENEFITS	115,061	115,061	8,723.26	60,426.10	69,498.43	0.00	52.52	54,634.97
<u>OTHER EXPENSES</u>								
01-517-230 VET/INPOUNDING/SHELTER	28,900	28,900	1,796.00	10,692.09	3,837.65	0.00	37.00	18,207.91
01-517-231 INPOUNDING/SHELTER	24,400	24,400	0.00	11,497.11	8,644.30	0.00	47.12	12,902.89
01-517-240 TRAINING & CERTIFICATION	1,500	1,500	0.00	0.00	0.00	0.00	0.00	1,500.00
01-517-420 EQUIPMENT	2,100	2,100	0.00	32.41	1,356.23	0.00	1.54	2,067.59
01-517-430 SUPPLIES	900	900	135.69	686.24	101.23	0.00	76.25	213.76
01-517-433 IT SOFTWARE HARDWARE &SUPP	0	0	0.00	595.00	0.00	0.00	0.00	(595.00)
01-517-480 UNIFORMS	<u>1,000</u>	<u>1,000</u>	<u>0.00</u>	<u>0.00</u>	<u>300.00</u>	<u>0.00</u>	<u>0.00</u>	<u>1,000.00</u>
TOTAL OTHER EXPENSES	58,800	58,800	1,931.69	23,502.85	14,239.41	0.00	39.97	35,297.15
<u>CAPITAL EXPENSES</u>								
01-517-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-517-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 17-ANIMAL CONTROL	173,861	173,861	10,654.95	83,928.95	83,737.84	0.00	48.27	89,932.12

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
18-WCCPD =====								
<u>SALARIES & BENEFITS</u>								
01-518-010 WCCPD SALARIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-011 WCCPD LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-014 WCCPD SPECIAL ASSIGN PAY-K-9	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-015 WCCPD INCEN PAY-BILING & SHI	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-017 WCCPD CERTIFICATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-020 WCCPD OVERTIME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-021 WCCPD-7K HOURS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-030 WCCPD SOCIAL SECURITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-040 WCCPD HEALTH INSURANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-050 WCCPD RETIREMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-060 WCCPD WORKERS COMP	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-070 UNEMPLOYMENT COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-518-095 WCCPD TERM.PAYOUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-518-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 18-WCCPD	0	0	0.00	0.00	0.00	0.00	0.00	0.00

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>19-CODE ENFORCEMENT</u>								
<u>SALARIES & BENEFITS</u>								
01-519-010 INSPECTION SALARIES	46,717	46,717	3,727.20	23,660.45	26,711.96	0.00	50.65	23,056.35
01-519-011 INSPECTIONS LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-012 STIPEND	0	0	0.00	0.00	1,389.69	0.00	0.00	0.00
01-519-015 INSP.INCENTIVE PAY-BILINGUAL	0	0	0.00	2.32	7.67	0.00	0.00 (	2.32)
01-519-018 INSPECTION EDUCATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-020 OVERTIME	1,800	1,800	0.00	606.42	2,712.05	0.00	33.69	1,193.58
01-519-026 HAZARDOUS DUTY PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-030 SOCIAL SECURITY	3,712	3,712	285.12	1,975.14	2,505.60	0.00	53.22	1,736.40
01-519-040 HEALTH INSURANCE	8,907	8,907	1,439.68	8,638.08	5,133.52	0.00	96.99	268.48
01-519-050 RETIREMENT	3,753	3,753	278.79	1,944.47	2,584.85	0.00	51.81	1,808.30
01-519-060 WORKER'S COMPENSATION	109	109	0.00	109.45	1,100.00	0.00	100.00	0.00
01-519-070 UNEMPLOYMENT COMPENSATION	<u>162</u>	<u>162</u>	<u>117.16</u>	<u>125.60</u>	<u>0.00</u>	<u>0.00</u>	<u>77.53</u>	<u>36.40</u>
TOTAL SALARIES & BENEFITS	65,159	65,159	5,847.95	37,061.93	42,145.34	0.00	56.88	28,097.19
<u>OTHER EXPENSES</u>								
01-519-120 DUES & SUBSCRIPTIONS	135	135	0.00	0.00	0.00	0.00	0.00	135.00
01-519-125 CONTRACT INSPECTION SVCS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-130 BONDS & TRAINING	500	500	0.00	0.00	0.00	0.00	0.00	500.00
01-519-140 EMPLOYMENT SCREENING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-150 CONTRACT SERVICES - INSPECTI	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-420 OFFICE SUPPLIES	750	750	0.00	428.30	0.00	0.00	57.11	321.70
01-519-430 SUPPLIES & EQUIPMENT	500	500	0.00	0.00	0.00	0.00	0.00	500.00
01-519-480 UNIFORMS	500	500	0.00	0.00	179.99	0.00	0.00	500.00
01-519-490 VEHICLE PARTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-540 VEHICLE FUEL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-519-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	2,385	2,385	0.00	428.30	179.99	0.00	17.96	1,956.70
<u>CAPITAL EXPENSES</u>								
01-519-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-519-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 19-CODE ENFORCEMENT	67,544	67,544	5,847.95	37,490.23	42,325.33	0.00	55.50	30,053.89

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>20-FINANCE</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-520-010 FINANCE SALARIES	231,325	231,325	18,537.18	125,348.41	128,882.51	0.00	54.19	105,976.97
01-520-011 FINANCE LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-012 STIPEND	0	0	0.00	0.00	5,558.77	0.00	0.00	0.00
01-520-015 FINANCE BILINGUAL PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-018 FINANCE EDUCATION PAY	600	600	46.16	323.12	334.66	0.00	53.85	276.88
01-520-020 FINANCE OVERTIME	3,000	3,000	0.00	523.93	138.67	0.00	17.46	2,476.07
01-520-030 FINANCE SOCIAL SECURITY	17,972	17,972	1,490.42	10,135.48	10,618.65	0.00	56.40	7,836.31
01-520-040 FINANCE HEALTH INSURANCE	35,830	35,830	2,946.86	17,704.73	20,351.38	0.00	49.41	18,125.24
01-520-050 FINANCE RETIREMENT	18,171	18,171	1,459.08	9,994.67	11,024.93	0.00	55.00	8,176.81
01-520-060 WORKER'S COMPENSATION	1,074	1,074	0.00	1,074.12	500.00	0.00	100.00	0.00
01-520-070 UNEMPLOYMENT COMPENSATION	648	648	620.68	656.70	0.00	0.00	101.34 (	8.70)
01-520-095 TERMINATION PAY-OUT - FINANC	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	308,621	308,621	25,100.38	165,761.16	177,409.57	0.00	53.71	142,859.58
<u>OTHER EXPENSES</u>								
01-520-120 DUES & SUBSCRIPTIONS	750	750	611.64	801.64	0.00	0.00	106.89 (	51.64)
01-520-130 BONDS & TRAINING	6,500	6,500	0.00	2,208.42	5,471.69	0.00	33.98	4,291.58
01-520-140 EMPLOYMENT SCREENING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-260 DUES & FEES- BCAD	13,000	13,000	0.00	6,742.00	6,158.00	0.00	51.86	6,258.00
01-520-280 FEES-DELINQUENT COLLECTOR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-285 CONTRACT SERVICES - MFO	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-289 CONTRACT SUPPORT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-400 BANK/CREDIT CARD TERMINAL CH	8,000	8,000	0.00	10,392.46	5,271.53	0.00	129.91 (	2,392.46)
01-520-420 OFFICE SUPPLIES	8,000	8,000	1,377.32	3,577.15	3,335.91	0.00	44.71	4,422.85
01-520-431 EMPLOYEE APPRECIATION LUNCHE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-433 IT SOFTWARE HARDWARE &SUPPLI	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-520-590 POSTAGE	1,000	1,000	0.00	100.00	449.05	0.00	10.00	900.00
01-520-600 OFFICE EQUIP. & MAINT	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-520-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	38,250	38,250	1,988.96	23,821.67	20,686.18	0.00	62.28	14,428.33
<u>CAPITAL EXPENSES</u>								
01-520-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-520-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 20-FINANCE	346,871	346,871	27,089.34	189,582.83	198,095.75	0.00	54.66	157,287.91

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
21-ECONOMIC DEVELOPMENT (E =====								
<u>SALARIES & BENEFITS</u>								
01-521-010 EDC SALARIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-011 EDC LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-018 EDC EDUCATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-020 EDC OVERTIME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-030 SOCIAL SECURITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-040 HEALTH INSURANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-050 RETIREMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-060 WORKERS COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-070 UNEMPLOYMENT COMPENSATION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-095 TERMINATION PAY-OUT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER EXPENSES</u>								
01-521-430 SUPPLIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-510 VEHICLE ALLOWANCE-DIRECTOR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-515 HEALTH INS. ALLOWANCE-DIRECT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-590 POSTAGE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-521-900 TRANSFER TO EDC FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-521-901 UNALLOCATED FUNDS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 21-ECONOMIC DEVELOPMENT (E	0	0	0.00	0.00	0.00	0.00	0.00	0.00

% OF YEAR COMPLETED: 58.33

TOTAL 23-DEPT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
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01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>25-CITY MANAGEMENT</u>								
=====								
<u>SALARIES & BENEFITS</u>								
01-525-010 CITY MANAGEMENT SALARIES	152,911	152,911	11,873.20	83,112.38	82,019.82	0.00	54.35	69,799.08
01-525-011 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-012 STIPEND	0	0	0.00	0.00	1,389.70	0.00	0.00	0.00
01-525-017 CERTIFICATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-018 EDUCATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-019 TUITION REIMBURSEMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-020 CITY MANAGEMENT OVERTIME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-030 SOCIAL SECURITY	11,808	11,808	859.64	5,532.01	5,551.17	0.00	46.85	6,275.89
01-525-040 HEALTH INSURANCE	9,360	9,360	761.23	4,567.38	5,259.45	0.00	48.80	4,792.53
01-525-050 RETIREMENT	11,939	11,939	888.12	6,263.16	6,566.54	0.00	52.46	5,675.94
01-525-060 WORKER'S COMPENSATION	348	348	0.00	348.22	3,500.00	0.00	100.00	0.00
01-525-070 UNEMPLOYMENT COMPENSATION	162	162	411.54	420.54	0.00	0.00	259.59 (	258.54)
01-525-080 CONTRACT LABOR - HR	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-525-095 TERMINATION PAYOUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	187,529	187,529	14,793.73	100,243.69	104,286.68	0.00	53.46	87,284.90
<u>OTHER EXPENSES</u>								
01-525-120 DUES & SUBSCRIPTIONS	750	750	14.00	126.00	112.00	0.00	16.80	624.00
01-525-121 ADP Contract	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-130 BONDS & TRAINING	1,000	1,000	0.00	370.00	275.00	0.00	37.00	630.00
01-525-140 EMPLOY. SCREENING & RECRUITM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-150 MOVING EXPENSE - CITY MGR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-420 OFFICE SUPPLIES	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-525-430 HR SUPPLIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-640 EMPLOYEE RECOGNITION	6,800	6,800	0.00	6,404.68	74.00	0.00	94.19	395.32
01-525-645 MEALS & ENTERTAINMENT	1,000	1,000 (	6.50) (	6.50)	0.00	0.00	0.65-	1,006.50
01-525-650 VEHICLE EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-655 Cell Phone Allowance	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	10,550	10,550	7.50	6,894.18	461.00	0.00	65.35	3,655.82
<u>OTHER INCOME/EXPENSES</u>								
01-525-900 TRANSFER TO EDC	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-901 TRANSFER TO STREETS FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-525-902 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 25-CITY MANAGEMENT	198,079	198,079	14,801.23	107,137.87	104,747.68	0.00	54.09	90,940.72

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
26-POOL								
=====								
<u>SALARIES & BENEFITS</u>								
01-526-010 SALARIES	88,020	88,020	0.00	0.00	0.00	0.00	0.00	88,020.00
01-526-020 OVERTIME	2,800	2,800	0.00	0.00	0.00	0.00	0.00	2,800.00
01-526-030 SOCIAL SECURITY	6,948	6,948	0.00	0.00	0.00	0.00	0.00	6,947.73
01-526-040 HEALTH INSURANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-050 RETIREMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-060 WORKER'S COMPENSATION	415	415	0.00	415.24	3,500.00	0.00	100.00	0.00
01-526-070 UNEMPLOYMENT COMPENSATION	<u>3,078</u>	<u>3,078</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>3,078.00</u>
TOTAL SALARIES & BENEFITS	101,261	101,261	0.00	415.24	3,500.00	0.00	0.41	100,845.73
<u>OTHER EXPENSES</u>								
01-526-100 UTILITIES	7,000	7,000	100.61	1,066.06	3,979.67	0.00	15.23	5,933.94
01-526-130 BONDS & TRAINING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-140 EMPLOYMENT SCREENING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-210 EQUIPMENT LEASE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-255 CONTRACT SERVICES - POOL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-420 OFFICE SUPPLIES	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
01-526-430 MISCELLANEOUS SUPPLIES	4,000	4,000	0.00	71.16	387.82	0.00	1.78	3,928.84
01-526-431 POOL CHEMICALS	15,000	15,000	452.63	1,310.67	1,873.78	0.00	8.74	13,689.33
01-526-480 UNIFORM ALLOWANCE	1,800	1,800	0.00	0.00	0.00	0.00	0.00	1,800.00
01-526-500 VEHICLE PARTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-510 VEHICLE OUTSIDE MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-526-520 EQUIPMENT REPAIR	10,000	10,000 (	14.99) (	14.99)	14.99	0.00	0.15-	10,014.99
01-526-630 FACILITY MAINTENANCE	7,000	7,000	0.00	1,069.22	1,569.36	0.00	15.27	5,930.78
01-526-700 CONTINGENCIES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	45,800	45,800	538.25	3,502.12	7,825.62	0.00	7.65	42,297.88
<u>CAPITAL EXPENSES</u>								
01-526-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-526-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 26-POOL	147,061	147,061	538.25	3,917.36	11,325.62	0.00	2.66	143,143.61

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
27-POST OFFICE								
=====								
<u>SALARIES & BENEFITS</u>								
01-527-010 POST OFFICE SALARIES	35,691	35,691	0.00	15,633.53	19,877.67	0.00	43.80	20,057.67
01-527-011 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-527-012 STIPEND	0	0	0.00	0.00	1,389.69	0.00	0.00	0.00
01-527-015 P. O. INCENTIVE PAY-BILINGUA	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-527-020 OVERTIME - POST OFFICE	1,200	1,200	0.00	985.82	214.94	0.00	82.15	214.18
01-527-030 SOCIAL SECURITY	2,822	2,822	0.00	1,241.93	1,597.77	0.00	44.01	1,580.25
01-527-040 HEALTH INSURANCE	8,837	8,837	721.59	4,329.54	5,029.11	0.00	48.99	4,507.19
01-527-050 RETIREMENT	2,854	2,854	0.00	1,004.98	1,486.73	0.00	35.22	1,848.55
01-527-060 WORKER'S COMPENSATION	83	83	0.00	83.23	76.00	0.00	100.00	0.00
01-527-070 UNEMPLOYMENT COMPENSATION	190	190	77.41	86.07	1.59	0.00	45.41	103.47
01-527-095 TERMINATION PAY-OUT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	51,676	51,676	799.00	23,365.10	29,673.50	0.00	45.21	28,311.31
<u>OTHER EXPENSES</u>								
01-527-120 DUES & SUBSCRIPTIONS	0	0	0.00	14.00	0.00	0.00	0.00 (	14.00)
01-527-130 BONDS & TRAINING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-527-420 OFFICE SUPPLIES - POST OFFIC	6,000	6,000	0.00	1,574.33	1,355.09	0.00	26.24	4,425.67
01-527-421 CONTRACT / SEASONAL HELP	3,200	3,200	0.00	0.00	0.00	0.00	0.00	3,200.00
01-527-590 POSTAGE - POST OFFICE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-527-600 OFFICE EQUIPMENT & MAINTENAN	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-527-610 OFFICE EQUIPMENT LEASE	12,200	12,200	0.00	5,561.52	987.09	0.00	45.59	6,638.48
01-527-700 CONTINGENCIES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-527-710 INVENTORY ADJUSTMENTS	<u>400</u>	<u>400</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>400.00</u>
TOTAL OTHER EXPENSES	21,800	21,800	0.00	7,149.85	2,342.18	0.00	32.80	14,650.15
<u>CAPITAL EXPENSES</u>								
01-527-800 CAPITAL EXPENSE	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
01-527-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 27-POST OFFICE	73,476	73,476	799.00	30,514.95	32,015.68	0.00	41.53	42,961.46

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
28-HUMAN RESOUCES								
=====								
<u>OTHER EXPENSES</u>								
01-528-130 INSURANCE ADMIN. FEES	4,000	4,000	290.00	2,330.00	2,396.00	0.00	58.25	1,670.00
01-528-140 EMPLOYMENT SCREENING/RECRUIT	15,000	15,000	50.00	1,186.87	7,733.32	0.00	7.91	13,813.13
01-528-141 ADP SERVICES	60,000	60,000	4,718.90	34,296.70	32,962.95	0.00	57.16	25,703.30
01-528-142 RECOGNITION PROGRAM	2,000	2,000	0.00	2,050.90	824.82	0.00	102.55 (	50.90)
01-528-143 EMPLOYEE WELLNESS PROGRAM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-150 EMP MED COST ASSIST	50,000	50,000	353.30	17,174.52	28,952.24	0.00	34.35	32,825.48
01-528-160 EMP RECONGITION PROGRAM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-162 INSURANCE INCREASE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-170 EMP WELLNESS PROGRAM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-172 TMRS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-175 TRANSFER TO HRA FUND 12	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-180 COLA 2%	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-528-701 PRIOR YEAR ADJUSTMENTS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	131,000	131,000	5,412.20	57,038.99	72,869.33	0.00	43.54	73,961.01
<u>OTHER INCOME/EXPENSES</u>								
01-528-900 UNALLOCATED FUNDS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 28-HUMAN RESOUCES	131,000	131,000	5,412.20	57,038.99	72,869.33	0.00	43.54	73,961.01

% OF YEAR COMPLETED: 58.33

=====29-MERIT INCREASES=====

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>30-CAPITAL</u>								
=====								
<u>OTHER EXPENSES</u>								
01-530-506 PARKS CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-507 FLEET CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-508 COURT CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-525 CITY MANAGER CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-526 POOL CAPITAL	0	0	0.00	0.00	7,677.95	0.00	0.00	0.00
01-530-527 POST OFFICE CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-528 HUMAN RESOURCES CAPITAL	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	0	0	0.00	0.00	7,677.95	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
01-530-801 ADMIN CAPITAL	0	0	0.00	19,317.79	0.00	0.00	0.00 (	19,317.79)
01-530-802 POLICE CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-803 FIRE CAPITAL	0	0 (	8,990.00) (	728.38)	127,129.20	0.00	0.00	728.38
01-530-804 SPECIAL SERVICES CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-806 PARKS CAPITAL	91,043	91,043	7,586.94	53,108.58	98,833.82	0.00	58.33	37,934.70
01-530-810 FACILITY CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-811 CIVIC CENTER CAPITAL	0	0	0.00	7,111.13	11,980.00	0.00	0.00 (	7,111.13)
01-530-814 CONTRACT SERVICES CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-815 TECH SUPPORT CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-816 PUBLIC WORKS CAPITAL	83,169	83,169	0.00	19,071.62	3,250.00	0.00	22.93	64,097.19
01-530-817 ANIMAL CONTROL CAPITAL	0	0 (	395.40) (	395.40)	57,046.00	0.00	0.00	395.40
01-530-819 CODE ENFORCEMENT CAPITAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-530-820 FINANCE CAPITAL	<u>50,000</u>	<u>50,000</u>	<u>0.00</u>	<u>48,651.50</u>	<u>42,706.30</u>	<u>0.00</u>	<u>97.30</u>	<u>1,348.50</u>
TOTAL CAPITAL EXPENSES	224,212	224,212 (	1,798.46)	146,136.84	340,945.32	0.00	65.18	78,075.25
<u>OTHER INCOME/EXPENSES</u>								
01-530-925 TRANSFER OUT TO STREETS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 30-CAPITAL	224,212	224,212 (	1,798.46)	146,136.84	348,623.27	0.00	65.18	78,075.25

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

01 -GENERAL FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
01-500-030 SOCIAL SECURITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
01-500-050 RETIREMENT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES	7,281,595	7,430,466	348,161.10	3,718,680.16	4,240,177.89	23,954.38	50.37	3,687,831.70
REVENUE OVER/ (UNDER) EXPENDITURES	462,451	313,579 (	108,330.69)	749,681.28 (	56,467.45) (	23,954.38)	231.43 (	412,147.50)

02 -GARBAGE FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
02-1100	CASH	26,492.60	
02-1102	CLAIM ON CASH	94,041.53	
02-1105	SAVINGS	477.46	
02-1115	INVESTMENT - TEXPOOL	432.15	
02-1315	DUE FROM GENERAL FUND	0.00	
02-1601	A/R-COMMERCIAL GARBAGE	123,976.79	
02-1605	A/R-RESIDENTIAL GARBAGE	510,954.94	
02-1606	ALLOW FOR DOUBTFUL ACCTS	(177,201.88)	
02-1607	A/R-RECYCLING INCOME	0.00	
02-1608	A/R - UNAPPLIED CREDITS	(15,985.95)	
02-1610	A/R-ACCRUED INTEREST	<u>0.00</u>	
		<u>563,187.64</u>	
	TOTAL ASSETS		563,187.64
			=====
LIABILITIES			
=====			
02-2315	DUE TO GENERAL FUND	284,672.33	
02-2400	A/P PENDING	0.00	
02-2410	A/P-SALES TAX	66,085.26	
02-2415	A/P-GARBAGE CONTRACTOR	0.00	
02-2420	DEFERRED REVENUE-RESIDENT	<u>0.00</u>	
	TOTAL LIABILITIES	<u>350,757.59</u>	
EQUITY			
=====			
02-3201	FUND BALANCE	(<u>211,338.52</u>)	
	TOTAL BEGINNING EQUITY	(211,338.52)	
	TOTAL REVENUE	986,341.31	
	TOTAL EXPENSES	<u>562,572.74</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	423,768.57	
	TOTAL EQUITY & FUND BALANCE	<u>212,430.05</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		563,187.64
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

02 -GARBAGE FUND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>1,303,250</u>	<u>1,303,250</u>	<u>369,260.87</u>	<u>986,341.31</u>	<u>1,038,303.72</u>	<u>0.00</u>	<u>75.68</u>	<u>316,908.69</u>
TOTAL REVENUES	1,303,250	1,303,250	369,260.87	986,341.31	1,038,303.72	0.00	75.68	316,908.69
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	28,050	0.00	0.00	0.00	0.00	0.00	28,049.67
OTHER EXPENSES	1,108,500	1,108,500	91,162.70	562,572.74	536,949.30	0.00	50.75	545,927.26
OTHER INCOME/EXPENSES	<u>125,000</u>	<u>125,000</u>	<u>0.00</u>	<u>0.00</u>	<u>125,000.00</u>	<u>0.00</u>	<u>0.00</u>	<u>125,000.00</u>
TOTAL 00-GENERAL EXPENDITURES	1,233,500	1,261,550	91,162.70	562,572.74	661,949.30	0.00	44.59	698,976.93
TOTAL EXPENDITURES	1,233,500	1,261,550	91,162.70	562,572.74	661,949.30	0.00	44.59	698,976.93
REVENUE OVER/ (UNDER) EXPENDITURES	69,750	41,700	278,098.17	423,768.57	376,354.42	0.00	1,016.22 (	382,068.24)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

02 -GARBAGE FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
02-4101 INCOME-COMMERCIAL	653,100	653,100	64,022.04	360,707.21	390,215.98	0.00	55.23	292,392.79
02-4105 INCOME-RESIDENTIAL	621,000	621,000	305,236.44	607,532.55	615,424.62	0.00	97.83	13,467.45
02-4107 INCOME-RECYCLING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
02-4110 INCOME-LATE CHARGE	29,000	29,000	0.00	17,944.34	32,387.90	0.00	61.88	11,055.66
02-4115 INCOME-INTEREST	150	150	2.39	157.21	275.22	0.00	104.81 (	7.21)
02-4130 INCOME - MISCELLANEOUS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	1,303,250	1,303,250	369,260.87	986,341.31	1,038,303.72	0.00	75.68	316,908.69

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

02 -GARBAGE FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
02-500-010 SALARIES	0	19,022	0.00	0.00	0.00	0.00	0.00	19,021.60
02-500-020 OVERTIME	0	1,350	0.00	0.00	0.00	0.00	0.00	1,350.00
02-500-030 SOCIAL SECURITY	0	1,558	0.00	0.00	0.00	0.00	0.00	1,558.43
02-500-040 HEALTH INSURANCE	0	4,370	0.00	0.00	0.00	0.00	0.00	4,369.76
02-500-050 RETIREMENT	0	1,576	0.00	0.00	0.00	0.00	0.00	1,575.74
02-500-060 WORKERS' COMPENSATION	0	93	0.00	0.00	0.00	0.00	0.00	93.14
02-500-070 UNEMPLOYMENT COMPENSATION	<u>0</u>	<u>81</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>81.00</u>
TOTAL SALARIES & BENEFITS	0	28,050	0.00	0.00	0.00	0.00	0.00	28,049.67
<u>OTHER EXPENSES</u>								
02-500-420 SUPPLIES	0	0	0.00	330.74	0.00	0.00	0.00	(330.74)
02-500-501 EXPENSES-COMMERCIAL	552,000	552,000	45,711.16	287,575.79	260,812.77	0.00	52.10	264,424.21
02-500-502 EXPENSES-RESIDENTIAL	528,000	528,000	44,021.54	264,129.24	254,859.12	0.00	50.02	263,870.76
02-500-503 EXPENSES-ADMINISTRATIVE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
02-500-504 EXPENSES-BAD DEBT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
02-500-505 EXPENSES-MED.WASTE&CLEAN UP	0	0	0.00	0.00	0.00	0.00	0.00	0.00
02-500-590 POSTAGE	3,500	3,500	1,430.00	3,487.00	2,305.00	0.00	99.63	13.00
02-500-591 EXPENSE - ALLY REPAIR	20,000	20,000	0.00	7,049.97	18,972.41	0.00	35.25	12,950.03
02-500-592 EXPENSES - ADDITIONAL CITY S	<u>5,000</u>	<u>5,000</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>5,000.00</u>
TOTAL OTHER EXPENSES	1,108,500	1,108,500	91,162.70	562,572.74	536,949.30	0.00	50.75	545,927.26
<u>OTHER INCOME/EXPENSES</u>								
02-500-900 EXPENSES-TRANSFER GENERAL FU	<u>125,000</u>	<u>125,000</u>	<u>0.00</u>	<u>0.00</u>	<u>125,000.00</u>	<u>0.00</u>	<u>0.00</u>	<u>125,000.00</u>
TOTAL OTHER INCOME/EXPENSES	125,000	125,000	0.00	0.00	125,000.00	0.00	0.00	125,000.00
TOTAL 00-GENERAL EXPENDITURES	1,233,500	1,261,550	91,162.70	562,572.74	661,949.30	0.00	44.59	698,976.93
TOTAL EXPENDITURES	1,233,500	1,261,550	91,162.70	562,572.74	661,949.30	0.00	44.59	698,976.93
REVENUE OVER/(UNDER) EXPENDITURES	69,750	41,700	278,098.17	423,768.57	376,354.42	0.00	1,016.22	(382,068.24)

04 -ASSET SEIZ FUND- FEDERAL

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
04-1102	CLAIM ON CASH	136.56	
04-1105	SAVINGS	359.98	
04-1115	INVESTMENTS	0.00	
04-1315	DUE FROM GENERAL FUND	0.00	
04-1515	A/R-ACCRUED INTEREST	0.00	
04-1550	A/R-MISCELLANEOUS	<u>0.00</u>	
			<u>496.54</u>
TOTAL ASSETS			496.54
			=====
LIABILITIES			
=====			
04-2315	DUE TO GENERAL FUND	0.00	
04-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
04-3201	FUND BALANCE-RESTRICTED	<u>494.44</u>	
	TOTAL BEGINNING EQUITY	494.44	
TOTAL REVENUE		2.10	
TOTAL EXPENSES		<u>0.00</u>	
TOTAL INCREASE/(DECREASE) IN FUND BAL.		2.10	
TOTAL EQUITY & FUND BALANCE		<u>496.54</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE			496.54
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

04 -ASSET SEIZ FUND- FEDERAL

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>0</u>	<u>0</u>	<u>0.03</u>	<u>2.10</u>	<u>3.67</u>	<u>0.00</u>	<u>0.00</u>	(<u>2.10</u>)
TOTAL REVENUES	0	0	0.03	2.10	3.67	0.00	0.00	(2.10)
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE OVER/(UNDER) EXPENDITURES	0	0	0.03	2.10	3.67	0.00	0.00	(2.10)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

04 -ASSET SEIZ FUND- FEDERAL

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
04-4101 INCOME-COURT FORFEITED PR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
04-4105 INCOME-ABAND/SEIZED PROP	0	0	0.00	0.00	0.00	0.00	0.00	0.00
04-4115 INCOME-INTEREST	0	0	0.03	2.10	3.67	0.00	0.00 (	2.10)
TOTAL REVENUES	0	0	0.03	2.10	3.67	0.00	0.00 (	2.10)

04 -ASSET SEIZ FUND- FEDERAL

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
04-500-050 MISCELLANEOUS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
04-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE OVER/(UNDER) EXPENDITURES	0	0	0.03	2.10	3.67	0.00	0.00 (	2.10)

05 -COUNTY FIRE CONTRIBUTION

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE		
ASSETS				
=====				
05-1102	CLAIM ON CASH	1,699.43		
05-1105	SAVINGS	0.00		
05-1115	INVESTMENTS	3,946.07		
05-1315	DUE FROM GENERAL FUND	0.00		
05-1515	A/R-ACCRUED INTEREST	0.00		
05-1550	A/R-MISCELLANEOUS	<u>0.00</u>		
			<u>5,645.50</u>	
TOTAL ASSETS				5,645.50
				=====
LIABILITIES				
=====				
05-2315	DUE TO GENERAL FUND	0.00		
05-2400	A/P PENDING	<u>0.00</u>		
	TOTAL LIABILITIES		<u>0.00</u>	
EQUITY				
=====				
05-3201	FUND BALANCE-RESTRICTED	<u>5,715.51</u>		
	TOTAL BEGINNING EQUITY	5,715.51		
TOTAL REVENUE		0.00		
TOTAL EXPENSES		<u>70.01</u>		
TOTAL INCREASE/(DECREASE) IN FUND BAL. (		70.01)		
TOTAL EQUITY & FUND BALANCE			<u>5,645.50</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE				5,645.50
				=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

05 -COUNTY FIRE CONTRIBUTION

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL REVENUES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	0 (	16.99)	70.01	1,801.04	0.00	0.00 (	70.01)
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	0	0 (	16.99)	70.01	1,801.04	0.00	0.00 (	70.01)
TOTAL EXPENDITURES	0	0 (	16.99)	70.01	1,801.04	0.00	0.00 (	70.01)
REVENUE OVER/ (UNDER) EXPENDITURES	0	0	16.99 (	70.01) (	1,801.04)	0.00	0.00	70.01

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

05 -COUNTY FIRE CONTRIBUTION

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
05-4101 INCOME-BEXAR COUNTY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
05-4105 INCOME - OTHER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
05-4115 INCOME-INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
05-4120 GRANT PROCEEDS - FIRE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	0	0	0.00	0.00	0.00	0.00	0.00	0.00

05 -COUNTY FIRE CONTRIBUTION

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
05-500-010 FIRE SUPPLIES	0	0 (	16.99)	70.01	1,301.04	0.00	0.00 (	70.01)
05-500-050 MISCELLANEOUS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>500.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0 (	16.99)	70.01	1,801.04	0.00	0.00 (	70.01)
<u>OTHER EXPENSES</u>								
05-500-431 EMPLOYEE APPRECIATION LUNCHE	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
05-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	0	0 (	16.99)	70.01	1,801.04	0.00	0.00 (	70.01)
TOTAL EXPENDITURES	0	0 (	16.99)	70.01	1,801.04	0.00	0.00 (	70.01)
REVENUE OVER/ (UNDER) EXPENDITURES	0	0	16.99 (	70.01) (	1,801.04)	0.00	0.00	70.01

06 -SCHOOL CROSSING GUARD

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE		
ASSETS				
=====				
06-1102	CLAIM ON CASH	37,242.98		
06-1105	SAVINGS	14,613.12		
06-1115	INVESTMENTS	0.00		
06-1315	DUE FROM GENERAL FUND	0.00		
06-1515	A/R-ACCRUED INTEREST	0.00		
06-1550	A/R-MISCELLANEOUS	<u>0.00</u>		
			<u>51,856.10</u>	
	TOTAL ASSETS			51,856.10
				=====
LIABILITIES				
=====				
06-2315	DUE TO GENERAL FUND	0.00		
06-2400	A/P PENDING	<u>0.00</u>		
	TOTAL LIABILITIES		<u>0.00</u>	
EQUITY				
=====				
06-3201	FUND BALANCE-RESTRICTED	<u>49,455.70</u>		
	TOTAL BEGINNING EQUITY	49,455.70		
	TOTAL REVENUE	3,973.20		
	TOTAL EXPENSES	<u>1,572.80</u>		
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	2,400.40		
	TOTAL EQUITY & FUND BALANCE		<u>51,856.10</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE			51,856.10
				=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

06 -SCHOOL CROSSING GUARD

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>6,337</u>	<u>6,337</u>	<u>1,237.62</u>	<u>3,973.20</u>	<u>4,026.74</u>	<u>0.00</u>	<u>62.70</u>	<u>2,363.80</u>
TOTAL REVENUES	6,337	6,337	1,237.62	3,973.20	4,026.74	0.00	62.70	2,363.80
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	4,000	4,000	9.20	1,572.80	955.14	0.00	39.32	2,427.20
CAPITAL EXPENSES	<u>20,000</u>	<u>20,000</u>	<u>0.00</u>	<u>0.00</u>	<u>4,150.00</u>	<u>0.00</u>	<u>0.00</u>	<u>20,000.00</u>
TOTAL 00-GENERAL EXPENDITURES	24,000	24,000	9.20	1,572.80	5,105.14	0.00	6.55	22,427.20
TOTAL EXPENDITURES	24,000	24,000	9.20	1,572.80	5,105.14	0.00	6.55	22,427.20
REVENUE OVER/(UNDER) EXPENDITURES	(17,663)	(17,663)	1,228.42	2,400.40	(1,078.40)	0.00	13.59-	(20,063.40)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

06 -SCHOOL CROSSING GUARD

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
06-4101 INCOME-BEXAR COUNTY	6,237	6,237	1,236.33	3,888.03	3,877.62	0.00	62.34	2,348.97
06-4115 INCOME-INTEREST	100	100	1.29	85.17	149.12	0.00	85.17	14.83
06-4310 SCHOOL ZONE FINES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	6,337	6,337	1,237.62	3,973.20	4,026.74	0.00	62.70	2,363.80

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

06 -SCHOOL CROSSING GUARD

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
06-500-010 DARE PROGRAM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
06-500-020 SAFETY EQUIPMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
06-500-030 STREET MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
06-500-050 MISCELLANEOUS	<u>4,000</u>	<u>4,000</u>	<u>9.20</u>	<u>1,572.80</u>	<u>955.14</u>	<u>0.00</u>	<u>39.32</u>	<u>2,427.20</u>
TOTAL SALARIES & BENEFITS	4,000	4,000	9.20	1,572.80	955.14	0.00	39.32	2,427.20
<u>CAPITAL EXPENSES</u>								
06-500-800 CAPITAL EXPENDITURES	<u>20,000</u>	<u>20,000</u>	<u>0.00</u>	<u>0.00</u>	<u>4,150.00</u>	<u>0.00</u>	<u>0.00</u>	<u>20,000.00</u>
TOTAL CAPITAL EXPENSES	20,000	20,000	0.00	0.00	4,150.00	0.00	0.00	20,000.00
TOTAL 00-GENERAL EXPENDITURES	24,000	24,000	9.20	1,572.80	5,105.14	0.00	6.55	22,427.20
TOTAL EXPENDITURES	24,000	24,000	9.20	1,572.80	5,105.14	0.00	6.55	22,427.20
REVENUE OVER/ (UNDER) EXPENDITURES	(17,663)	(17,663)	1,228.42	2,400.40	(1,078.40)	0.00	13.59-	(20,063.40)

08 -POLICE DONATIONS ACCOUNT

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
08-1102	CLAIM ON CASH	411.57	
08-1105	SAVINGS	1,698.95	
08-1315	DUE FROM GENERAL FUND	<u>0.00</u>	
			<u>2,110.52</u>
	TOTAL ASSETS		2,110.52
			=====
LIABILITIES			
=====			
08-2315	DUE TO GENERAL FUND	0.00	
08-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
08-3201	FUND BALANCE	<u>1,745.53</u>	
	TOTAL BEGINNING EQUITY	1,745.53	
	TOTAL REVENUE	585.06	
	TOTAL EXPENSES	<u>220.07</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	364.99	
	TOTAL EQUITY & FUND BALANCE	<u>2,110.52</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		2,110.52
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

08 -POLICE DONATIONS ACCOUNT

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>2,520</u>	<u>2,520</u>	<u>0.15</u>	<u>585.06</u>	<u>672.41</u>	<u>0.00</u>	<u>23.22</u>	<u>1,934.94</u>
TOTAL REVENUES	2,520	2,520	0.15	585.06	672.41	0.00	23.22	1,934.94
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	2,000	2,000	0.00	0.00	1,008.19	0.00	0.00	2,000.00
OTHER EXPENSES	500	500	25.08	220.07	0.00	0.00	44.01	279.93
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	2,500	2,500	25.08	220.07	1,008.19	0.00	8.80	2,279.93
TOTAL EXPENDITURES	2,500	2,500	25.08	220.07	1,008.19	0.00	8.80	2,279.93
REVENUE OVER/ (UNDER) EXPENDITURES	20	20 (	24.93)	364.99 (	335.78)	0.00	1,824.95 (	344.99)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

08 -POLICE DONATIONS ACCOUNT

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
08-4101 INCOME-POLICE DONATIONS	2,500	2,500	0.00	575.00	650.00	0.00	23.00	1,925.00
08-4102 INCOME-WINDCREST PROUD	0	0	0.00	0.00	0.00	0.00	0.00	0.00
08-4106 INCOME-SWIM TEAM DONATIONS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
08-4115 INCOME-INTEREST	20	20	0.15	10.06	22.41	0.00	50.30	9.94
TOTAL REVENUES	2,520	2,520	0.15	585.06	672.41	0.00	23.22	1,934.94

08 -POLICE DONATIONS ACCOUNT

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
08-500-010 MISCELLANEOUS EXPENSES	<u>2,000</u>	<u>2,000</u>	<u>0.00</u>	<u>0.00</u>	<u>1,008.19</u>	<u>0.00</u>	<u>0.00</u>	<u>2,000.00</u>
TOTAL SALARIES & BENEFITS	2,000	2,000	0.00	0.00	1,008.19	0.00	0.00	2,000.00
<u>OTHER EXPENSES</u>								
08-500-431 EMPLOYEE APPRECIATION LUNCHE	<u>500</u>	<u>500</u>	<u>25.08</u>	<u>220.07</u>	<u>0.00</u>	<u>0.00</u>	<u>44.01</u>	<u>279.93</u>
TOTAL OTHER EXPENSES	500	500	25.08	220.07	0.00	0.00	44.01	279.93
<u>CAPITAL EXPENSES</u>								
08-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	2,500	2,500	25.08	220.07	1,008.19	0.00	8.80	2,279.93
TOTAL EXPENDITURES	2,500	2,500	25.08	220.07	1,008.19	0.00	8.80	2,279.93
REVENUE OVER/(UNDER) EXPENDITURES	20	20 (	24.93)	364.99 (	335.78)	0.00	1,824.95 (	344.99)

09 -ASSET SEIZURE FUND- STATE

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE		
ASSETS				
=====				
09-1102	CLAIM ON CASH	2,502.56		
09-1105	SAVINGS	398.32		
09-1115	INVESTMENTS	0.00		
09-1315	DUE FROM GENERAL FUND	0.00		
09-1515	A/R-ACCRUED INTEREST	0.00		
09-1550	A/R-MISCELLANEOUS	<u>0.00</u>		
			<u>2,900.88</u>	
TOTAL ASSETS				2,900.88
				=====
LIABILITIES				
=====				
09-2315	DUE TO GENERAL FUND	0.00		
09-2400	A/P PENDING	<u>0.00</u>		
	TOTAL LIABILITIES		<u>0.00</u>	
EQUITY				
=====				
09-3201	FUND BALANCE	<u>2,898.55</u>		
	TOTAL BEGINNING EQUITY	2,898.55		
TOTAL REVENUE		2.33		
TOTAL EXPENSES		<u>0.00</u>		
TOTAL INCREASE/(DECREASE) IN FUND BAL.		2.33		
TOTAL EQUITY & FUND BALANCE			<u>2,900.88</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE				2,900.88
				=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

09 -ASSET SEIZURE FUND- STATE

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>1,000</u>	<u>1,000</u>	<u>0.04</u>	<u>2.33</u>	<u>4.07</u>	<u>0.00</u>	<u>0.23</u>	<u>997.67</u>
TOTAL REVENUES	1,000	1,000	0.04	2.33	4.07	0.00	0.23	997.67
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	600	600	0.00	0.00	0.00	0.00	0.00	600.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	600	600	0.00	0.00	0.00	0.00	0.00	600.00
TOTAL EXPENDITURES	600	600	0.00	0.00	0.00	0.00	0.00	600.00
REVENUE OVER/(UNDER) EXPENDITURES	400	400	0.04	2.33	4.07	0.00	0.58	397.67

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

09 -ASSET SEIZURE FUND- STATE

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
09-4101 INCOME-COURT FORFEITED PR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
09-4105 INCOME-ABAND/SEIZED PROP	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
09-4115 INCOME-INTEREST	0	0	0.04	2.33	4.07	0.00	0.00 (	2.33)
TOTAL REVENUES	1,000	1,000	0.04	2.33	4.07	0.00	0.23	997.67

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

09 -ASSET SEIZURE FUND- STATE

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
09-500-050 MISCELLANEOUS	<u>600</u>	<u>600</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>600.00</u>
TOTAL SALARIES & BENEFITS	600	600	0.00	0.00	0.00	0.00	0.00	600.00
<u>CAPITAL EXPENSES</u>								
09-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	600	600	0.00	0.00	0.00	0.00	0.00	600.00
TOTAL EXPENDITURES	600	600	0.00	0.00	0.00	0.00	0.00	600.00
REVENUE OVER/(UNDER) EXPENDITURES	400	400	0.04	2.33	4.07	0.00	0.58	397.67

10 -POLICE EDUCATION TRAINING

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
10-1102	CLAIM ON CASH	0.00	
10-1105	SAVINGS	6,262.18	
10-1115	INVESTMENTS	0.00	
10-1315	DUE FROM GENERAL FUND	0.00	
10-1515	A/R ACCRUED INTEREST	0.00	
10-1550	A/R-MISCELLANEOUS	0.00	
10-1601	A/R-MISCELLANEOUS INCOME	<u>0.00</u>	
			<u>6,262.18</u>
	TOTAL ASSETS		6,262.18
			=====
LIABILITIES			
=====			
10-2315	DUE TO GENERAL FUND	0.00	
10-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
10-3201	FUND BALANCE	<u>3,551.18</u>	
	TOTAL BEGINNING EQUITY	3,551.18	
	TOTAL REVENUE	2,711.00	
	TOTAL EXPENSES	<u>0.00</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	2,711.00	
	TOTAL EQUITY & FUND BALANCE	<u>6,262.18</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		6,262.18
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

10 -POLICE EDUCATION TRAINING

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>1,000</u>	<u>1,000</u>	<u>0.55</u>	<u>2,711.00</u>	<u>2,550.50</u>	<u>0.00</u>	<u>271.10</u>	(<u>1,711.00</u>)
TOTAL REVENUES	1,000	1,000	0.55	2,711.00	2,550.50	0.00	271.10	(1,711.00)
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	1,000	1,000	0.00	0.00	1,365.60	0.00	0.00	1,000.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	1,000	1,000	0.00	0.00	1,365.60	0.00	0.00	1,000.00
TOTAL EXPENDITURES	1,000	1,000	0.00	0.00	1,365.60	0.00	0.00	1,000.00
REVENUE OVER/(UNDER) EXPENDITURES	0	0	0.55	2,711.00	1,184.90	0.00	0.00	(2,711.00)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

10 -POLICE EDUCATION TRAINING

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
10-4101 INCOME-LEOSE	0	0	0.00	2,686.81	2,510.60	0.00	0.00 (	2,686.81)
10-4105 INCOME- OTHER	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
10-4115 INCOME-INTEREST	0	0	0.55	24.19	39.90	0.00	0.00 (	24.19)
TOTAL REVENUES	1,000	1,000	0.55	2,711.00	2,550.50	0.00	271.10 (	1,711.00)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

10 -POLICE EDUCATION TRAINING

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
10-500-050 EDUCATION/TRAINING	<u>1,000</u>	<u>1,000</u>	<u>0.00</u>	<u>0.00</u>	<u>1,365.60</u>	<u>0.00</u>	<u>0.00</u>	<u>1,000.00</u>
TOTAL SALARIES & BENEFITS	1,000	1,000	0.00	0.00	1,365.60	0.00	0.00	1,000.00
<u>CAPITAL EXPENSES</u>								
10-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	1,000	1,000	0.00	0.00	1,365.60	0.00	0.00	1,000.00
TOTAL EXPENDITURES	1,000	1,000	0.00	0.00	1,365.60	0.00	0.00	1,000.00
REVENUE OVER/(UNDER) EXPENDITURES	0	0	0.55	2,711.00	1,184.90	0.00	0.00 (	2,711.00)

11 -ROOSEVELT SCHOLARSHIP FND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE		
ASSETS				
=====				
11-1102	CLAIM ON CASH	2,004.04		
11-1105	SAVINGS	0.00		
11-1115	INVESTMENTS	0.00		
11-1315	DUE FROM GENERAL FUND	0.00		
11-1515	A/R-ACCRUED INTEREST	0.00		
11-1550	A/R-MISCELLANEOUS	<u>0.00</u>		
			<u>2,004.04</u>	
TOTAL ASSETS				2,004.04
				=====
LIABILITIES				
=====				
11-2315	DUE TO GENERAL FUND	0.00		
11-2400	A/P PENDING	<u>0.00</u>		
TOTAL LIABILITIES			<u>0.00</u>	
EQUITY				
=====				
11-3201	FUND BALANCE	<u>4.04</u>		
TOTAL BEGINNING EQUITY		4.04		
TOTAL REVENUE		0.00		
TOTAL EXPENSES		(<u>2,000.00</u>)		
TOTAL INCREASE/(DECREASE) IN FUND BAL.		2,000.00		
TOTAL EQUITY & FUND BALANCE			<u>2,004.04</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE				2,004.04
				=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

11 -ROOSEVELT SCHOLARSHIP FND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.01</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL REVENUES	0	0	0.00	0.00	0.01	0.00	0.00	0.00
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	0	(2,000.00)	(2,000.00)	0.00	0.00	0.00	2,000.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	0	0	(2,000.00)	(2,000.00)	0.00	0.00	0.00	2,000.00
TOTAL EXPENDITURES	0	0	(2,000.00)	(2,000.00)	0.00	0.00	0.00	2,000.00
REVENUE OVER/(UNDER) EXPENDITURES	0	0	2,000.00	2,000.00	0.01	0.00	0.00	(2,000.00)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

11 -ROOSEVELT SCHOLARSHIP FND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
11-4101 INCOME	0	0	0.00	0.00	0.00	0.00	0.00	0.00
11-4115 INCOME-INTEREST	0	0	0.00	0.00	0.01	0.00	0.00	0.00
TOTAL REVENUES	0	0	0.00	0.00	0.01	0.00	0.00	0.00

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

11 -ROOSEVELT SCHOLARSHIP FND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
11-500-050 EXPENDITURES-MISCELLANEOUS	0	0 (	2,000.00) (	2,000.00)	0.00	0.00	0.00	2,000.00
11-500-060 MISC-SETUP 501.c3	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0 (	2,000.00) (	2,000.00)	0.00	0.00	0.00	2,000.00
<u>CAPITAL EXPENSES</u>								
11-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	0	0 (	2,000.00) (	2,000.00)	0.00	0.00	0.00	2,000.00
TOTAL EXPENDITURES	0	0 (	2,000.00) (	2,000.00)	0.00	0.00	0.00	2,000.00
REVENUE OVER/(UNDER) EXPENDITURES	0	0	2,000.00	2,000.00	0.01	0.00	0.00 (	2,000.00)

13 -ECONOMIC DEVELOPMENT CORP

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
13-1102	CLAIM ON CASH	87,808.00	
13-1105	CASH - CHECKING	1,079,164.12	
13-1106	Savings - TLF Proceeds	0.00	
13-1115	INVESTMENTS-TEXPOOL#15900001	0.00	
13-1116	INVESTMENTS-TEXPOOL#15900003	0.00	
13-1117	EXPENSE CARD	0.00	
13-1118	EDC - Investment First Public	113,891.89	
13-1204	PREPAID SALES TAX	0.26	
13-1315	DUE FROM GENERAL FUND	0.00	
13-1375	DUE FROM HOT FUND	0.00	
13-1510	A/R SALES TAX	(0.02)	
		<u>1,280,864.25</u>	
	TOTAL ASSETS		1,280,864.25
			=====
LIABILITIES			
=====			
13-2200	WAGES PAYABLE	0.00	
13-2315	DUE TO GENERAL FUND	145,000.00	
13-2320	DUE TO TAXING ENTITIES	0.00	
13-2400	A/P PENDING	0.00	
13-2401	ACCOUNTS PAYABLE	0.00	
13-2402	ALAMO TITLE ESCROW FUNDS	0.00	
13-2410	A/P - SALES TAX	0.00	
13-2451	A/P SALES TAX PAYBACK	0.00	
	TOTAL LIABILITIES	<u>145,000.00</u>	
EQUITY			
=====			
13-3201	FUND BALANCE	<u>998,975.12</u>	
	TOTAL BEGINNING EQUITY	998,975.12	
	TOTAL REVENUE	274,669.44	
	TOTAL EXPENSES	<u>137,780.31</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	136,889.13	
	TOTAL EQUITY & FUND BALANCE	<u>1,135,864.25</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		1,280,864.25
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

13 -ECONOMIC DEVELOPMENT CORP

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>556,000</u>	<u>556,000</u>	<u>28,639.75</u>	<u>274,669.44</u>	<u>261,748.03</u>	<u>0.00</u>	<u>49.40</u>	<u>281,330.56</u>
TOTAL REVENUES	556,000	556,000	28,639.75	274,669.44	261,748.03	0.00	49.40	281,330.56
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	221,064	221,064	12,443.06	86,891.17	49,190.51	0.00	39.31	134,172.83
OTHER EXPENSES	295,100	295,100	2,715.86	40,889.14	45,438.27	0.00	13.86	254,210.86
CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	516,164	516,164	15,158.92	127,780.31	94,628.78	0.00	24.76	388,383.69
TOTAL EXPENDITURES	516,164	516,164	15,158.92	127,780.31	94,628.78	0.00	24.76	388,383.69
REVENUE OVER/(UNDER) EXPENDITURES	39,836	39,836	13,480.83	146,889.13	167,119.25	0.00	368.73 (	107,053.13)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

13 -ECONOMIC DEVELOPMENT CORP

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
13-4105 INCOME - OTHER	0	0	0.00	0.00	20.00	0.00	0.00	0.00
13-4110 INCOME - OTHER (HOT)	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-4111 INCOME - OTHER (GEN.FUND)	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-4112 INCOME-WALZEM RD GRANT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-4113 INCOME-CORPORATE DONATIONS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-4115 SALES TAX (.25)	554,000	554,000	28,543.58	268,596.90	255,247.62	0.00	48.48	285,403.10
13-4301 INTEREST	2,000	2,000	96.17	6,072.54	6,480.41	0.00	303.63 (	4,072.54)
13-4900 PROCEEDS FROM CAPITAL LEASE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	556,000	556,000	28,639.75	274,669.44	261,748.03	0.00	49.40	281,330.56

13 -ECONOMIC DEVELOPMENT CORP

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
13-500-009 SALARIES - EDC	37,000	42,000	3,296.00	23,155.08	10,902.37	0.00	55.13	18,844.92
13-500-010 ADMINISTRATIVE EXPENSES	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
13-500-011 EDC LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-013 STIPEND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-018 EDC EDUCATION PAY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-020 EDC OVERTIME	2,000	2,000	0.00	0.00	0.00	0.00	0.00	2,000.00
13-500-030 SOCIAL SECURITY-EDC	4,000	4,000	255.32	1,787.23	799.93	0.00	44.68	2,212.77
13-500-040 HEALTH INSURANCE-EDC	9,064	9,064	727.45	4,364.70	4,877.39	0.00	48.15	4,699.30
13-500-050 RETIREMENT-EDC	4,400	4,400	249.64	1,760.50	854.72	0.00	40.01	2,639.50
13-500-060 WORKERS COMPENSATION-EDC	1,100	1,100	0.00	1,100.00	1,000.00	0.00	100.00	0.00
13-500-070 UNEMPLOYMENT COMPENSATION	500	500	114.65	123.66	136.10	0.00	24.73	376.34
13-500-080 CONTRACT LABOR	162,000	157,000	7,800.00	54,600.00	30,620.00	0.00	34.78	102,400.00
13-500-095 TERMINATION PAYOUT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	221,064	221,064	12,443.06	86,891.17	49,190.51	0.00	39.31	134,172.83
<u>OTHER EXPENSES</u>								
13-500-100 PUBLIC RELATION FEES-GENERAL	15,000	15,000	248.64	3,993.47	50.21	0.00	26.62	11,006.53
13-500-115 MOBILE TELEPHONE	600	600	41.54	207.69	166.16	0.00	34.62	392.31
13-500-120 DUES & SUBSCRIPTIONS	500	500	0.00	145.00	192.35	0.00	29.00	355.00
13-500-130 TRAINING	7,000	7,000	0.00	540.00	1,807.62	0.00	7.71	6,460.00
13-500-132 TRAVEL	10,000	10,000	0.00	0.00	5.00	0.00	0.00	10,000.00
13-500-135 MEALS & ENTERTAINMENT	5,000	5,000	0.00	340.66	171.04	0.00	6.81	4,659.34
13-500-150 EMP MED COST ASSIST	0	0	0.00	256.47	0.00	0.00	0.00	256.47
13-500-200 COMPUTER MAINTENANCE	4,000	4,000	0.00	0.00	0.00	0.00	0.00	4,000.00
13-500-201 WEBSITE MAINTENANCE	2,000	2,000	0.00	1,758.75	6,977.82	0.00	87.94	241.25
13-500-205 REPAIRS & MAINT OF BUILDING	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
13-500-250 LEGAL EXPENSES	50,000	50,000	1,569.86	18,316.10	21,040.54	0.00	36.63	31,683.90
13-500-290 AUDIT	6,000	6,000	0.00	0.00	4,300.00	0.00	0.00	6,000.00
13-500-325 SALES TAX COLLECTION SERVICE	1,800	1,800	0.00	0.00	0.00	0.00	0.00	1,800.00
13-500-430 SUPPLIES	4,000	4,000	61.48	1,578.35	2,080.01	0.00	39.46	2,421.65
13-500-440 ELECTION EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-510 VEHICLE EXPENSE-EDC	1,000	1,000	0.00	119.99	42.00	0.00	12.00	880.01
13-500-515 HEALTH EXPENSE ALLOW-DIRECTO	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-520 MOVING EXPENSE-DIRECTOR	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-540 VEHICLE FUEL	1,000	1,000	0.00	0.00	0.00	0.00	0.00	1,000.00
13-500-590 POSTAGE	500	500	0.00	445.10	0.00	0.00	89.02	54.90
13-500-630 LEGAL ADVERTISING	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-640 COPIER USAGE	1,200	1,200	0.00	0.00	0.00	0.00	0.00	1,200.00
13-500-650 WALZEM RD GRANT EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-700 CONTINGENCIES	2,500	2,500	0.00	0.00	266.67	0.00	0.00	2,500.00
13-500-750 EDC PROJECTS	111,000	111,000	0.00	10,291.73	2,617.60	0.00	9.27	100,708.27
13-500-751 PROMOTING WINDCREST	71,000	71,000	794.34	2,895.83	5,721.25	0.00	4.08	68,104.17
13-500-752 SERVICES AGREEMENT GEN. FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER EXPENSES	295,100	295,100	2,715.86	40,889.14	45,438.27	0.00	13.86	254,210.86

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

13 -ECONOMIC DEVELOPMENT CORP

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>CAPITAL EXPENSES</u>								
13-500-800 EDC PROJECTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-801 PROMOTING WINDCREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-810 CAPITAL EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-890 TLF LOAN PAYMENTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-891 RACKER ROAD PROJECT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
13-500-892 TLF INTEREST	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER INCOME/EXPENSES</u>								
13-500-900 PRIOR PERIOD ADJUSTMENT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	516,164	516,164	15,158.92	127,780.31	94,628.78	0.00	24.76	388,383.69
TOTAL EXPENDITURES	516,164	516,164	15,158.92	127,780.31	94,628.78	0.00	24.76	388,383.69
REVENUE OVER/ (UNDER) EXPENDITURES	39,836	39,836	13,480.83	146,889.13	167,119.25	0.00	368.73 (	107,053.13)

14 -COURT TECHNOLOGY FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
14-1102	CLAIM ON CASH	10,317.61	
14-1105	CASH - SAVINGS	21,604.55	
14-1315	DUE FROM GENERAL FUND	<u>0.00</u>	
			<u>31,922.16</u>
	TOTAL ASSETS		31,922.16
			=====
LIABILITIES			
=====			
14-2315	DUE TO GENERAL FUND	0.00	
14-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
14-3201	FUND BALANCE	<u>35,739.85</u>	
	TOTAL BEGINNING EQUITY	35,739.85	
	TOTAL REVENUE	10,268.54	
	TOTAL EXPENSES	<u>14,086.23</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL. (	3,817.69)	
	TOTAL EQUITY & FUND BALANCE	<u>31,922.16</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		31,922.16
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

14 -COURT TECHNOLOGY FUND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>15,677</u>	<u>15,677</u>	<u>677.13</u>	<u>10,268.54</u>	<u>7,450.93</u>	<u>0.00</u>	<u>65.50</u>	<u>5,408.46</u>
TOTAL REVENUES	15,677	15,677	677.13	10,268.54	7,450.93	0.00	65.50	5,408.46
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	4,625	4,625	0.00	4,104.00	829.45	0.00	88.74	521.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>9,982.23</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>(9,982.23)</u>
TOTAL 00-GENERAL EXPENDITURES	4,625	4,625	0.00	14,086.23	829.45	0.00	304.57	(9,461.23)
TOTAL EXPENDITURES	4,625	4,625	0.00	14,086.23	829.45	0.00	304.57	(9,461.23)
REVENUE OVER/(UNDER) EXPENDITURES	11,052	11,052	677.13	(3,817.69)	6,621.48	0.00	34.54-	14,869.69

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

14 -COURT TECHNOLOGY FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
14-4101 INCOME-COURT TECHNOLOGY FEES	15,500	15,500	675.22	10,142.60	7,230.47	0.00	65.44	5,357.40
14-4115 INCOME - INTEREST	177	177	1.91	125.94	220.46	0.00	71.15	51.06
TOTAL REVENUES	15,677	15,677	677.13	10,268.54	7,450.93	0.00	65.50	5,408.46

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
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14 -COURT TECHNOLOGY FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
14-500-050 MISCELLANEOUS	<u>4,625</u>	<u>4,625</u>	<u>0.00</u>	<u>4,104.00</u>	<u>829.45</u>	<u>0.00</u>	<u>88.74</u>	<u>521.00</u>
TOTAL SALARIES & BENEFITS	4,625	4,625	0.00	4,104.00	829.45	0.00	88.74	521.00
<u>CAPITAL EXPENSES</u>								
14-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>9,982.23</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>(9,982.23)</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	9,982.23	0.00	0.00	0.00	(9,982.23)
TOTAL 00-GENERAL EXPENDITURES	4,625	4,625	0.00	14,086.23	829.45	0.00	304.57	(9,461.23)
TOTAL EXPENDITURES	4,625	4,625	0.00	14,086.23	829.45	0.00	304.57	(9,461.23)
REVENUE OVER/(UNDER) EXPENDITURES	11,052	11,052	677.13	(3,817.69)	6,621.48	0.00	34.54-	14,869.69

15 -COURT BLDG. SECURITY FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
15-1102	CLAIM ON CASH	57,552.54	
15-1105	CASH - SAVINGS	733.90	
15-1315	DUE FROM GENERAL FUND	<u>0.00</u>	
			<u>58,286.44</u>
TOTAL ASSETS			58,286.44
			=====
LIABILITIES			
=====			
15-2315	DUE TO GENERAL FUND	0.00	
15-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
15-3201	FUND BALANCE	<u>52,198.40</u>	
	TOTAL BEGINNING EQUITY	52,198.40	
TOTAL REVENUE		8,588.04	
TOTAL EXPENSES		<u>2,500.00</u>	
TOTAL INCREASE/(DECREASE) IN FUND BAL.		6,088.04	
TOTAL EQUITY & FUND BALANCE		<u>58,286.44</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE			58,286.44
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

15 -COURT BLDG. SECURITY FUND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>11,559</u>	<u>11,559</u>	<u>649.78</u>	<u>8,588.04</u>	<u>5,399.05</u>	<u>0.00</u>	<u>74.30</u>	<u>2,970.96</u>
TOTAL REVENUES	11,559	11,559	649.78	8,588.04	5,399.05	0.00	74.30	2,970.96
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	2,450.22	0.00	0.00	0.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>2,500.00</u>	<u>0.00</u>	<u>24,975.00</u>	<u>0.00</u>	<u>(27,475.00)</u>
TOTAL 00-GENERAL EXPENDITURES	0	0	0.00	2,500.00	2,450.22	24,975.00	0.00	(27,475.00)
TOTAL EXPENDITURES	0	0	0.00	2,500.00	2,450.22	24,975.00	0.00	(27,475.00)
REVENUE OVER/(UNDER) EXPENDITURES	11,559	11,559	649.78	6,088.04	2,948.83	(24,975.00)	163.40-	30,445.96

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

15 -COURT BLDG. SECURITY FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
15-4101 INCOME-COURT BLDG SECURITY FEE	11,556	11,556	649.72	8,583.77	5,391.56	0.00	74.28	2,972.23
15-4115 INCOME - INTEREST	3	3	0.06	4.27	7.49	0.00	142.33 (	1.27)
15-4120 TRANSFER FROM GENERAL FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	11,559	11,559	649.78	8,588.04	5,399.05	0.00	74.30	2,970.96

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

15 -COURT BLDG. SECURITY FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
15-500-050 MISCELLANEOUS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>2,450.22</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	2,450.22	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
15-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>2,500.00</u>	<u>0.00</u>	<u>24,975.00</u>	<u>0.00</u>	<u>(27,475.00)</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	2,500.00	0.00	24,975.00	0.00	(27,475.00)
TOTAL 00-GENERAL EXPENDITURES	0	0	0.00	2,500.00	2,450.22	24,975.00	0.00	(27,475.00)
TOTAL EXPENDITURES	0	0	0.00	2,500.00	2,450.22	24,975.00	0.00	(27,475.00)
REVENUE OVER/(UNDER) EXPENDITURES	11,559	11,559	649.78	6,088.04	2,948.83	(24,975.00)	163.40-	30,445.96

16 -HOTEL/MOTEL TAX FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
16-1102	CLAIM ON CASH	10,427.82	
16-1105	SAVINGS	366,492.58	
16-1115	INVESTMENTS	0.00	
16-1315	DUE FROM GENERAL FUND	0.00	
16-1357	DUE FROM TEXAS TAX NOTE FUND	0.00	
16-1515	A/R - ACCRUED INTEREST	0.00	
16-1550	A/R - MISCELLANEOUS	<u>0.00</u>	
			<u>376,920.40</u>
TOTAL ASSETS			376,920.40
			=====
LIABILITIES			
=====			
16-2315	DUE TO GENERAL FUND	0.00	
16-2357	DUE TO TEXAS TAX NOTES FUND	0.00	
16-2375	DUE TO EDC FUND	0.00	
16-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
16-3201	FUND BALANCE	<u>214,048.07</u>	
	TOTAL BEGINNING EQUITY	214,048.07	
TOTAL REVENUE		162,872.33	
TOTAL EXPENSES		<u>0.00</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	162,872.33	
TOTAL EQUITY & FUND BALANCE		<u>376,920.40</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE			376,920.40
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

16 -HOTEL/MOTEL TAX FUND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>295,037</u>	<u>295,037</u>	<u>18,440.12</u>	<u>162,872.33</u>	<u>149,823.88</u>	<u>0.00</u>	<u>55.20</u>	<u>132,164.31</u>
TOTAL REVENUES	295,037	295,037	18,440.12	162,872.33	149,823.88	0.00	55.20	132,164.31
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER EXPENSES	270,000	270,000	0.00	0.00	0.00	0.00	0.00	270,000.00
CAPITAL EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	270,000	270,000	0.00	0.00	0.00	0.00	0.00	270,000.00
TOTAL EXPENDITURES	270,000	270,000	0.00	0.00	0.00	0.00	0.00	270,000.00
REVENUE OVER/ (UNDER) EXPENDITURES	25,037	25,037	18,440.12	162,872.33	149,823.88	0.00	650.54 (	137,835.69)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

16 -HOTEL/MOTEL TAX FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
16-4101 INCOME-HOT	294,687	294,687	18,375.05	160,799.70	147,343.32	0.00	54.57	133,886.94
16-4105 INCOME-OTHER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
16-4115 INCOME-INTEREST	350	350	65.07	2,072.63	2,480.56	0.00	592.18 (	1,722.63)
TOTAL REVENUES	295,037	295,037	18,440.12	162,872.33	149,823.88	0.00	55.20	132,164.31

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

16 -HOTEL/MOTEL TAX FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>SALARIES & BENEFITS</u>								
16-500-040 ADVERTISING & PROMOTION	0	0	0.00	0.00	0.00	0.00	0.00	0.00
16-500-050 MISCELLANEOUS	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER EXPENSES</u>								
16-500-501 TRANSFER TO GENERAL FUND	<u>270,000</u>	<u>270,000</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>270,000.00</u>
TOTAL OTHER EXPENSES	270,000	270,000	0.00	0.00	0.00	0.00	0.00	270,000.00
<u>CAPITAL EXPENSES</u>								
16-500-800 CAPITAL EXPENDITURES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	270,000	270,000	0.00	0.00	0.00	0.00	0.00	270,000.00
TOTAL EXPENDITURES	270,000	270,000	0.00	0.00	0.00	0.00	0.00	270,000.00
REVENUE OVER/ (UNDER) EXPENDITURES	25,037	25,037	18,440.12	162,872.33	149,823.88	0.00	650.54 (	137,835.69)

17 -DEBT SERVICE

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
17-1102	CLAIM ON CASH	52,301.67	
17-1105	SAVINGS	0.00	
17-1115	INVESTMENTS	0.00	
17-1315	DUE FROM GENERAL FUND	0.00	
17-1356	DUE FROM HOTEL/MOTEL TAX FND	0.00	
17-1501	A/R - ADVALOREM TAXES	2,037.14	
17-1505	ALLOW FOR DOUBTFUL ACCTS	(305.57)	
17-1515	A/R - ACCRUED INTEREST	0.00	
17-1550	A/R - MISCELLANEOUS	<u>0.00</u>	
		<u>54,033.24</u>	
TOTAL ASSETS			54,033.24
			=====
LIABILITIES			
=====			
17-2315	DUE TO GENERAL FUND	0.00	
17-2356	DUE TO HOTEL/MOTEL TAX FUND	0.00	
17-2400	A/P PENDING	0.00	
17-2501	DEFERRED REVENUE - TAXES	<u>1,730.21</u>	
TOTAL LIABILITIES		<u>1,730.21</u>	
EQUITY			
=====			
17-3201	FUND BALANCE	<u>440.45</u>	
TOTAL BEGINNING EQUITY		440.45	
TOTAL REVENUE		525,775.07	
TOTAL EXPENSES		<u>473,912.49</u>	
TOTAL INCREASE/(DECREASE) IN FUND BAL.		51,862.58	
TOTAL EQUITY & FUND BALANCE		<u>52,303.03</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE			54,033.24
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

17 -DEBT SERVICE

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>658,416</u>	<u>658,416</u>	<u>0.00</u>	<u>525,775.07</u>	<u>0.00</u>	<u>0.00</u>	<u>79.85</u>	<u>132,640.93</u>
TOTAL REVENUES	658,416	658,416	0.00	525,775.07	0.00	0.00	79.85	132,640.93
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
OTHER EXPENSES	<u>653,413</u>	<u>653,413</u>	<u>0.00</u>	<u>473,912.49</u>	<u>0.00</u>	<u>0.00</u>	<u>72.53</u>	<u>179,500.01</u>
TOTAL 00-GENERAL EXPENDITURES	653,413	653,413	0.00	473,912.49	0.00	0.00	72.53	179,500.01
TOTAL EXPENDITURES	653,413	653,413	0.00	473,912.49	0.00	0.00	72.53	179,500.01
REVENUE OVER/ (UNDER) EXPENDITURES	5,004	5,004	0.00	51,862.58	0.00	0.00	1,036.53 (	46,859.08)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

17 -DEBT SERVICE

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
17-4101 INCOME - TAX NOTES PROCEEDS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
17-4105 INCOME - OTHER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
17-4115 INCOME - INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
17-4116 INCOME - SALES TAX (.25)	0	0	0.00	0.00	0.00	0.00	0.00	0.00
17-4117 AD VALOREM TAX (I&S)	658,416	658,416	0.00	525,775.07	0.00	0.00	79.85	132,640.93
TOTAL REVENUES	658,416	658,416	0.00	525,775.07	0.00	0.00	79.85	132,640.93

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

17 -DEBT SERVICE

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>OTHER EXPENSES</u>								
17-500-211 GO SERIES 2019 A PRINCIPAL E	160,000	160,000	0.00	160,000.00	0.00	0.00	100.00	0.00
17-500-212 GO SERIES 2019 A INTEREST EX	330,527	330,527	0.00	190,126.67	0.00	0.00	57.52	140,400.00
17-500-213 GO SERIES 2019 B PRINCIPAL E	70,000	70,000	0.00	70,000.00	0.00	0.00	100.00	0.00
17-500-214 GO SERIES 2019 B INTEREST EX	92,886	92,886	0.00	53,785.82	0.00	0.00	57.91	39,100.01
17-500-351 GO SERIES 2019 A ISSUANCE CO	0	0	0.00	0.00	0.00	0.00	0.00	0.00
17-500-352 GO SERIES 2019 B ISSUANCE CO	0	0	0.00	0.00	0.00	0.00	0.00	0.00
17-500-400 PAY AGENT/REGISTRAR FEES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	653,413	653,413	0.00	473,912.49	0.00	0.00	72.53	179,500.01
TOTAL 00-GENERAL EXPENDITURES	653,413	653,413	0.00	473,912.49	0.00	0.00	72.53	179,500.01
TOTAL EXPENDITURES	653,413	653,413	0.00	473,912.49	0.00	0.00	72.53	179,500.01
REVENUE OVER/(UNDER) EXPENDITURES	5,004	5,004	0.00	51,862.58	0.00	0.00	1,036.53 (	46,859.08)

18 -WCC&PD FUND

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
18-1102	CLAIM ON CASH	(117,997.66)	
18-1105	CASH - SAVINGS	351,883.14	
18-1210	PREPAID MAINTENANCE	0.00	
18-1315	DUE FROM GENERAL FUND	0.00	
18-1510	A/R-SALES TAX	0.00	
18-1515	A/R - MISC.	<u>0.00</u>	
		233,885.48	
TOTAL ASSETS			233,885.48
			=====
LIABILITIES			
=====			
18-2200	WAGES PAYABLE	0.00	
18-2230	TMRS PAYABLE	0.00	
18-2250	INSURANCE A/P	0.40	
18-2315	DUE TO GENERAL FUND	0.00	
18-2400	A/P PENDING	0.00	
18-2410	A/P - SALES TAX	0.00	
18-2451	A/P SALES TAX PAYBACK	<u>0.00</u>	
TOTAL LIABILITIES			<u>0.40</u>
EQUITY			
=====			
18-3201	FUND BALANCE	<u>481,307.14</u>	
TOTAL BEGINNING EQUITY		481,307.14	
TOTAL REVENUE		362,218.56	
TOTAL EXPENSES		<u>609,640.62</u>	
TOTAL INCREASE/(DECREASE) IN FUND BAL.		(247,422.06)	
TOTAL EQUITY & FUND BALANCE		<u>233,885.08</u>	
TOTAL LIABILITIES, EQUITY & FUND BALANCE			233,885.48
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

18 -WCC&PD FUND

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>694,922</u>	<u>694,922</u>	<u>67,999.44</u>	<u>362,218.56</u>	<u>327,206.40</u>	<u>0.00</u>	<u>52.12</u>	<u>332,703.44</u>
TOTAL REVENUES	694,922	694,922	67,999.44	362,218.56	327,206.40	0.00	52.12	332,703.44
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	470,051	566,242	50,643.28	288,212.19	256,483.59	0.00	50.90	278,030.23
OTHER EXPENSES	271,935	90,500	11,170.00	51,331.20	45,135.37	0.00	56.72	39,168.80
CAPITAL EXPENSES	233,800	233,800	2,267.10	270,097.23	95,070.33	10,110.00	119.85	(46,407.23)
OTHER INCOME/EXPENSES	<u>53,000</u>	<u>53,000</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>53,000.00</u>
TOTAL 00-GENERAL EXPENDITURES	1,028,786	943,542	64,080.38	609,640.62	396,689.29	10,110.00	65.68	323,791.80
TOTAL EXPENDITURES	1,028,786	943,542	64,080.38	609,640.62	396,689.29	10,110.00	65.68	323,791.80
REVENUE OVER/(UNDER) EXPENDITURES	(333,864)	(248,620)	3,919.06	(247,422.06)	(69,482.89)	(10,110.00)	103.58	8,911.64

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

18 -WCC&PD FUND

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
18-4101 INCOME - SALES TAX	691,922	691,922	67,970.10	359,430.78	321,130.29	0.00	51.95	332,491.22
18-4102 INCOME-K9 DONATIONS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-4105 INCOME - OTHER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-4115 INCOME - INTEREST	3,000	3,000	29.34	2,787.78	6,076.11	0.00	92.93	212.22
18-4120 PROCEEDS FROM GUN SALES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-4900 PROCEEDS FROM CAPITAL LEASE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL REVENUES	694,922	694,922	67,999.44	362,218.56	327,206.40	0.00	52.12	332,703.44

18 -WCC&PD FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>SALARIES & BENEFITS</u>								
18-500-009 SALARIES	302,346	375,087	36,051.53	189,070.28	163,741.55	0.00	50.41	186,016.51
18-500-010 ADMINISTRATIVE EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-011 LONGEVITY	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-013 STIPEND	0	0	0.00	0.00	9,033.00	0.00	0.00	0.00
18-500-014 SPECIAL ASSIGNMENT PAY K-9	4,500	4,500	346.16	2,423.12	2,509.66	0.00	53.85	2,076.88
18-500-015 INCENTIVE PAY-BILING & SHIFT	600	900	138.51	743.35	636.69	0.00	82.59	156.65
18-500-017 CERTIFICATION PAY	1,500	2,250	276.96	969.36	1,252.09	0.00	43.08	1,280.64
18-500-018 EDUCATION PAY	300	300	69.24	484.68	305.81	0.00	161.56 (	184.68)
18-500-019 TUITION REIMBURSEMENT	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-020 OVERTIME	22,200	22,200	203.03	12,628.09	8,166.43	0.00	56.88	9,571.91
18-500-021 7K HOURS	7,000	7,000	238.38	2,943.21	3,101.47	0.00	42.05	4,056.79
18-500-026 HAZARDOUS DUTY PAY	1,000	2,860	396.94	1,061.61	466.19	0.00	37.12	1,798.39
18-500-030 SOCIAL SECURITY	25,246	31,033	2,811.15	15,860.14	14,267.68	0.00	51.11	15,173.03
18-500-040 HEALTH INSURANCE	63,448	72,350	4,353.66	26,176.00	32,829.65	0.00	36.18	46,173.84
18-500-050 RETIREMENT	25,526	31,378	2,821.51	15,847.48	14,953.69	0.00	50.51	15,530.50
18-500-060 WORKERS COMPENSATION	15,089	15,089	2,000.00	19,001.59	4,000.00	0.00	125.93 (	3,912.95)
18-500-070 UNEMPLOYMENT COMPENSATION	<u>1,296</u>	<u>1,296</u>	<u>936.21</u>	<u>1,003.28</u>	<u>1,219.68</u>	<u>0.00</u>	<u>77.41</u>	<u>292.72</u>
TOTAL SALARIES & BENEFITS	470,051	566,242	50,643.28	288,212.19	256,483.59	0.00	50.90	278,030.23
<u>OTHER EXPENSES</u>								
18-500-120 DUES & SUBSCRIPTIONS	3,000	0	0.00	2,560.10	0.00	0.00	0.00 (	2,560.10)
18-500-130 BONDS & TRAINING	8,500	0	0.00	3,365.20	106.95	0.00	0.00 (	3,365.20)
18-500-250 LEGAL EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-290 AUDIT	20,000	20,000	0.00	18,500.00	11,657.00	0.00	92.50	1,500.00
18-500-325 SALES TAX COLLECTION SERVICE	10,000	10,000	2,451.00	6,497.00	3,873.00	0.00	64.97	3,503.00
18-500-420 OFFICE SUPPLIES/FURNITURE	11,000	0	0.00	1,253.90	1,748.75	0.00	0.00 (	1,253.90)
18-500-430 JUVENILE PROG.FEES & SUPPLIE	0	0	0.00	0.00	391.45	0.00	0.00	0.00
18-500-431 MISCELLANEOUS SUPPLIES	21,000	0	4,200.00	5,567.40	936.77	0.00	0.00 (	5,567.40)
18-500-433 IT SOFTWARE HARDWARE&SUPPLIES	0	0 (	5,400.00) (	5,400.00)	911.46	0.00	0.00	5,400.00
18-500-435 K-9 PROGRAM EXPENSES	10,000	0 (	180.40)	1,800.80	3,002.47	0.00	0.00 (	1,800.80)
18-500-440 ELECTION EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-450 SYSTEM ACCESS FEE	14,035	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-480 UNIFORMS	5,000	0	0.00	595.92	151.83	0.00	0.00 (	595.92)
18-500-485 WEAPONS & AMMUNITION	22,500	0	0.00	806.75	5,923.76	0.00	0.00 (	806.75)
18-500-486 PERSONAL PROTECTIVE EQUIPMEN	21,000	0	10,739.04	10,739.04	1,798.00	0.00	0.00 (	10,739.04)
18-500-487 VEHICLE EQUIPMENT	12,900	0	0.00	6.24	5,118.05	0.00	0.00 (	6.24)
18-500-488 EMERGENCY SERVICES	10,000	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-489 COMMUNITY SERVICES	8,500	0	432.36	5,618.48	0.00	0.00	0.00 (	5,618.48)
18-500-490 MEMORIAL SERVICES	4,000	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-500 MISC. CRIME PREVENTION	27,000	0	0.00	486.99	5,751.98	0.00	0.00 (	486.99)
18-500-515 DEBT SERVICE - PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-516 DEBT SERVICE - PRINCIPAL	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-517 MAINTENANCE ON EQUIPMENT	60,500	60,500 (	1,072.00) (	1,066.62)	3,763.90	0.00	1.76-	61,566.62
18-500-518 DEBT SERVICE - INTEREST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-520 BICYCLE PARTS & MAINTENANCE	<u>3,000</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	271,935	90,500	11,170.00	51,331.20	45,135.37	0.00	56.72	39,168.80

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

18 -WCC&PD FUND

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>CAPITAL EXPENSES</u>								
18-500-800 CAPITAL EXPENDITURES	<u>233,800</u>	<u>233,800</u>	<u>2,267.10</u>	<u>270,097.23</u>	<u>95,070.33</u>	<u>10,110.00</u>	<u>119.85</u>	(<u>46,407.23</u>)
TOTAL CAPITAL EXPENSES	233,800	233,800	2,267.10	270,097.23	95,070.33	10,110.00	119.85	(46,407.23)
<u>OTHER INCOME/EXPENSES</u>								
18-500-900 PRIOR PERIOD ADJUSTMENTS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
18-500-901 TRANSFER TO GEN FUND	<u>53,000</u>	<u>53,000</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>53,000.00</u>
TOTAL OTHER INCOME/EXPENSES	53,000	53,000	0.00	0.00	0.00	0.00	0.00	53,000.00
TOTAL 00-GENERAL EXPENDITURES	1,028,786	943,542	64,080.38	609,640.62	396,689.29	10,110.00	65.68	323,791.80
TOTAL EXPENDITURES	1,028,786	943,542	64,080.38	609,640.62	396,689.29	10,110.00	65.68	323,791.80
REVENUE OVER/ (UNDER) EXPENDITURES	(333,864)	(248,620)	3,919.06	(247,422.06)	(69,482.89)	(10,110.00)	103.58	8,911.64

19 -CAPITAL PROJECTS STREETS

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
19-1102	CLAIM ON CASH	475,475.08	
19-1105	CASH - SAVINGS	24,929.30	
19-1115	INVESTMENTS-TEXPOOL #159000002	10,827.36	
19-1116	INVESTMENTS-TEXPOOL#159000001	8,312.08	
19-1204	PREPAID SALES TAX	0.26	
19-1315	DUE FROM GENERAL FUND	0.00	
19-1510	A/R-SALES TAX	(90.03)	
		<u>519,454.05</u>	
	TOTAL ASSETS		519,454.05
			=====
LIABILITIES			
=====			
19-2315	DUE TO GENERAL FUND	0.00	
19-2400	A/P PENDING	0.00	
19-2410	A/P - SALES TAX	0.00	
19-2441	Construction Retainage	2,495.47	
19-2451	A/P SALES TAX PAYBACK	<u>0.00</u>	
	TOTAL LIABILITIES	<u>2,495.47</u>	
EQUITY			
=====			
19-3201	FUND BALANCE	<u>784,494.70</u>	
	TOTAL BEGINNING EQUITY	784,494.70	
	TOTAL REVENUE	268,830.99	
	TOTAL EXPENSES	<u>536,367.11</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL. (	267,536.12)	
	TOTAL EQUITY & FUND BALANCE	<u>516,958.58</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		519,454.05
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

19 -CAPITAL PROJECTS STREETS

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>619,616</u>	<u>619,616</u>	<u>28,549.85</u>	<u>268,830.99</u>	<u>255,625.61</u>	<u>0.00</u>	<u>43.39</u>	<u>350,785.01</u>
TOTAL REVENUES	619,616	619,616	28,549.85	268,830.99	255,625.61	0.00	43.39	350,785.01
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
OTHER EXPENSES	50,000	50,000	0.00	0.00	26,570.74	0.00	0.00	50,000.00
CAPITAL EXPENSES	500,000	500,000	0.00	536,367.11	0.00	0.00	107.27 (	36,367.11)
OTHER INCOME/EXPENSES	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL 00-GENERAL EXPENDITURES	550,000	550,000	0.00	536,367.11	26,570.74	0.00	97.52	13,632.89
TOTAL EXPENDITURES	550,000	550,000	0.00	536,367.11	26,570.74	0.00	97.52	13,632.89
REVENUE OVER/(UNDER) EXPENDITURES	69,616	69,616	28,549.85 (	267,536.12)	229,054.87	0.00	384.30-	337,152.12

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

19 -CAPITAL PROJECTS STREETS

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
19-4101 INCOME - TAX NOTES PROCEEDS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
19-4105 TRANSFER FROM GENERAL FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
19-4115 INCOME - INTEREST	300	300	6.27	234.09	377.99	0.00	78.03	65.91
19-4116 INCOME-SALES TAX (.25)	619,316	619,316	28,543.58	268,596.90	255,247.62	0.00	43.37	350,719.10
TOTAL REVENUES	619,616	619,616	28,549.85	268,830.99	255,625.61	0.00	43.39	350,785.01

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

19 -CAPITAL PROJECTS STREETS

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES =====								
<u>SALARIES & BENEFITS</u>								
19-500-050 MISCELLANEOUS EXPENSE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL SALARIES & BENEFITS	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>OTHER EXPENSES</u>								
19-500-320 ENGINEER/ARCHITECT	50,000	50,000	0.00	0.00	26,570.74	0.00	0.00	50,000.00
19-500-325 SALES TAX COLLECTION SERVICE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER EXPENSES	50,000	50,000	0.00	0.00	26,570.74	0.00	0.00	50,000.00
<u>CAPITAL EXPENSES</u>								
19-500-800 CAPITAL EXPENDITURES	500,000	500,000	0.00	536,367.11	0.00	0.00	107.27 (	36,367.11)
19-500-810 STREET MAINTENANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CAPITAL EXPENSES	500,000	500,000	0.00	536,367.11	0.00	0.00	107.27 (	36,367.11)
<u>OTHER INCOME/EXPENSES</u>								
19-500-900 TRANSFER TO GENERAL FUND	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL OTHER INCOME/EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL 00-GENERAL EXPENDITURES	550,000	550,000	0.00	536,367.11	26,570.74	0.00	97.52	13,632.89
TOTAL EXPENDITURES	550,000	550,000	0.00	536,367.11	26,570.74	0.00	97.52	13,632.89
REVENUE OVER/ (UNDER) EXPENDITURES	69,616	69,616	28,549.85 (	267,536.12)	229,054.87	0.00	384.30-	337,152.12

20 -PUBLIC, EDUCATION&GOV.

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
20-1102	CLAIM ON CASH	<u>33,488.76</u>	
			<u>33,488.76</u>
	TOTAL ASSETS		33,488.76
			=====
LIABILITIES			
=====			
20-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
20-3201	FUND BALANCE	<u>26,662.65</u>	
	TOTAL BEGINNING EQUITY	26,662.65	
	TOTAL REVENUE	6,826.11	
	TOTAL EXPENSES	<u>0.00</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	6,826.11	
	TOTAL EQUITY & FUND BALANCE	<u>33,488.76</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		33,488.76
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

20 -PUBLIC, EDUCATION&GOV.

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>12,000</u>	<u>12,000</u>	<u>0.00</u>	<u>6,826.11</u>	<u>6,822.25</u>	<u>0.00</u>	<u>56.88</u>	<u>5,173.89</u>
TOTAL REVENUES	12,000	12,000	0.00	6,826.11	6,822.25	0.00	56.88	5,173.89
REVENUE OVER/ (UNDER) EXPENDITURES	12,000	12,000	0.00	6,826.11	6,822.25	0.00	56.88	5,173.89

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

20 -PUBLIC, EDUCATION&GOV.

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
20-4105 INCOME OTHER	12,000	12,000	0.00	6,826.11	6,822.25	0.00	56.88	5,173.89
TOTAL REVENUES	12,000	12,000	0.00	6,826.11	6,822.25	0.00	56.88	5,173.89
REVENUE OVER/ (UNDER) EXPENDITURES	12,000	12,000	0.00	6,826.11	6,822.25	0.00	56.88	5,173.89

21 -2019 SERIES A

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
21-1102	CLAIM ON CASH	(17,658.32)	
21-1105	CASH	<u>6,200,444.81</u>	
			<u>6,182,786.49</u>
	TOTAL ASSETS		6,182,786.49
			=====
LIABILITIES			
=====			
21-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
21-3201	FUND BALANCE	<u>7,277,019.97</u>	
	TOTAL BEGINNING EQUITY	7,277,019.97	
	TOTAL REVENUE	39,039.82	
	TOTAL EXPENSES	<u>1,133,273.30</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	(1,094,233.48)	
	TOTAL EQUITY & FUND BALANCE	<u>6,182,786.49</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		6,182,786.49
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

21 -2019 SERIES A

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>0</u>	<u>0</u>	<u>548.84</u>	<u>39,039.82</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	(<u>39,039.82</u>)
TOTAL REVENUES	0	0	548.84	39,039.82	0.00	0.00	0.00	(39,039.82)
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	<u>6,900,000</u>	<u>6,900,000</u>	<u>17,658.32</u>	<u>1,133,273.30</u>	<u>0.00</u>	<u>0.00</u>	<u>16.42</u>	<u>5,766,726.70</u>
TOTAL 00-GENERAL EXPENDITURES	6,900,000	6,900,000	17,658.32	1,133,273.30	0.00	0.00	16.42	5,766,726.70
TOTAL EXPENDITURES	6,900,000	6,900,000	17,658.32	1,133,273.30	0.00	0.00	16.42	5,766,726.70
REVENUE OVER/(UNDER) EXPENDITURES	(6,900,000)	(6,900,000)	(17,109.48)	(1,094,233.48)	0.00	0.00	15.86	(5,805,766.52)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

21 -2019 SERIES A

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
21-4105 INCOME - OTHER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
21-4106 BOND PREMIUM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
21-4107 BONDISSUANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
21-4115 INCOME-INTEREST	0	0	548.84	39,039.82	0.00	0.00	0.00 (	39,039.82)
TOTAL REVENUES	0	0	548.84	39,039.82	0.00	0.00	0.00 (	39,039.82)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

21 -2019 SERIES A

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
00-GENERAL EXPENDITURES								
=====								
<u>OTHER EXPENSES</u>								
21-500-200 UNDERWRITERS FEES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
21-500-201 BOND ISSUANCE COST	0	0	0.00	0.00	0.00	0.00	0.00	0.00
21-500-320 ENGINEER/ARCHITECT	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
21-500-800 CAPITAL EXPENDITURES	<u>6,900,000</u>	<u>6,900,000</u>	<u>17,658.32</u>	<u>1,133,273.30</u>	<u>0.00</u>	<u>0.00</u>	<u>16.42</u>	<u>5,766,726.70</u>
TOTAL CAPITAL EXPENSES	6,900,000	6,900,000	17,658.32	1,133,273.30	0.00	0.00	16.42	5,766,726.70
TOTAL 00-GENERAL EXPENDITURES	6,900,000	6,900,000	17,658.32	1,133,273.30	0.00	0.00	16.42	5,766,726.70
TOTAL EXPENDITURES	6,900,000	6,900,000	17,658.32	1,133,273.30	0.00	0.00	16.42	5,766,726.70
REVENUE OVER/(UNDER) EXPENDITURES	(6,900,000)	(6,900,000)	(17,109.48)	(1,094,233.48)	0.00	0.00	15.86	(5,805,766.52)

22 -2019 SERIES B

ACCOUNT #	ACCOUNT DESCRIPTION	BALANCE	
ASSETS			
=====			
22-1102	CLAIM ON CASH	(3,806.79)	
22-1105	CASH	1,341,360.01	
22-1201	PREPAID 2019 SERIES B	<u>569,637.92</u>	
		<u>1,907,191.14</u>	
	TOTAL ASSETS		1,907,191.14
			=====
LIABILITIES			
=====			
22-2400	A/P PENDING	<u>0.00</u>	
	TOTAL LIABILITIES		<u>0.00</u>
EQUITY			
=====			
22-3201	FUND BALANCE	<u>1,903,178.78</u>	
	TOTAL BEGINNING EQUITY	1,903,178.78	
	TOTAL REVENUE	27,819.15	
	TOTAL EXPENSES	<u>23,806.79</u>	
	TOTAL INCREASE/(DECREASE) IN FUND BAL.	4,012.36	
	TOTAL EQUITY & FUND BALANCE	<u>1,907,191.14</u>	
	TOTAL LIABILITIES, EQUITY & FUND BALANCE		1,907,191.14
			=====

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

22 -2019 SERIES B

% OF YEAR COMPLETED: 58.33

	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>REVENUE SUMMARY</u>								
ALL REVENUES	<u>0</u>	<u>0</u>	<u>118.73</u>	<u>27,819.15</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	(<u>27,819.15</u>)
TOTAL REVENUES	0	0	118.73	27,819.15	0.00	0.00	0.00	(27,819.15)
<u>EXPENDITURE SUMMARY</u>								
<u>00-GENERAL EXPENDITURES</u>								
OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
CAPITAL EXPENSES	<u>1,894,508</u>	<u>1,894,508</u>	<u>0.00</u>	<u>23,806.79</u>	<u>0.00</u>	<u>0.00</u>	<u>1.26</u>	<u>1,870,701.21</u>
TOTAL 00-GENERAL EXPENDITURES	1,894,508	1,894,508	0.00	23,806.79	0.00	0.00	1.26	1,870,701.21
TOTAL EXPENDITURES	1,894,508	1,894,508	0.00	23,806.79	0.00	0.00	1.26	1,870,701.21
REVENUE OVER/(UNDER) EXPENDITURES	(1,894,508)	(1,894,508)	118.73	4,012.36	0.00	0.00	0.21-	(1,898,520.36)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

22 -2019 SERIES B

% OF YEAR COMPLETED: 58.33

REVENUES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
22-4105 INCOME - OTHER	0	0	0.00	0.00	0.00	0.00	0.00	0.00
22-4106 BOND PREMIUM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
22-4107 BOND ISSUANCE	0	0	0.00	0.00	0.00	0.00	0.00	0.00
22-4115 INCOME-INTEREST	0	0	118.73	7,819.15	0.00	0.00	0.00 (	7,819.15)
22-4460 MISCELLANEOUS INCOME	0	0	0.00	20,000.00	0.00	0.00	0.00 (	20,000.00)
TOTAL REVENUES	0	0	118.73	27,819.15	0.00	0.00	0.00 (	27,819.15)

CITY OF WINCREST
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: APRIL 30TH, 2020

22 -2019 SERIES B

% OF YEAR COMPLETED: 58.33

DEPARTMENTAL EXPENDITURES	ORIGINAL BUDGET	AMENDED BUDGET	CURRENT PERIOD	YEAR TO DATE BALANCE	PRIOR YEAR YTD BALANCE	TOTAL ENCUMBERED	% OF BUDGET	BUDGET BALANCE
<u>00-GENERAL EXPENDITURES</u>								
=====								
<u>OTHER EXPENSES</u>								
22-500-200 UNDERWRITERS FEES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
22-500-201 BOND ISSUANCE COST	<u>0</u>	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL OTHER EXPENSES	0	0	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL EXPENSES</u>								
22-500-800 CAPITAL EXPENDITURES	<u>1,894,508</u>	<u>1,894,508</u>	<u>0.00</u>	<u>23,806.79</u>	<u>0.00</u>	<u>0.00</u>	<u>1.26</u>	<u>1,870,701.21</u>
TOTAL CAPITAL EXPENSES	1,894,508	1,894,508	0.00	23,806.79	0.00	0.00	1.26	1,870,701.21
TOTAL 00-GENERAL EXPENDITURES	1,894,508	1,894,508	0.00	23,806.79	0.00	0.00	1.26	1,870,701.21
TOTAL EXPENDITURES	1,894,508	1,894,508	0.00	23,806.79	0.00	0.00	1.26	1,870,701.21
REVENUE OVER/(UNDER) EXPENDITURES	(1,894,508)	(1,894,508)	118.73	4,012.36	0.00	0.00	0.21-	(1,898,520.36)

ORDINANCE NO. 2020-014(O)

**AN ORDINANCE AMENDING THE QUALIFICATIONS
FOR MEMBERS OF THE PLANNING AND ZONING
COMMISSION BY AMENDING SECTION 113, DIVISION
2, SECTION 113-62 (C) TO ALIGN WITH THE CHARTER**

WHEREAS, the City of Windcrest previously created a planning and zoning commission; and

WHEREAS, the City of Windcrest amended Section 113 of the Windcrest Code of Ordinances establishing the Windcrest Planning and Zoning Commission; and

WHEREAS, the City Council of the City of Windcrest finds it is necessary to adjust the qualifications for the planning and zoning commission to better align with the Charter and allow a larger pool of volunteers willing to serve¹; and

WHEREAS, the City Council of the City of Windcrest finds the amendments are a proper clarification of the regulations and allow for better enforcement.

I.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF WINDCREST, TEXAS that Section 113, Division 2, Sections 113-62 (C) is amended with underline text being additions and struck through text being deletions and is hereby adopted and shall read as follows:

DIVISION 2. – PLANNING AND ZONING

Sec. 113-62 – Planning and Zoning Commission –~~Reconstituted.~~

(c) The commission shall be composed of seven (7) resident citizens as established by the City Charter. Each commission member ~~who are taxpayers, real property owners and qualified voters of the city. who~~ shall be a qualified voter of the City, shall be not less than twenty-one (21) years of age, shall continually reside within the City during their appointed term, and shall hold no other position in city government with compensation for services set by the city

¹ Official Comment: This official comment holds the same status as a legislative determination and is for context, intent, and reference. Recently, volunteers wishing to serve on the commission had to be disqualified as they did not own property within the City. Based on the wording of the ordinance, it requires property ownership. A question was also raised about whether someone who lives in Windcrest, but rents property, can qualify. As a result, the Council wants to clarify its intent and allow the largest group of volunteers wishing to serve to be eligible. The only restrictions imposed should be those the citizens voted on and contained within the City Charter which apply to council members. Mere reference to City Charter qualifications, however, is impractical as certain restrictions are tied to an election date, which is inapplicable to appointees. So, the key qualifications based on council comments were directly inserted into this ordinance.

council. Members are appointed by the city council upon recommendation from the mayor and serve at the will of the city council pursuant to state law. Vacancies occurring in the commission shall be filled by the city council for the unexpired term period. The city secretary and mayor shall be ex-officio members of this commission.

II. CUMULATIVE CLAUSE

This Ordinance shall be cumulative of all provisions of the Windcrest Code of Ordinances except where the provisions of this Ordinance are in direct conflict with the provisions of such Ordinance, in which event the conflicting provisions of such Ordinance are hereby repealed.

III. SEVERABILITY

That it is hereby declared to be the intent of the City Council of Windcrest that the phrases, clauses, sentences, paragraphs, and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph, or section of this Ordinance should be declared unconstitutional by the valid judgement or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, or sections of the Ordinances, since the same would have been enacted by the City Council without incorporation in this ordinance of any such unconstitutional phrases, sentences, paragraphs, or sections.

IV. PROPER NOTICE AND MEETING

It is hereby officially found and determined that the meetings at which this Ordinance was approved and adopted was open to the public and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government.

V. EFFECTIVE DATE

This ordinance shall be effective upon passage and publication as required by state and local law.

VI. READINGS

DULY PASSED ON FIRST READING, on the 20th day of April, 2020 at a regular meeting of the City Council of the City of

Windcrest, Texas, which was held in compliance with the Open Meetings Act, Gov't. Code §551.001, et. Seq. at which meeting a quorum was present and voting.

DULY PASSED AND APPROVED, on the _____ day of _____, 2020 at a regular meeting of the City Council of the City of Windcrest, Texas, which was held in compliance with the Open Meetings Act, Gov't. Code §551.001, et. Seq. at which meeting a quorum was present and voting.

CITY OF WINDCREST, TEXAS

Dan Reese, Mayor

ATTEST:

City Secretary, Rachel Dominguez

APPROVED:

City Attorney, Ryan Henry

RESOLUTION 2020-518 (R)

A RESOLUTION APPROVING TO AWARD A CONTRACT FOR CONSTRUCTION SERVICES TO FUQUAY INC., FOR THE CITY OF WINDCREST STREET IMPROVEMENTS PHASE II EAGLECREST BLVD PROJECT AND AUTHORIZING THE CITY MANAGER TO EXECUTE SAID AGREEMENT

WHEREAS, The City Council approved a bond election for street improvements and upon passage by the voters of the City of Windcrest set out the process for bids;

WHEREAS, Young Professional Resources (YPR) was approved to provide engineering services for the street improvement bond project and reviewed the bids received and opened publicly on April 03, 2020; and

WHEREAS, it was determined by Young Professional Resources that after the bid evaluations a summary a recommendation to award Fuquay, Inc., the construction contract for construction services relating to the City of Windcrest 2020 Street Improvements Phase II Eaglecrest Blvd Project in the amount of \$1,623,069.20.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDCREST, TEXAS to award the construction contract for construction services relating to the City of Windcrest 2020 Street Improvements Phase II Eaglecrest Blvd Project to Fuquay, Inc., and authorize the City Manager to execute said agreement on behalf of the City and any necessary documentation to fulfil the intent of this award.

DULY PASSED AND APPROVED, on the () day of () 2020 at a regular meeting of the City Council of the City of Windcrest, Texas, which meeting was held in compliance with the Open Meetings Act, Tex. Gov't. Code, §551.001, et. seq. at which meeting a quorum was present and voting.

CITY OF WINDCREST, TEXAS

Dan Reese, Mayor

ATTEST:

Rachel C. Dominguez, City Secretary

APPROVED:

Ryan S. Henry, City Attorney



YOUNG PROFESSIONAL RESOURCES – 8209 ROUGHRIDER DR. STE. 101 WINDCREST, TX. 78239
FIRM F-8635 TELE: 210-590-9215 CELL: 210-373-3204 FAX: 210-590-9346

Mr. Rafael Castillo Jr., City Manager
City of Windcrest
8601 Midcrown
Windcrest, TX 78239

May 13, 2020

RE: Recommendation on Award of Construction Contract for the City of Windcrest 2020 Street Improvements Phase II Eaglecrest Blvd Project

Dear Mr. Castillo:

This letter is being written to provide the City of Windcrest with our written recommendation pertaining to the award of the construction contract for the above referenced project. Young Professional Resources (YPR) has completed its review of the bid documents which were received and opened publicly on April 03, 2020.

The Project was advertised on the City's website and on multiple Bid Exchange Sites.

There was Pre-Bid conference held for prospective Bidders on March 12, 2020.

Bids were received from three (3) contractors:

1. Fuquay Inc. from New Braunfels Texas
2. Texas Materials Group, Inc from San Antonio Texas (Local Office)
3. Alamo City Constructors from San Antonio

Summary of Bid Results

Fuquay Inc.	Texas Materials Group, Inc.	Alamo City Constructors
\$1,623,069.20	\$2,100,154.95	\$2,228,533.00

The Construction cost estimate for this project was \$2,350,000.00

Bid Evaluations

1. Reference checks were performed on Fuquay Inc.
2. Bid document submittals were reviewed.

Summary Recommendation

After a review of bid document submittals and reference checks our recommendation is that City of Windcrest accept the Bid of **Fuquay Inc.** for construction services relating to the City of Windcrest 2020 Street Improvements Phase II Eaglecrest Blvd Project.

YPR is recommending the award of the contract to **Fuquay Inc** for the following reasons:

1. The bid price submitted is within the project's proposed budget
2. They have demonstrated experience performing project of this size.
3. They have the equipment resources required to perform the work.

4. They have the skilled and qualified personnel required to perform the work.
5. They have excellent references.
6. They have the bonding capacity to perform the work.

Furthermore, our recommendation is for City of Windcrest to award a construction contract to **Fuquay Inc.** for construction services relating to **City of Windcrest 2020 Street Improvements Phase II Eaglecrest Blvd Project** in the amount of **\$1,623,069.20**.

If you have questions or comments regarding this letter, please contact me at (210) 373-3204 or (210) 590-9215.

Respectfully,

A handwritten signature in blue ink, appearing to read "L.D. Young", with a stylized flourish at the end.

Leonard D. Young, P.E.
President – Young Professional Resources

CC: Don Hakala, City of Windcrest

2019 SERIES A FUND AS OF 4/30/2020

BEGINNING FUND BALANCE				\$ 7,277,019.97
REVENUES				
	INTEREST			\$ 39,039.82
EXPENDITURES				
	CAPITAL EXPENDITURES	11/21/2019	Texas Material Group	\$ 912,239.73
		1/9/2020	Texas Material Group	\$ 203,375.25
		4/13/2020	Texas Material Group	\$ 17,658.32
END FUND BALANCE AS OF 4/30/2020				\$ 6,182,786.49

RESOLUTION 2020-519 (R)

A RESOLUTION APPROVING TO AWARD A CONTRACT FOR CONSTRUCTION SERVICES TO FUQUAY INC., FOR PHASE II MIDCROWN DRIVE WALZEM RD TO GOLFCREST DRIVE PROJECT AND AUTHORIZING THE CITY MANAGER TO EXECUTE SAID AGREEMENT

WHEREAS, The City Council approved a construction project and the City of Windcrest set out the process for bids; and

WHEREAS, Young Professional Resources (YPR) was approved to provide engineering services for the City of Windcrest Phase II Midcrown Drive Walzem Rd to Golfcrest Drive project and reviewed the bids received and opened publicly on April 3, 2020; and

WHEREAS, it was determined by Young Professional Resources that after the bid evaluations a summary a recommendation to award Fuquay, Inc.; and

WHEREAS, Young Professional Resources further recommends the City of Windcrest issue a construction contract to Fuquay, Inc., for construction service relating to City of Windcrest Phase II Midcrown Drive Walzem Rd to Golfcrest Drive Project in the amount of \$573,883.41.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDCREST, TEXAS award a contract for construction for Phase II Midcrown Drive Walzem Rd to Golfcrest Drive Project to Fuquay, Inc., and authorize the City Manager to execute said agreement on behalf of the City and any necessary documentation to fulfil the intent of this award.

DULY PASSED AND APPROVED, on the () day of (), 2020 at a regular meeting of the City Council of the City of Windcrest, Texas, which meeting was held in compliance with the Open Meetings Act, Tex. Gov't. Code, §551.001, et. seq. at which meeting a quorum was present and voting.

CITY OF WINDCREST, TEXAS

Dan Reese, Mayor

ATTEST:

Rachel Dominguez, City Secretary

APPROVED:

Ryan S. Henry, City Attorney



YOUNG PROFESSIONAL RESOURCES – 8209 ROUGHRIDER DR. STE. 101 WINDCREST, TX. 78239
FIRM F-8635 TELE: 210-590-9215 CELL: 210-373-3204 FAX: 210-590-9346

Mr. Rafael Castillo Jr., City Manager
City of Windcrest
8601 Midcrown
Windcrest, TX 78239

May 13, 2020

RE: Recommendation on Award of Construction Contract for the City of Windcrest Phase II Midcrown Drive Walzem Rd to Golfcrest Drive Project

Dear Mr. Castillo:

This letter is being written to provide the City of Windcrest with our written recommendation pertaining to the award of the construction contract for the above referenced project. Young Professional Resources (YPR) has completed its review of the bid documents which were received and opened publicly on April 03, 2020.

The Project was advertised on the City's website and on multiple Bid Exchange Sites.

There was Pre-Bid conference held for prospective Bidders on February 27, 2020.

Bids were received from two (2) contractors:

1. Fuquay Inc. from New Braunfels Texas
2. Texas Materials Group, Inc from San Antonio Texas (Local Office)

Summary of Bid Results

Fuquay Inc.	Texas Materials Group, Inc.
\$573,883.41	\$749,140.00

The Construction cost estimate for this project was \$968,000.00

Bid Evaluations

1. Reference checks were performed on Fuquay Inc.
2. Bid document submittals were reviewed.

Summary Recommendation

After a review of bid document submittals and reference checks our recommendation is that City of Windcrest accept the Bid of **Fuquay Inc.** for construction services relating to the City of Windcrest Phase II Midcrown Drive Walzem Rd to Golfcrest Drive Project.

YPR is recommending the award of the contract to **Fuquay Inc** for the following reasons:

1. The bid price submitted is within the project's proposed budget
2. They have demonstrated experience performing project of this size.
3. They have the equipment resources required to perform the work.

4. They have the skilled and qualified personnel required to perform the work.
5. They have excellent references.
6. They have the bonding capacity to perform the work.

Furthermore, our recommendation is for City of Windcrest to award a construction contract to **Fuquay Inc.** for construction services relating to **City of Windcrest Phase II Midcrown Drive Walzem Rd to Golfcrest Drive Project** in the amount of **\$573,883.41**.

If you have questions or comments regarding this letter, please contact me at (210) 373-3204 or (210) 590-9215.

Respectfully,



Leonard D. Young, P.E.
President – Young Professional Resources

CC: Don Hakala, City of Windcrest

RESOLUTION 2020-520(R)

A RESOLUTION OF THE CITY OF WINDCREST CITY COUNCIL TO APPOINT A HEALTH AUTHORITY FOR THE CITY OF WINDCREST

WHEREAS, during the 68th Legislature, Governor Mark White signed the “Local Public Health Reorganization Act” into law; and

WHEREAS, during the 71st Legislature, the legislature recodified the Act as Chapter 121 of the Texas Health and Safety Code, which among other things defines the powers of counties and municipalities as it relates to the local regulation of public health, including the establishment of a public health district; and

WHEREAS, the members of a public health district shall approve the appointment of a physician as the health authority for the district; and

WHEREAS, the Health and Safety Code defines a health authority as an individual who acts as a state officer when performing their duties, which include: aiding the state with quarantine, sanitation enforcement, public health law enforcement, reportable diseases, and vital statistics collection; and

WHEREAS, a health authority must be a competent physician with a reputable professional standing who is a resident of Texas, is legally qualified to practice medicine, shall serve for a term of two years, and may be appointed to successive terms; and

WHEREAS, the City of Windcrest seeks a health authority who strives to do what is in the best interest of all Windcrest residents, one who encourages preparedness, prevention, planning, response, and recovery activities; and

WHEREAS, the City of Windcrest requires the appointment of a health authority who will work collaboratively with the city’s chief elected official, the Office of Emergency Management and city staff; and

WHEREAS, Dr. Chichi Junda Woo is a licensed physician who meets all statutory requirements.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDCREST, TEXAS that the City Council of the City of Windcrest declares, adopts and acknowledges that Dr. Chichi Junda Woo a licensed physician be appointed as the health authority for the City of Windcrest.

DULY PASSED AND APPROVED, on the () day of () 2020 at a regular meeting of the City Council of the City of Windcrest, Texas, which was held in compliance with the Open Meetings Act, Gov't. Code §551.001, et. Seq. at which meeting a quorum was present and voting.

CITY OF WINDCREST, TEXAS

Dan Reese, Mayor

ATTEST:

Rachel C. Dominguez, City Secretary

APPROVED:

Ryan S. Henry, City Attorney



Certificate of Appointment

for a

Health Authority

The Health Authority has been appointed and approved by the:

(Check the appropriate designation below)

_____ Commissioners Court for _____ County

☒ **Governing Body for the Municipality of Windcrest, Texas**

_____ Director, _____ Health Department

_____ Director, _____ Public Health District

I, Dan Reese , acting in my capacity as:

(Check the appropriate designation below)

_____ County Judge or Designee

☒ **Mayor or Designee**

_____ Non-physician and the Local Health Department Director

_____ Non-physician and the Public Health District Director

do hereby certify the physician, Dr. Chichi Junda Woo, who is licensed by the Texas Board of Medical Examiners, was duly appointed as the (check as applicable),

☒ **Health Authority**

_____ Health Authority Designee

for the jurisdiction of Windcrest, Texas.

Date term of office begins _____, 20__

Date term of office ends _____, 20__, unless removed by law.

I certify to the above information on this the _____ day of _____, 20__.

Signature of Appointing Official

STATE OF TEXAS

COUNTY OF BEXAR

§
§
§

**RESOLUTION – HEALTH
AUTHORITY APPOINTMENT**

WHEREAS, during the 68th Legislature, Governor Mark White signed the “Local Public Health Reorganization Act” into law; and,

WHEREAS, during the 71st Legislature, the legislature recodified the Act as Chapter 121 of the Texas Health and Safety Code, which among other things defines the powers of counties and municipalities as it relates to the local regulation of public health, including the establishment of a public health district; and,

WHEREAS, Bexar County and the City of San Antonio are members of the San Antonio Metropolitan Health District, a public health district under Texas Health and Safety Code Chapter 121, Subchapter E; and,

WHEREAS, the members of a public health district shall approve the appointment of a physician as the health authority for the district; and,

WHEREAS, the Health and Safety Code defines a health authority as an individual who acts as a state officer when performing their duties, which include: aiding the state with quarantine, sanitation enforcement, public health law enforcement, reportable diseases, and vital statistics collection; and,

WHEREAS, a health authority must be a competent physician with a reputable professional standing who is a resident of Texas, is legally qualified to practice medicine, shall serve for a term of two years, and may be appointed to successive terms; and,

WHEREAS, Bexar County seeks a health authority who strives to do what is in the best interest of all county residents, one who encourages preparedness, prevention, planning, response, and recovery activities; and,

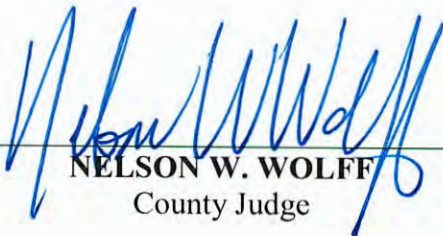
WHEREAS, Bexar County requires the appointment of a health authority who will work collaboratively with the county’s chief elected official, the Office of Emergency Management, county staff, and the Bexar County Hospital District (DBA University Health System); and,

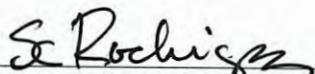
WHEREAS, Dr. Chichi Junda Woo is a licensed physician who meets all statutory requirements, and was approved by the City Council of the City of San Antonio as the Health Authority for the San Antonio Metropolitan Health District.

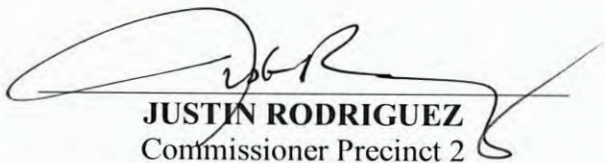
NOW THEREFORE, BE IT RESOLVED that the County of Bexar Commissioners Court:

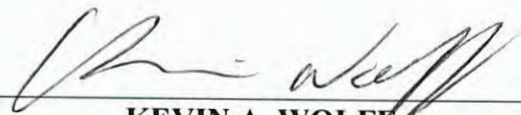
APPROVES THE APPOINTMENT OF DR. CHICHI JUNDA WOO AS HEALTH AUTHORITY FOR THE COUNTY OF BEXAR AND SAN ANTONIO METROPOLITAN HEALTH DISTRICT.

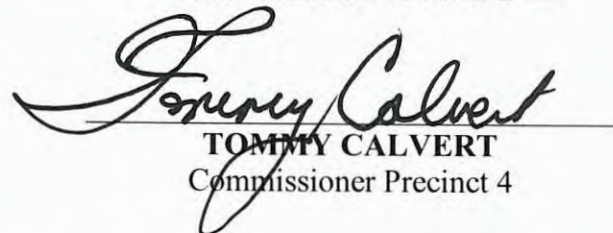
PASSED AND APPROVED by the Commissioners Court of the County of Bexar, Texas on this 17th day of December 2019.


NELSON W. WOLFF
County Judge


SERGIO "CHICO" RODRIGUEZ
Commissioner Precinct 1


JUSTIN RODRIGUEZ
Commissioner Precinct 2


KEVIN A. WOLFF
Commissioner Precinct 3


TOMMY CALVERT
Commissioner Precinct 4



Certificate of Appointment

for a

Health Authority

The Health Authority has been appointed and approved by the:

(Check the appropriate designation below)

☒ Commissioners Court for BEXAR County
☐ Governing Body for the Municipality of _____
☐ Director, _____ Health Department
☐ Director, _____ Public Health District

I, NELSON W. WOLFF, acting in my capacity as:

(Check the appropriate designation below)

☒ County Judge or Designee
☐ Mayor or Designee
☐ Non-physician and the Local Health Department Director
☐ Non-physician and the Public Health District Director

do hereby certify the physician, CHICHI JUNDA WOO, who is licensed by the Texas Board of Medical Examiners, was duly appointed as the (check as applicable),

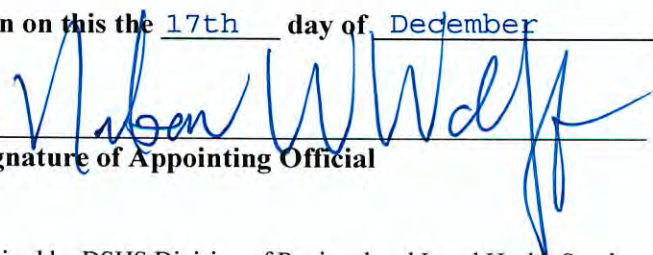
☒ Health Authority
☐ Health Authority Designee

for the jurisdiction of BEXAR COUNTY & SAN ANTONIO, Texas.

Date term of office begins December 17, 2019

Date term of office ends December 16, 2021, unless removed by law.

I certify to the above information on this the 17th day of December, 2019

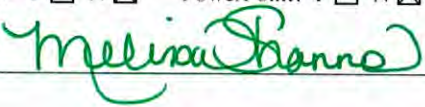

Signature of Appointing Official



Item Number: _____
(for Comm Ct use only)

AGENDA COORDINATION FORM

Bexar County Commissioners Court

Type of Agenda Item (Choose one):	Ceremonial ☐	Special Presentation ☐	Time Certain ☐	Consent ☒	Individual ☐
Sponsoring Office/Department:	Office of the County Manager		Recipient Agency / Individual Name: _____		
Contact Person:	Melissa Shannon	Phone Number:	53295	Court Date Requested:	12/17/19
Presenter:	Melissa Shannon	Phone Number:	53295	Deadline for Action:	12/17/19
Audio / Visual Presentation:	Y ☐ N ☒	PowerPoint?	Y ☐ N ☒	ADA Assistance Required (type):	No
Official/Department Head Signature:				Small, Minority, Women-owned Business Enterprise (SMWBE): Impact:	Y ☐ N ☒

CAPTION:

Approval of a resolution appointing Dr. Chichi Junda Woo as Health Authority for the County of Bexar and San Antonio Metropolitan Health District.

ESTIMATED PRESENTATION TIME: _____ N/A

BACKGROUND:

Chapter 121 of the Health and Safety Code defines a local health authority as an individual who acts as a state officer when performing their duties, who must be a competent physician with a reputable professional standing who is a resident of Texas, and is legally qualified to practice medicine. Their duties include aiding the state with quarantine, sanitation enforcement, public health law enforcement, reportable diseases, and vital statistics collection; they serve for a term of two years, and may be appointed to successive terms.

Dr. Fernando Guerra joined the City of San Antonio in 1987, where he served as the San Antonio Metropolitan Health District's director and health authority (until his retirement in 2010). On April 18, 2006 Bexar County also named Dr. Guerra as its health authority, along with a majority of the suburban cities within its jurisdiction.

Upon Dr. Guerra's retirement, the city named Dr. Thomas Schlenker as the health district's director and health authority; he served in that capacity until his employment with the city was terminated in the summer of 2015. Dr. C. Junda Woo was then appointed as health authority, and staff recommends that she be appointed in that capacity for Bexar County as well.

Dr. Woo is a licensed physician who meets all the requirements in the Health and Safety Code. She has held a Texas Medical License since June 2004, and she currently serves in the adjunct clinical faculty at the UT School of Public Health, and the University of the Incarnate Word School of Osteopathic Medicine.

RECOMMENDED MOTION:

Approval of a resolution appointing Dr. Chichi Junda Woo as Health Authority for the County of Bexar and San Antonio Metropolitan Health District.

FISCAL ASSESSMENT: APPLICABLE

Yes ☐

No ☒

Fiscal Note ☐

1	Is this a revenue or expense?	Revenue ☐	Expense ☐
2	Dollar amount of revenue or expense associated with item?		
3	Is this a budgeted revenue or expense?	Yes ☐	No ☐
4	Does this item require additional staff?	Yes ☐	No ☐
5	Will this increase your current budget?	Yes ☐	No ☐
6	Impact on future Budget? If Yes, Explain in Comments.	Yes ☐	No ☐
7	Current End-of-Year Expenditure Estimate-for impacted Object Code(s)?		
8	If an expense, what is the current Object Code budget amount?		
9	If an expense, are sufficient funds currently budgeted in the Object Code?	Yes ☐	No ☐
10	If an expense, are sufficient funds currently budgeted in the Appropriation	Yes ☐	No ☐
11	List impacted offices or departments or note if countywide:		
12	Company:		
13	Accounting Unit / Account Category:		
14	Activity:		
15	If this is a grant, what is the estimated amount of program income?		
16	If this is a grant, what is the amount of Grantor funding?		
17	If this is a grant, what is the required County cash match?		
18	If this is a grant, what is the required County in-kind/allocation match?		
19	If this is a grant, was item approved by the Grant Review Committee?	Yes ☐	No ☐
20	Comments:		
21	Coordinated by: <u>Melissa Shannon</u>	Verified By: _____	

RESOLUTION NO. 2020-521 (R)

A RESOLUTION OF THE CITY OF WINDCREST CITY COUNCIL APPROVING THE CANCELLATION AND DISSOLUTION OF THE PURCHASE ORDER FOR THE PURCHASE OF ONE MID-MOUNT PLATFORM FIRE TRUCK FROM LONE STAR EMERGENCY GROUP.

WHEREAS, the City Council for the City of Windcrest obtained the original quote for the purchase of a 2019 E-One HP95 Mid-Mount Platform truck from Lone Star Emergency Group through HGACBuy, which obtains quotes for various products and services by virtue of the state procurement process required by Chapter 252 of the Texas Local Government Code; and

WHEREAS, the City Council determined that Lone Star Emergency Group is a recognized vendor that commonly engages in the sale and service of fire trucks; and

WHEREAS, the City Council approved Resolution 2019-682(R on January 7, 2019, authorizing the City Manager to execute the purchase of the 2019 E-One HP95 Mid-Mount Platform truck; and

WHEREAS, the City Manager executed the Purchase Order on January 16, 2019; and

WHEREAS, the City Council finds that Lone Star Emergency Group has not fulfilled the terms of the Purchase Order and has not delivered the truck by the agreed upon delivery date; and

WHEREAS, the City Council finds that cancellation and dissolution of the Purchase Order is justified and necessary so that the City can move forward with the purchase of another mid-mount platform truck to meet the needs of the fire department.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDCREST, TEXAS that the Purchase Order executed on January 16, 2019 by the City of Windcrest for the purchase of one 2019 E-One HP95 Mid-Mount Platform truck from Lone Star Emergency Group is hereby cancelled and dissolved.

DULY PASSED AND APPROVED, on the () day of () 2020 at a regular meeting of the City Council of the City of Windcrest, Texas, which was held in compliance with the Open Meetings Act, Gov't. Code §551.001, et. Seq. at which meeting a quorum was present and voting.

CITY OF WINDCREST, TEXAS

Dan Reese, Mayor

ATTEST:

Rachel C. Dominguez, City Secretary

APPROVED:

Ryan S. Henry, City Attorney

Pending CC Approval

RESOLUTION NO. 2020-522(R)

**A RESOLUTION OF THE CITY OF WINDCREST CITY
COUNCIL APPROVING THE PURCHASE OF A QUINT
FIRE APPARATUS FOR THE FIRE DEPARTMENT.**

WHEREAS, the City Council for the City of Windcrest finds it is in need of a quint fire apparatus for the fire department, and

WHEREAS, the City Council obtained several quotes for the quint fire apparatus through HGACBuy, which obtains quotes for various products and services by virtue of the state procurement procedures required by Chapter 252 of the Texas Local Government Code; and

WHEREAS, the City Council finds that the selection of any quote qualifies under an exception to the state procurement procedures; and

WHEREAS, after due consideration, the City Council selects the below listed quote and authorizes the City Manager to take all necessary steps to execute said purchase.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDCREST, TEXAS that the City Council authorizes the purchase of the quint fire apparatus for the Fire Department from the following quote and the City Manager is authorized to execute said agreement on behalf of the City.

- ____ 1. Quote: Pierce 100' Quint Ascendant Aerial Tower Truck: \$ 1,438,416.50 (proposal price includes HGAC fee of \$2,000.00 and a pre-pay discount of \$52,790.34);
- ____ 2. Quote: Spartan 93' Mid-Mount Platform Quint: \$ 1,485,398.00 (proposal price includes HGAC fee and Loaner Aerial for Fire Department during construction); and
- ____ 3. Quote: Spartan 85' Mid-Mount Platform Quint: \$1,327,907.00 (proposal price includes HGAC fee and Loaner Aerial for Fire Department during construction).

DULY PASSED AND APPROVED, on the 18th day of May, 2020 at a regular meeting of the City Council of the City of Windcrest, Texas, which was held in compliance with the Open Meetings Act, Gov't. Code §551.001, et. Seq. at which meeting a quorum was present and voting.

CITY OF WINDCREST, TEXAS

Dan Reese, Mayor

ATTEST:

Rachel C. Dominguez, City Secretary

APPROVED:

Ryan S. Henry, City Attorney

2019 SERIES B FUND AS OF 5/14/2020

BEGINNING FUND BALANCE				\$ 1,903,178.78
REVENUES				
	INTEREST		\$	7,819.15
	MISC. INCOME		\$	20,000.00
EXPENDITURES				
	CAPITAL EXPENDITURES			
		3/18/2020	Sidons-Martin Emergency Group	\$ 23,806.79
		5/14/2020	Pumper Truck Res. 2019-731	\$ 569,637.92
END BALANCE AS OF 5/14/2020				\$ 1,337,553.22

Siddons Martin Emergency Group, LLC
3500 Shelby Lane
Denton, Texas 76207
GDN P115891
TXDOT MVD No. A115890
EIN 27-4333590



May 15, 2020

City of Windcrest
 8601 Midcrown Drive
 Windcrest, TX 78239

Proposal for One (1) Pierce Velocity 100' Quint Ascendant Aerial Tower

Siddons-Martin Emergency Group, LLC is pleased to provide the following proposal to the City of Windcrest. The unit will comply with all specifications attached. Total price includes delivery to the City of Windcrest and training on operation and use of the apparatus.

Description	Amount
1) Bid 684: Pierce Velocity 100' Quint Ascendant Aerial Tower	
Unit price - \$1,491,847.18	Vehicle Price \$1,491,847.18
Price guaranteed for 60 days.	Full Prepay Discount (\$52,911.83)
Delivery within 12.5 – 13.5 months of order date.	Sub Total \$1,438,935.35
A warranty term of 12 months is included.	Contract Amount <u>\$2,000.00</u>
	Final Sales Price \$1,440,935.35

Additional: Full prepay discount requires payment in full within thirty (30) days of this executed proposal letter or purchase order, whichever comes first. One (1) approval visit and one (1) final inspection are provided for four (4) personnel each. The City of Windcrest may determine the distribution of the eight (8) total provided visits i.e. three (3) personnel on the approval visit and five (5) personnel on the final inspection.

A Five (5) Year Annual Service Agreement including the following services is included:

- Changing the engine oil and filter(s)
- Changing the fuel filter(s)
- Changing the engine air filter
- Changing the transmission fluid and filter(s)
- Engine coolant filter and fluid flush
- Differential fluid
- Pump fluid
- Chassis lubrication
- Cleaning and lubricating all ladder points
- Adjusting ladder cables as needed
- Top off hydraulic fluid as needed
- Perform drift test on all cylinders
- Operate and inspect all ladder appliances
- 104-point visual inspection with written report and estimates for needed repairs
- Note: Shop supplies and / or filter disposal fees are not included. All work is to be performed at a Siddons-Martin Service Center. Any other parts and / or labor not covered by the annual service agreement will be approved by Windcrest Volunteer Fire Department before further services are performed.

Taxes. Taxes are not included in this proposal. In the event that the purchasing organization is not exempt from sales tax or any other applicable taxes and/or the proposed apparatus does not qualify for exempt status, it is the duty of the purchasing organization to pay any and all taxes due. Balance of sale price is due upon acceptance of the apparatus at the factory.

Late Fee. A late fee of .033% of the sale price will be charged per day for overdue payments beginning ten (10) days after the payment is due for the first 30 days. The late fee increases to .044% per day after the first 30 days until the payment is received. In the event a prepayment is received after the due date, the discount will be reduced by the same percentages above, increasing the overall cost of the apparatus.

Cancellation. In the event this proposal is accepted, and a purchase order is issued then cancelled or terminated by Customer before completion, Siddons-Martin Emergency Group may charge a cancellation fee. The following charge schedule based on costs incurred and may be applied:

- (A) 10% of the Purchase Price after order is accepted and entered by Manufacturer;
- (B) 20% of the Purchase Price after completion of the approval drawings;
- (C) 30% of the Purchase Price upon any material requisition by Manufacturer.

The cancellation fee will increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. Siddons-Martin Emergency Group endeavors to mitigate any such costs through the sale of such product to another purchaser; however, the customer shall remain liable for the difference between the purchase price and, if applicable, the sale price obtained by Siddons-Martin Emergency Group upon sale of the product to another purchaser, plus any costs incurred by Siddons-Martin Emergency Group to conduct such sale.

Acceptance. In an effort to ensure the above stated terms and conditions are understood and adhered to, Siddons-Martin Emergency Group, LLC requires an authorized individual from the purchasing organization to sign and date this proposal and include it with any purchase order. Upon signing this proposal, the terms and conditions stated herein will be considered binding and accepted by the Customer. The terms and acceptance of this proposal will be governed by the laws of the State of Texas. No additional terms or conditions will be binding upon Siddons-Martin Emergency Group, LLC unless agreed to in writing and signed by a duly authorized officer of Siddons-Martin Emergency Group, LLC

Sincerely,



Shawn Wherry

Siddons-Martin Emergency Group, LLC

I, _____, the authorized representative of the City of Windcrest, agree to all of the terms of this proposal and the specifications attached hereto and this proposal will be binding upon the City of Windcrest.

Signature & Date

Proposal for Windcrest Volunteer Fire Department Velocity Ascendant Aerial Tower

Prepared by Shawn Wherry, Siddons-Martin Emergency Group

05/04/2020



PERFORM. LIKE NO OTHER.™

Siddons-Martin Emergency Group is pleased to submit a proposal to Windcrest Fire Department for a **Pierce® 100' Heavy Duty Aerial Tower** per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

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

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

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

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

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

GENERAL DESIGN AND CONSTRUCTION

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

QUALITY AND WORKMANSHIP

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

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

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

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

To demonstrate the quality of our products and services, a list of at least five (5) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

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

MANUAL AND SERVICE INFORMATION

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

SAFETY VIDEO

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

PERFORMANCE TESTS

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

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Siddons-Martin Emergency Group by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within ten (10) miles of the fire department.

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

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

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

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

LIABILITY

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

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

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

Each Occurrence\$1,000,000

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

Personal and Advertising Injury\$1,000,000

General Aggregate\$2,000,000

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

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Aggregate:\$3,000,000

Each Occurrence:\$3,000,000

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

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

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

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

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

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

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

Each Occurrence\$1,000,000

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Each Occurrence:\$25,000,000

Aggregate:\$25,000,000

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

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

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

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

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

SINGLE SOURCE MANUFACTURER

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

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2016 STANDARDS

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

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

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and

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

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

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

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

NFPA COMPLIANCY

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

VEHICLE INSPECTION PROGRAM CERTIFICATION

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

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

INSPECTION CERTIFICATE

A third party inspection certificate for the aerial device will be furnished upon delivery of the aerial device. The certificate will be Underwriters Laboratories Inc. Type 1 and will indicate that the aerial device has been inspected on the production line and after final assembly.

Visual structural inspections will be performed on all welds on both aluminum and steel ladders.

On critical weld areas, or on any suspected defective area, the following tests will be conducted:

- Magnetic particle inspection will be conducted on steel aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.
- A liquid penetrant test will be conducted on aluminum aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.

- Ultrasonic inspection will be conducted on all aerials to detect any flaws in pins, bolts and other critical mounting components.

In addition to the tests above, functional tests, load tests, and stability tests will be performed on all aerials. These tests will determine any unusual deflection, noise, vibration, or instability characteristics of the unit.

PUMP TEST

The pump will be tested, approved and certified by Underwriter's Laboratory at the manufacturer's expense. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, the generator will be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

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

INSPECTION TRIP(S)

The bidder will provide two (2) factory inspection trip(s) for Four (4) customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

AFTERMARKET SUPPORT WEBSITE

Pierceparts.com will provide Pierce authorized dealer access to comprehensive information pertaining to the maintenance and service of their customer's apparatus. This tool will provide the Pierce authorized dealer the ability to service and support their customers to the best of their ability with factory support at their fingertips.

Pierceparts.com is also accessible to the end user through the guest login. Limited access is available and vehicle specific parts information accessible by entering a specific VIN number. All end users should see their local authorized Pierce dealer for additional support and service.

The website will consist of the following screens at the dealer level:

My Fleet Screen

The My Fleet screen will provide access to truck detail information on the major components of the vehicle, warranty information, available vehicle photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc.

Parts Screens

The Parts screens will provide parts look-up capability of Pierce Manufacturing sourced items, with the aid of digital photographs, part drawings and assembly drawings. The parts search application will permit the searching of parts by item description or function group (major system category). The parts application will provide the ability to submit electronically a parts order, parts quote, or parts return request directly to Pierce Manufacturing for processing.

Warranty Screen

The Warranty screens will provide dealers the ability to submit electronically warranty claims directly to Pierce Manufacturing for reimbursement.

My Reports Screens

The My Reports screens will provide access to multiple dealer reports to allow the dealership to maintain communication with the customer on the status of orders, claims, and phone contacts.

Technical Support Screens

The Technical Support screens will provide access to all currently published Operation and Maintenance and Service Publications. Access to Pierce Manufacturing Service Bulletins and Work Instructions, containing information on current service topics and recommendations will be provided.

Training

The Training screens will provide access to upcoming training classes offered by Pierce Manufacturing along with interactive electronic learning modules (Operators Guides) covering the operation of major vehicle components will be provided. Access to training manuals used in Pierce Manufacturing training classes will be provided.

About Pierce

Access to customer service articles, corporate news, quarterly newsletters, and key contacts within the Customer Service Department will be provided. The current Customer Service Policy and Procedure Manual, detailing the operation of the Customer Service group will also be accessible.

BID BOND NOT REQUESTED

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

All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

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

PERFORMANCE BOND NOT REQUESTED

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

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

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

APPROVAL DRAWING

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

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

COMPARTMENT LAYOUT DRAWING

A sales drawing will be provided as if the rear body compartment doors are open. This drawing will be provided for graphic representation only and will include such things as shelves, trays, reels, dividers, air control panels, air bottle storage bins, poly boxes, etc.

ELECTRICAL WIRING DIAGRAMS

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

VELOCITY CHASSIS

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

WHEELBASE

The wheelbase of the vehicle will be 265.00".

GVW RATING

The gross vehicle weight rating will be 78,000 pounds.

FRAME

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

FRAME REINFORCEMENT

In addition, a full-length mainframe internal "C" liner will be provided. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25". Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 857,462 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb.

The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.

FRONT NON DRIVE AXLE

The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 24,000 lb.

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

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

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

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

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

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

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

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

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

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

The axle will have a third party certified turning angle of 40 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this crank angle.

FRONT SUSPENSION

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 24,000 lb.

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

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

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

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

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

FRONT SHOCK ABSORBERS

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

FRONT OIL SEALS

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

FRONT TIRES

Front tires will be Goodyear 425/65R22.50 radials, 20 ply G296 tread, rated for 24,400 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10)stud, 11.25" bolt circle.

REAR AXLE

The rear axle will be a Meritor™, Model RT-52-185, tandem axle assembly with a capacity of 54,000 lb.

An inter-axle differential, which divides torque evenly between axles, will be provided with an indicator light mounted on the cab instrument panel.

TOP SPEED OF VEHICLE

A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 60 mph.

SUSPENSION, REAR

Rear suspension will be Link® combination air ride and walking beam with a ground rating of 54,000 lb.

REAR OIL SEALS

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

REAR TIRES

Rear tires will be eight (8) Goodyear 12R22.50 radials, 16 ply all season G622 RSD tread, rated for 54,240 lb maximum axle load and 75 mph maximum speed.

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

TIRE BALANCE

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

TIRE PRESSURE MANAGEMENT

There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of 10 tires.

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

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

FRONT HUB COVERS

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

REAR HUB COVERS

Stainless steel, high hat, hub covers will be provided on the rear axle hubs.

CHROME LUG NUT COVERS

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

MUD FLAPS

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

WHEEL CHOCKS

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

WHEEL CHOCK BRACKETS

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

ANTI-LOCK BRAKE SYSTEM

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

BRAKES

The service brake system will be full air type.

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

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

The rear brakes will be Meritor™ 16.50" x 8.63" cam operated with automatic slack adjusters.

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor will be a Bendix®, Model BA-921, with 15.80 cubic feet per minute output at 1,250 rpm.

BRAKE SYSTEM

The brake system will include:

- Bendix dual brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 6,653 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi

- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, will be provided with an automatic spring brake application at 40 psi
- A pressure protection valve will be provided to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa).
- Quarter turn drain valves on each air tank

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

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

BRAKE SYSTEM AIR DRYER

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

BRAKE LINES

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

AIR INLET

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

ALL WHEEL LOCK-UP

An additional all wheel lock-up system will be installed which applies air to the front brakes only. The standard spring brake control valve system will be used for the rear.

ENGINE

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

Make:	Detroit™
Model:	DD13®
Power:	525 hp at 1625 rpm
Torque:	1850 lb-ft at 1075 rpm
Governed Speed:	Full Load - 1900 rpm Road/2080 rpm Parked PTO
Emissions Certification:	EPA 2016 (GHG17)
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	781 cubic inches (12.8L)
Starter:	Delco Remy 39MT™

Fuel Filters:	Dual cartridge style with check valve, water separator, and water in fuel sensor
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The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

HIGH IDLE

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

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

ENGINE BRAKE

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

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

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

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

CLUTCH FAN

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

ENGINE AIR INTAKE

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

EXHAUST SYSTEM

The exhaust system will include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the SCR device and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and SCR to minimize the transfer of heat to the cab. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

RADIATOR

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

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

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

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

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

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

COOLANT LINES

Gates® silicone hoses will be used for all engine/heater coolant lines installed by the chassis manufacturer.

The chassis manufacturer will also use Gates brand hose on other heater, defroster and auxiliary coolant circuits. There will be some areas in which an appropriate Gates product is not available. In those instances, a comparable silicone hose from another manufacturer will be used.

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

FUEL TANK

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

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

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

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

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

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

DIESEL EXHAUST FLUID TANK

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

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

A fill inlet will be located on the driver's side of the body and be covered with a hinged, spring loaded, polished stainless steel door that is marked "Diesel Exhaust Fluid Only".

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

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

FUEL COOLER

An air to fuel cooler will be installed in the engine fuel return line.

TRANSMISSION

An Allison 5th generation, Model EVS 4500P, electronic, torque converting, automatic transmission will be provided.

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

Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock).

A transmission temperature gauge with red light and buzzer will be installed on the cab instrument panel.

TRANSMISSION SHIFTER

A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.

TRANSMISSION COOLER

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

DOWNSHIFT MODE (W/ENGINE BRAKE)

The transmission will be provided with an aggressive downshift mode.

This will provide earlier transmission downshifts to 2nd gear from 6th gear, resulting in improved engine braking performance.

DRIVELINE

Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints.

The shafts will be dynamically balanced before installation.

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

STEERING

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

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

STEERING WHEEL

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

LOGO AND CUSTOMER DESIGNATION ON DASH

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

The first row of text will be: ***BLANK***

The second row of text will be: WINDCREST

The third row of text will be: FIRE

BUMPER

An aluminum bumper, minimum of 10.00" high will be attached to a bolted modular frame extension. The bumper will be extended 15.00" from front face of cab. The bumper will be metal finished and painted job color.

Gravel Pan

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

LIFT AND TOW MOUNTS

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

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

TOW HOOKS

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

LICENSE PLATE BRACKET

A non-illuminated license plate bracket will be mounted under the front bumper. The bracket will be hinged. The bracket will be formed from bright stainless steel.

CAB

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

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

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

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

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

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together

that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

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

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

The overall height (from the cab roof to the ground) will be approximately 102.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

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

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 52.95" in the center position and 58.75" in the outboard positions.

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

INTERIOR CAB INSULATION

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

FENDER LINERS

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

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

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

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

FAST SERVICE ACCESS FRONT TILT HOOD

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

ENGINE TUNNEL

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

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

The engine tunnel will be insulated on both sides for thermal and acoustic absorption. The underside of the tunnel will be sprayed with insulation. The insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of the NFPA 1901 standards.

CAB REAR WALL EXTERIOR COVERING

The entire exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate.

CAB LIFT

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

The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2.00' (coiled) to 6.00' (extended).

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

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

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

Cab Lift Interlock

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

The cab lift safety system will also be interlocked to the front stabilizers in the bumper. The cab tilt mechanism will be active only when the front stabilizers are fully stowed, and fully tilted outboard. The cab tilt mechanism will not allow the front stabilizers to be tilted inboard until the cab has been fully lowered and locked into position.

GRILLE

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

DOOR JAMB SCUFFPLATES

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

FRONT CAB TRIM

There will be polished stainless steel rectangular garnish plates installed behind the two (2) headlight bezels for an enhanced appearance.

There will be no covers provided over the painted cab corner where the cab turn signals are located.

SIDE OF CAB MOLDING

Chrome molding will be provided on both sides of cab.

MIRRORS

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

CAB DOORS

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

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

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

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

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

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

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

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

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

Door Panels

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

RECESSED POCKET WITH ELASTIC COVER

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

ELECTRIC WINDOW CONTROLS

Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

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

CAB STEPS

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.

CAB EXTERIOR HANDRAILS

A Hansen knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. Each handrail will be provided with blue LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.

STEP LIGHTS

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

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

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

FENDER CROWNS

Rubber fender crowns will be provided around the cab wheel openings.

Crowns will be black.

WINDOWS, REAR

The rear wall of the crew cab will have two (2) windows, each being 11.25" wide x 18.00" high.

WINDOW INTERIOR TRIM

For improved aesthetics, the cab rear wall windows will include a vacuum formed ABS interior trim panel.

CAB INSULATION

The underside of the cab and crew cab floor will be sprayed with insulation. The insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of the NFPA 1901 standards..

MOUNTING PLATE ON ENGINE TUNNEL

Equipment installation provisions will be installed on the engine tunnel.

A .188" smooth aluminum plate will be bolted to the top surface of the engine tunnel. The plate will be located to the left of the officer and on the rear of the tunnel. It will follow the contour of the engine

tunnel and will run the entire length of the engine tunnel. The plate will be spaced off the engine tunnel .75" to allow for wire routing below the plate.

The mounting surface will be painted to match the cab interior.

AIR BOTTLE HOLDER(S)

There will be one (1) Ziamatic, Quic-Hold®, Model MWAB-03-7, SCBA holder(s) with a cam-operated release lever provided in the crew cab. The bracket(s) will be located low on the RS rear wall (Match 34238).

BRACKET TO MOUNT SCBA HOLDER

There will be one (1) bracket(s) provided for mounting air bottle brackets. Each bracket will be mounted to the seat riser on a 45 degree angle mounting plate located in the crew cab. Each mounting bracket will be designed to hold one (1) Ziamatic SCBA holder.

The bracket(s) will be located low on the RS rear wall (Match 34238).

CAB INTERIOR

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

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

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

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

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

To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew.

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

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous

harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY

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

CAB INTERIOR PAINT

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

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

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

CAB FLOOR

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

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a .25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

The rubber floor material will be overlayed with aluminum treadplate. The aluminum treadplate floor will entirely cover the rubber floor material.

DEFROST/AIR CONDITIONING SYSTEM

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

Cab Defroster

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

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

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

Cab/Crew Auxiliary Heater

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

Air Conditioning

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

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. Mounting the condenser below the cab or body would reduce the performance of the system and will not be acceptable. The condenser cover and mounting legs to be painted white as provided by the A/C manufacturer.

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

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

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

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

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

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

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

A high efficiency particulate filter will be included for the system. Access to the filter cover will be hinged with two (2) thumb latches.

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

Climate Control

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

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

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

Auxiliary AC System

A larger condenser to include auxiliary unit components will be mounted on the cab roof. Mounting the condenser below the cab or body would reduce the performance of the system and will not be acceptable.

This will allow the auto temperature controller to maintain a temperature of 70 degrees Fahrenheit while the engine of the apparatus is off. The auxiliary AC unit will be powered from shoreline inlet.

Gravity Drain Tubes

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

CAB DEFROSTER

To provide maximum defrost and heating performance, a 43,500 BTU heater-defroster unit with 350 CFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the vacuum formed instrument panel. For easy access, a removable vacuum formed cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

SUN VISORS

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

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

GRAB HANDLE

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

ENGINE COMPARTMENT LIGHT

An engine compartment light will be installed under the engine hood, of which the switch is an integral part. Light will have a .125" diameter hole in its lens to prevent moisture retention.

ACCESS TO ENGINE DIPSTICKS

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

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

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

CAB SAFETY SYSTEM

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

- A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.
- A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.
- A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.
- A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.
- A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.
- Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.
- Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.
- Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

FRONTAL IMPACT PROTECTION

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

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

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

SIDE ROLL PROTECTION

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

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

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

SEATING CAPACITY

The seating capacity in the cab will be five (5).

DRIVER SEAT

A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type with air suspension. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.75" travel) and horizontal (7.00" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. Providing for maximum comfort, the seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. The lumbar adjustment lever will be easily located at the lower outboard position of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).

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

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

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

OFFICER SEAT

A Pierce PS6® seat will be provided in the cab for the passenger. The seat will be a cam action type with air suspension. For increased convenience, the seat will include a manual control to adjust the

horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not belted.

The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

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

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

REAR FACING LEFT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the left side outboard position with interior and exterior access.

The cabinet will be 24.00" wide x 38.00" high x 30.50" deep. The interior door will be web netting. The netting is to be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the inboard side of the cabinet and have 1.00" cam buckle fasteners on the opposite side to secure it. The interior clear door opening will be 19.50" wide x 35.00" high.

The cabinet will include one (1) infinitely adjustable shelf with a 1.25" up-turned lip painted to match the cab interior.

The cabinet will include no louvers.

The cabinet will also provide exterior access with one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #751 key. A pneumatic stay arm will be provided as a door stop. The clear door opening will 19.75" wide x 35.50" high.

The exterior access will be provided with a polished stainless steel scuffplate on the lower door frame.

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

Cabinet Light

There will be one (1) white LED strip light installed on the right side of the exterior cabinet door opening. The lights will be controlled by an automatic door switch and a rocker switch on the cabinet exterior.

REAR FACING RIGHT SIDE CABINET

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

The cabinet will be 21.50" wide x 38.00" high x 26.50" deep. The interior door will be web netting. The netting is to be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the inboard side of the cabinet and have 1.00" cam buckle fasteners on the opposite side to secure it. The clear door opening will be 16.50" wide x 35.00" high.

The cabinet will include one (1) infinitely adjustable shelf with a 1.25" up-turned lip painted to match the cab interior.

The cabinet will include no louvers.

The cabinet will also provide access from outside the cab with one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #751 key. A pneumatic stay arm will be provided as a door stop. The exterior clear door opening will be 16.00" wide x 35.50" high. The door will be located on the side of the cab over the wheelwell.

The exterior access will be provided with a polished stainless steel scuffplate on the lower door frame.

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

Cabinet Light

There will be one (1) white LED strip light installed on the left side of the exterior cabinet door opening. The lights will be controlled by an automatic door switch and rocker switch on the exterior of the cabinet.

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing, foldup seat provided at the driver side outboard position in the crew cab. The seat back will be a high back style. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 17.00" deep foam cushions, and the seat back will be provided with 9 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

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

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

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

FORWARD FACING CENTER SEATS

There will be two (2) forward facing, Pierce PS6® seats provided at the center position in the crew cab. For optimal comfort, the seats will be provided with 17.00" deep dual density foam cushions designed

with EVC (elastomeric vibration control). To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.

The seat backs will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

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

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

SEAT UPHOLSTERY

All seat upholstery will be leather grain 36 oz dark silver gray vinyl resistant to oil, grease and mildew. The cab will have five (5) seating positions.

AIR BOTTLE HOLDERS

All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.

There will be a quantity of three (3) SCBA brackets.

ACCESS DOOR

An access door will be provided in the front edge of the right side rear facing seat riser with a drop down door. The drop down door will be provided with a Southco raised trigger C2 chrome latch and painted to match the cab interior. There will be no louvers.

SEAT BELTS

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

To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards. The shoulder belt web length will be 120.00".

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

SHOULDER HARNESS HEIGHT ADJUSTMENT

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

A total of five (5) seating positions will have the adjustable shoulder harness.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

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

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

CAB DOME LIGHTS

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

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

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

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

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

PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.

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

HAND HELD SPOTLIGHT

There will be five (5) lights Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC chords provided and installed inboard of the driver and officer mounted on the ceiling, rearward of the headset brackets and ceiling mounted to the right of each forward facing rear seat (Match 34238).

The flashlights will be connected battery direct and will charge when the chassis batteries are charging.

CAB INSTRUMENTATION

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

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

GAUGES

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

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

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

INDICATOR LAMPS

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

The following amber telltale lamps will be present:

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

The following red telltale lamps will be present:

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

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:

- High beam

ALARMS

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

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

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

INDICATOR LAMP AND ALARM PROVE-OUT

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

CONTROL SWITCHES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CUSTOM SWITCH PANELS

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

DIAGNOSTIC PANEL

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

The diagnostic panel will include the following:

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

- Diesel particulate filter regeneration inhibit switch (where applicable)

CAB LCD DISPLAY

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature.

The upper right section will display, along with other configuration specific information:

- Odometer
- Trip mileage
- PTO hours
- Fuel consumption
- Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

AIR RESTRICTION INDICATOR

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

"DO NOT MOVE APPARATUS" INDICATOR

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

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

DO NOT MOVE TRUCK MESSAGES

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

The following messages will be displayed (where applicable):

- Do Not Move Truck
- LS CAB DOOR, the left side cab door is open
- LS CAB COMPT DOOR, the left side cab compartment door is open
- LS CREWCAB DOOR, the left side crew cab door is open
- STEP NOT STOWED, pump house step not stowed
- LS TURNTABLE STEP, left side turntable step not stowed
- AERIAL CONTROL DR, aerial override control compartment door is open
- LS6 COMPT DR, the left side LS6 compartment door is open
- LS5 COMPT DR, the left side LS5 compartment door is open

- LS4 COMPT DR, the left side LS4 compartment door is open
- LS3 COMPT DR, the left side LS3 compartment door is open
- LS2 COMPT DR, the left side LS2 compartment door is open
- LS1 COMPT DR, the left side LS1 compartment door is open
- LS AIR BTL COMPT DR, the left side air bottle compartment door is open
- LS BASKET STEP, the left side basket steps not stowed
- STABILIZER CTRL DR, the rear stabilizer control compartment door is open
- STABILIZER DEPLOYED, the stabilizers are not stowed.
- LS CORD REEL DR, the left side cord reel compartment door is open
- RS CORD REEL DR, the right side cord reel compartment door is open
- B1 REAR COMPT DR, the rear B1 compartment door is open
- TURNTBL CTRL CNSL, the turntable control console not stowed.
- RS BASKET STEP, the right side basket steps not stowed
- RS AIR BTL COMPT DR, the right side air bottle compartment door is open.
- RS1 COMPT DR, the right side RS1 compartment door is open
- RS2 COMPT DR, the right side RS2 compartment door is open
- RS3 COMPT DR, the right side RS3 compartment door is open
- RS4 COMPT DR, the right side RS4 compartment door is open
- RS5 COMPT DR, the right side RS5 compartment door is open
- RS6 COMPT DR, the right side RS6 compartment door is open
- RS7 COMPT DR, the right side RS7 compartment door is open
- RS CREWCAB DR, the right side crew cab door is open
- RS CAB COMPT DR, the right side cab compartment door is open
- RS CAB DR, the right side cab door is open
- LT TOWER NOT STOWED, the light tower is not stowed

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

SWITCH PANELS

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

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

The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when

interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.

WIPER CONTROL

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

HOURMETER - AERIAL DEVICE

An hourmeter for the aerial device will be provided and located within the cab display or instrument panel.

AERIAL MASTER

There will be a master switch for the aerial operating electrical system provided.

AERIAL PTO SWITCH

A PTO switch for the aerial with indicator light will be provided.

SPARE CIRCUIT

There will be three (3) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

The positive wire will be connected directly to the battery power.

The negative wire will be connected to ground.

Wires will be protected to 15 amps at 12 volts DC.

Power and ground will terminate officer side end of dash at position 126.

Termination will be with 15 amp, power point plug with rubber cover.

Wires will be sized to 125% of the protection.

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

SPARE CIRCUIT

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

The above wires will have the following features:

- The positive wire will be connected directly to the battery power
- The negative wire will be connected to ground
- Wires will be protected to 15 amps at 12 volts DC

- Power and ground will terminate Coiled up Behind Officer Seat and Coiled up in Officer Dash
- Termination will be with heat shrinkable butt splicing
- Wires will be sized to 125 percent of the protection

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

INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

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

General Screen Design

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

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

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

Home/Transit Screen

This screen will display the following:

- Vehicle Mitigation (if equipped)

- Water Level (if the water level system includes compatible communications to the information center)
- Foam Level (if the foam level system includes compatible communications to the information center)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

On Scene Screen

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

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

Virtual Buttons

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

Page Screen

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

- Diagnostics
 - o Faults
 - Listed by order of occurrence
 - Allows to sort by system
 - o Interlock
 - Throttle Interlocks
 - Pump Interlocks (if equipped)
 - Aerial Interlocks (if equipped)
 - PTO Interlocks (if equipped)
 - o Load Manager
 - A list of items to be load managed will be provided. The list will provide a description of the load.

- The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.
 - The screen will indicate if a load has been shed (disabled) or not shed.
 - "At a glance" color features are utilized on this screen.
- o Systems
 - Command Zone
 - Module type and ID number
 - Module Version
 - Input or output number
 - Circuit number connected to that input or output
 - Status of the input or output
 - Power and Constant Current module diagnostic information
 - Foam (if equipped)
 - Pressure Controller (if equipped)
 - Generator Frequency (if equipped)
- o Live Data
 - General Truck Data
- Maintenance
 - o Engine oil and filter
 - o Transmission oil and filter
 - o Pump oil (if equipped)
 - o Foam (if equipped)
 - o Aerial (if equipped)
- Setup
 - o Clock Setup
 - o Date & Time
 - 12 or 24 hour format
 - Set time and date
 - o Backlight
 - Daytime
 - Night time
 - Sensitivity
 - o Unit Selection
 - o Home Screen
 - o Virtual Button Setup
 - o On Scene Screen Setup
 - o Configure Video Mode
 - Set Video Contrast
 - Set Video Color
 - Set Video Tint
- Do Not Move
 - o The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated
 - Driver Side Cab Door

- Passenger's Side Cab Door
 - Driver Side Crew Cab Door
 - Passenger's Side Crew Cab Door
 - Driver Side Body Doors
 - Passenger's Side Body Doors
 - Rear Body Door(s)
 - Ladder Rack (if applicable)
 - Deck Gun (if applicable)
 - Light Tower (if applicable)
 - Hatch Door (if applicable)
 - Stabilizers (if applicable)
 - Steps (if applicable)
- Notifications
 - o View Active Alarms
 - Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
 - Silence Alarms - All alarms are silenced
- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)
- Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

VEHICLE DATA RECORDER

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

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

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

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

- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

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

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

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

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

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

INTERCOM SYSTEM

There will be digital, single radio interface, intercom located officer side left (Location 4) in the cab. The front panel will have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices.

There will be one (1) radio listen only / transmit control with select, monitor, receive, and transmit indicators. There will be one (1) auxiliary audio input with select, and receive indicators.

There will be one (1) wireless base station for up to five (1-5) headset users provided.

The wireless base station will have a 100' to 1100' range, line of sight. Objects between the transmitter and receiver affect range.

The following Firecom components will be provided:

- One (1) 5100D Intercom
- One (1) WB505R wireless base station (1-5 wireless positions)
- All necessary power and station cabling

RADIO / INTERCOM INTERFACE CABLE

The apparatus manufacturer will supply and install one (1) radio interface cable before delivery of the vehicle.

The radio equipment to be used by the customer will be:

- GE, Erickson, M/A Com, or Harris , Model number XG75M.

WIRELESS UNDER HELMET, INTERCOM ONLY HEADSET

There will be three (3) Firecom™, Model UHW-503 wireless under the helmet, intercom only headset(s) provided. A heavy duty, coiled 12 volt charging pigtail with plug will be provided LS forward facing and two center forward facing seats (Match 34238).

Each headset will feature:

- Noise cancelling electric microphone
- Flexible microphone boom
- Ear seals with 20 dB noise reduction
- Programmable Microphone transmit button
- Rechargeable battery operates 24 hours on a full charge
- IP-66 when worn

WIRELESS UNDER HELMET, RADIO TRANSMIT ONLY HEADSET

There will be two (2) Firecom™, Model UHW-505, wireless under the helmet, radio transmit headset(s) provided. A heavy duty, coiled 12 volt charging pigtail with plug will be provided driver's seat and officer seat.

Each headset will feature:

- Noise cancelling electric microphone
- Flexible microphone boom
- Ear seals with 20 dB noise reduction
- Stereo Listen-Through Ear dome microphones
- Radio Push To Transmit button (Left or Right Side)
- Rechargeable battery operates for 24 hours on a full charge
- IP-66 when worn

HEADSET HANGERS

There will be five (5) headset hanger(s) installed driver's seat, officer's seat, driver's side inboard forward facing seat, driver's side outboard forward facing seat and passenger's side inboard forward facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.

BRACKET, JOHNNY RAY

A Johnny Ray, Model JR-207, radio swivel bracket rated for 14 lbs. will be provided and installed centered overhead.

TWO WAY RADIO INSTALLATION

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

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

Specific radio shipping requirements will be followed.

RADIO ANTENNA MOUNT

There will be two (2) standard 1.125", 18 thread antenna-mounting base(s) installed RS rearward of lightbar on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the officer seat. A weatherproof cap will be installed on the mount.

VEHICLE CAMERA SYSTEM

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

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

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

The following components will be included:

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

VEHICLE CAMERA GUARD

There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located centered over the traffic advisor treadplate box .

ELECTRICAL POWER CONTROL SYSTEM

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

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

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

Solid-State Control System

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

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

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

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

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

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

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

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

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

Circuit Protection and Control Diagram

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

On-Board Advanced/Visual Electrical System Diagnostics

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

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

All control system modules, with the exception of the main control module, will contain on-board visual diagnostic LEDs that assist in troubleshooting. The LEDs will be enclosed within the sealed, transparent module housing near the face of the module. One LED for each input or output will be provided and will illuminate whenever the respective input or output is active. Color-coded labels within the modules will encompass the LEDs for ease of identification. The LED indicator lights will provide point of use information for reduced troubleshooting time without the need for an additional computer.

Tech Module with WiFi

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

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

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

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

Prognostics

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

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

Prognostics will include:

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

Advanced Diagnostics

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

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

Indicator Light and Alarm Prove-Out System

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

Voltage Monitor System

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

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

Dedicated Radio Equipment Connection Points

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

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

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

Enhanced Software

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

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

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

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

EMI/RFI Protection

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

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements.

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

ELECTRICAL

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

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

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

6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

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

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

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

BATTERY SYSTEM

There will be six (6) 12 volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 5700 CCA at 0 degrees Fahrenheit
- -190 minutes of reserve capacity
- Threaded stainless steel studs

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

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

BATTERY SYSTEM

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

MASTER BATTERY SWITCH

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

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

BATTERY COMPARTMENTS

The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The

compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS

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

BATTERY CHARGER

There will be an IOTA™, Model DSL 75, battery charger with IQ4, controller provided.

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

There will be a Kussmaul™, Model #091-94-12, remote indicator included.

BATTERY CHARGER LOCATION

Battery charger will be located in the cab behind the driver seat.

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

SHORELINE INLET

There will be one (1) Blue Sea Sure Eject™ part number 7851, 20 amp 120 volt AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline will be connected to battery charger, HVAC, cab and body outlets.

The shoreline inlet cover color to be blue.

The connector body will be released from the inlet when the apparatus engine start button is activated.

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

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

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

The shoreline receptacle will be located on the driver side exterior of cab, behind crew cab door.

ALTERNATOR

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

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

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

The system will include the following features:

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

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

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

SEQUENCER

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

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

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

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

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

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

HEADLIGHTS

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

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

DIRECTIONAL LIGHTS

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

The color of the lenses will be clear.

INTERMEDIATE LIGHT

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

CAB CLEARANCE/MARKER/ID LIGHTS

There will be two (2) amber LED lights provided to indicate the presence and overall length of the vehicle in the following locations:

- Two (2) lights with amber LEDs as front side clearance lights will be installed, one (1) on each side above the cab doors.

All other forward facing clearance lights will be included with the visor scene light.

REAR CLEARANCE/MARKER/ID LIGHTING

There will be three (3) LED identification lights located at the rear of the apparatus installed per the following:

- As close as practical to the vertical centerline and one (1) on each outside edge
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

- All visible from the rear

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

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

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

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

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

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

Per FMVSS 108 and CMVSS 108 requirements.

MARKER LIGHTS

There will be one (1) pair of amber and red LED marker lights with rubber arm, located at the rear most lower corner of the body. The amber lens will face the front and the red lens will face the rear of the truck.

These lights will be activated with the running lights of the vehicle.

REAR FMVSS LIGHTING

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

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

The lights will be provided with clear lenses.

The lights will be mounted in a polished combination housing.

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

LICENSE PLATE BRACKET

There will be one (1) license plate bracket mounted on the rear of the body.

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

LIGHTING BEZEL

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

BACK-UP ALARM

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

CAB PERIMETER SCENE LIGHTS

There will be four (4) TecNiq, Model T10-LC00-1, 15.00" lights with white LEDs and 45 degree stainless steel brackets provided per the following:

- one (1) under the driver's side cab access step
- one (1) under the passenger's side cab access step
- one (1) under the passenger's side crew cab access step
- one (1) under the driver's side crew cab access step

The lights will be activated when the battery switch is on, when the respective door is open and by the same control selected for the body perimeter lights.

PUMP HOUSE PERIMETER LIGHTS

There will be one (1) TecNiq, Model T10-LC00-1, 15.00" 12 volt DC light with white LEDs and 45 degree stainless steel bracket provided under the passenger's side pump panel running board.

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

BODY PERIMETER SCENE LIGHTS

There will be three (3) TecNiq, Model T10-LC00-1, 15.00" 12 volt DC LED strip lights provided.

The lights will be mounted in the following locations.

- One (1) light will be provided under the driver's side turntable access steps
- One (1) light will be provided under the passenger's turntable access steps
- One (1) light will be provided under the basket access steps

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

STEP ILLUMINATION

The running board(s) under the pump panel(s) shall be illuminated by the lights included in the overhead pump panel light shield.

Additional steps on the apparatus shall be illuminated per the current edition of NFPA 1901.

12 VOLT LIGHTING

There will be two (2) HiViz FIRETECH, Model FT-MB-2.27, 3.75" high x 30.20" long x 3.31" deep 28,512 lumens 12 volt DC LED light(s) with with a combination of flood and spot optics and adjustable pedestal mounting brackets mounted on the crew cab roof as far to the exterior as possible centered over the right side crew cab door and on top of the body as far to the exterior as possible centered over the RS2 compartment.

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

The light(s) selected above will be controlled by a switch at the driver's side switch panel, by a switch at the driver's side pump panel and by a switch at the passenger's side switch panel.

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

12 VOLT LIGHTING

There will be two (2) HiViz FIRETECH, Model FT-MB-2.27, 3.75" high x 30.20" long x 3.31" deep 28,512 lumens 12 volt DC LED light(s) with with a combination of flood and spot optics and adjustable pedestal mounting brackets mounted on the crew cab roof as far to the exterior as possible centered over the left side crew cab door and on top of the body as far to the exterior as possible centered over the LS2 compartment.

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

The light(s) selected above will be controlled by a switch at the driver's side switch panel, by a switch at the driver's side pump panel and by a switch at the passenger's side switch panel.

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

12 VOLT LIGHTING

There will be a HiViz Model FT-BG2-R2**C-80-ML-*, 3.90" high x 80.00" long 64,600 raw lumens 12 volt DC light with white and amber LEDs provided and mounted on the cab roof front brow.

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

The white flood and scene LEDs will be controlled by a switch at the driver's side switch panel, by a switch at the driver's side pump panel and by a switch at the passenger's side switch panel.

The amber identification and clearance LEDs will be controlled by the head light switch.

The white LEDs may be load managed when the parking brake is applied.

HOSE BED LIGHTS

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

- Light strip will be installed along the front edge of the hose bed.

- Light strip will be installed on the rear of the boom support.

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

REAR SCENE LIGHTS

There will be two (2) HiViz item FT-GSMJR, 5.04" high x 7.40" wide x 1.54" deep 3,125 effective lumens lights with white LEDs and trim installed at the rear of the apparatus, each side of the rear body bulkhead inboard of the upper M6 warning lights.

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

WALKING SURFACE LIGHT

There will be two (2) Model P25 12 volt DC LED lights provided to illuminate the top of body walking surface. These LED lights will be located on the rear facing surface of the upper portion of the body to illuminate the walking surface to the platform basket. There will be a Model FRP, 4" round black 12 volt DC LED floodlight located forward on the left side top of the body.

These lights will be activated when "Aerial Master" is on.

WATER TANK

The water tank will have a capacity of 300 gallons and will be constructed of UV stabilized ultra high impact polypropylene plastic.

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

The tank will be baffled in accordance with the current edition of NFPA 1901 requirements.

The baffles will have vent openings at both the top and bottom of each baffle to permit movement of air and water between compartments.

The longitudinal partitions will be constructed of 0.38" polypropylene plastic and extend from the bottom of the tank through the top cover to allow positive welding.

The transverse partitions extend from 4.00" off the bottom to the underside of the top cover.

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

The tank top will be constructed of 0.50" polypropylene.

It will be recessed 0.38" and will be welded to the tank sides and the longitudinal partitions.

It will be supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions.

Two (2) of the dowels will be drilled and tapped (0.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump will be provided at the bottom of the water tank. The sump will include a drain plug and the tank outlet.

Tank will be installed on top of the torque box with the use of two (2) brackets constructed of structural steel. The torque box will resist transferring any torsional stress caused by the chassis frame flexing to the water tank.

Rubber cushions, 0.50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

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

Tank mounting system will be approved by the manufacturer.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 6.00" wide x 12.00" long.

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

An overflow pipe, constructed of 3.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

HOSE BED

The hose bed will be fabricated of 0.125" 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi.

The upper and rear edges of the hose bed side panels will have a double break for rigidity.

The hose bed will be located ahead of the ladder turntable.

There will be a hose chute to the side and rear of the hose bed on the right side to allow for payout/removal of the hose.

The hose bed flooring will consist of removable aluminum grating with a top surface that is perforated to aid in hose aeration.

Hose capacity will be a minimum of 800 feet of 5.00" large diameter hose.

AERIAL HOSE BED HOSE RESTRAINT

The hose in the hose bed will be restrained as follows:

- The hose bed forward of the aerial boom support and in the upper body area will be restrained by a blue vinyl cover with Velcro® securing all four (4) sides.
- The hose bed chute located under the aerial basket will be restrained by an aluminum treadplate cover and guide plate at the transition point of the upper hose bed to the lower hose chute. The cover will hinge to the inside to allow ease of access to the hose.

- The rear of the hose bed chute will be restrained with black webbing that will have 1.00" web straps that loop through footman loops and fasten with spring clip and hook fasteners.

RUNNING BOARDS

The running boards will be fabricated of 0.125" bright aluminum treadplate and supported by structural steel angle assemblies bolted to the chassis frame rails.

Running boards will be 13.00" deep and are spaced away from the body 0.50".

A splash guard will be provided to keep road dirt or water from splashing up onto the pump panels.

The running boards will have a riser on the body to protect the painted surface from damage by stepping on the running boards.

The entire surface of the running boards will be covered with bright aluminum treadplate.

TURNTABLE STEPS

Access to the turntable will be provided by a set of swing-down steps on the left side of the truck.

The access steps will be located just behind the front body and in front of the middle stabilizer.

All steps will have a height no greater than 14.00" from top surface to top surface.

The swing down step mechanism will be constructed of brushed aluminum with aluminum treadplate steps. The steps will be designed with a grip pattern punched into the treadplate material to provide support, slip resistance, and drainage.

The stepwell will be lined with bright aluminum treadplate to act as scuffplates.

A Hansen knurled aluminum illuminated handrail will be provided on the left side of the access steps. The end stanchions will be provided by Hansen. The lights will be activated when the parking brake is applied. The light will be blue.

Holes will be provided in each side step plate for hand holds.

The bottom step will have a step height not exceeding 24.00" from the ground to the top surface of the step at any time.

The steps will be connected to the "Do Not Move Truck" indicator in the cab.

STEP LIGHTS

There will be three (3) white LED step lights provided for the aerial turntable access steps.

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

The step lights will be actuated by the aerial master switch in the cab.

SMOOTH ALUMINUM REAR WALL

The rear wall will be smooth aluminum.

TOW EYES

Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the frame rails. The inner and outer edges of the tow eyes will be radiused.

COMPARTMENTATION

Compartmentation will be fabricated of 0.125" 5052 aluminum.

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

Circular fender liners will be provided. For prevention of rust pockets and ease of maintenance, the fender liners will be formed from aluminum and removable for maintenance.

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

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

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

Side compartment covers will be separate from the compartment tops.

All screws and bolts, which are not Grade 8, will be stainless steel and where they protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

The backbone of the body support system will begin with the aerial torque box which is the strongest component of the apparatus and is designed for sustaining maximum loads.

An aluminum body structure will be mounted to the aerial torque box at four (4) points using neoprene elastomer isolators. The front mounts will attach from structural steel brackets on the sides of the torque box to a structural tube on the body. The rear mounts will attach structural members on the rear body to the top of the rear down rigger mounting structure.

The combination of the elastomer isolators and the body structure design allow the chassis and torque box to flex without driving loads into the body.

The compartment floor support design will result in an 800 lb equipment support rating per lower compartment, and a 500 lb equipment support rating for the upper, over the axle compartments.

AGGRESSIVE WALKING SURFACE

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

LOUVERS

All body compartments will be vented to provide one (1) way airflow out of the compartment that prevents water and dirt from gaining access to the compartment.

TESTING OF BODY DESIGN

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

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

The criteria used during the testing procedure will include:

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

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

LEFT SIDE COMPARTMENTATION

A full height rollup door compartment ahead of the rear wheels will be 29.16" wide x 28.25" high x 27.13" deep inside with a door opening of 26.13" wide x 22.63" high.

One (1) rollup door compartment above the fender compartments and over the rear axles will be provided. The compartment will be 84.00" wide x 22.13" high x 27.13" deep inside with a door opening of 81.00" wide x 16.50" high.

A full height rollup door compartment behind the rear wheels will be 41.25" wide x 53.88" high x 27.13" deep. The door opening will be 38.25" wide x 48.25" high.

One (1) rollup door compartment behind the rear stabilizer will be provided. The compartment will be 18.13" wide x 45.75" high x 27.13" deep inside with a door opening of 15.13" wide x 39.13" high.

Roll-up door compartments will include a drip pan below the roll of the door.

RIGHT SIDE COMPARTMENTATION

A full height rollup door compartment ahead of the front stabilizer will be provided. The compartment will be 18.38" wide x 35.25" high x 9.91" deep inside with a door opening of 15.38" wide x 29.63" high.

A full height rollup door compartment ahead of the rear wheels will be 29.13" wide x 28.25" high x 27.13" deep inside with a door opening of 26.13" wide x 22.63" high.

One (1) rollup door compartment above the fender compartments and over the rear axles will be provided. The compartment will be 59.00" wide x 22.13" high x 15.75" deep inside with a door opening of 56.00" wide x 16.50" high.

A full height rollup door compartment behind the rear wheels will be 41.25" wide x 53.88" high x 27.13" deep in the lower 48.38" of compartment height and 12.75" deep in the remaining upper portion. The door opening will be 38.25" wide x 48.25" high.

One (1) rollup door compartment behind the rear stabilizer will be provided. The compartment will be 18.13" wide x 39.25" high x 27.13" deep inside with a door opening of 15.13" wide x 39.13" high.

Roll-up door compartments will include a drip pan below the roll of the door.

SIDE COMPARTMENT ROLL-UP DOORS

There will be nine (9) compartment doors installed on the side compartments. The Gortite doors will be double faced aluminum construction and painted one (1) color to match the lower portion of the body.

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

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

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

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

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

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

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

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

REAR BUMPER

A 3.00" rear bumper will be furnished. Bumper will be constructed of steel and will be covered with polished aluminum treadplate. The bumper will be 2.50" deep x 4.00" high and will be spaced away from the body approximately 0.50". The corners of the bumper will be angled at 45 degrees to be flush with the angled rear body. It will extend the full width of the body.

COMPARTMENT LIGHTING

There will be nine (9) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment(s).

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

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

MOUNTING TRACKS

There will be recessed tracks installed vertically to support the adjustable shelf(s).

Tracks will not protrude into any compartment in order to provide the greatest compartment space and widest shelves possible.

The tracks will be provided in each compartment except for the one that contains the pump operator's panel.

ADJUSTABLE SHELVES

There will be three (3) shelves with a capacity of 500 lb provided.

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

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

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

The location(s) will be in RS2 centered between the floor and the ceiling, in LS2 centered between the floor and ceiling and in LS3 in the lower third to the left of the partition.

SLIDE-OUT ADJUSTABLE HEIGHT TRAY

There will be two (2) slide-out trays provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 250 lb in the extended position.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray(s) will be located LS4 upper third and RS4 upper third.

SLIDE-OUT/TILT-DOWN TRAY

There will be four (4) slide-out trays provided.

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

A spring loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. The tray will be equipped with ball bearing rollers for smooth operation.

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

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

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

The tray(s) will be located in LS2, LS3, RS2 and RS3.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be four (4) floor mounted slide-out tray(s) with 2.00" sides provided LS2, LS4, RS2 and RS4. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of .19" aluminum with non-welded corners. The finish will be painted to match compartment interior.

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

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

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

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

SWING OUT TOOLBOARD

A swing out aluminum toolboard will be provided.

It will be a minimum of .188" thick with .203" diameter holes in a pegboard pattern with 1.00" centers between holes.

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

The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 lb.

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

The board will be mounted on adjustable tracks from front to back within the compartment.

There will be One (1) toolboard(s) provided. The toolboard(s) will be spatter gray painted and installed in LS3 ahead of vertical partition.

COMPARTMENT FLOOR SCUFFPLATE

DuraSurf will be provided on the floor of one (1) compartment(s). The LS3 compartment(s) will be lined.

VERTICAL COMPARTMENT PARTITION

One (1) partition will be provided.

The partition construction will consist of body material painted spatter gray. Each partition will be the full vertical height of the compartment.

The location(s) will be in LS3, 60.00" from the forward door frame.

RUB RAIL

The bottom edge of the body panels will have a 2.00" high rubber rub rail the length of the body for protection.

BODY FENDER CROWNS

Rubber fender crowns will be provided around the rear wheel openings.

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

HARD SUCTION HOSE

Hard suction hose will not be required.

HANDRAILS

The handrails will be Hansen LED backlit knurled aluminum. The handrails will be lit with a blue LED light. The handrails will be activated with the application of the parking brake.

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

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

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

STORAGE COMPARTMENT

A total of one (1) air bottle compartment will be provided and located on the left side centered between the tandem rear wheels. The compartment will be designed to hold equipment with a maximum depth of 26.00". The compartment will be one (1) large compartment with no divider or partitions.

A drain hole and black Dura-Surf friction reducing material will be provided on the floor of each compartment. A lift up with pneumatic spring with pair of Southco raised trigger C2 chrome lever latches will be provided for each compartment. The door will be polished stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

COMPARTMENT STRAP

A strap will be provided in the compartment(s) to help contain the equipment.

THREE AIR BOTTLE/EXTINGUISHER STORAGE COMPARTMENT

A total of one (1) air bottle compartment will be provided and located on the right side centered between the tandem rear wheels. The compartment will consist of individual bins each designed to hold an air bottles or extinguishers with a maximum diameter of 8.00" and a maximum depth of 26.00".

Each compartment will hold three (3), two (2) stored next to each other in the top area, and one (1) stored centered below. Each bin will be separated by a partition.

A drain hole and black rubber matting will be provided on the floor of each compartment. A lift up with pneumatic spring with a pair of Southco raised trigger C2 chrome lever latches will be provided for each compartment. The door will be polished stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

COMPARTMENT STRAP

Straps will be provided in the compartment(s) to help contain the equipment. The straps will wrap around the neck of each and attach to the wall of the compartment.

AIR BOTTLE STORAGE (SINGLE)

A quantity of two (2) air bottle compartments, approximately 7.50" wide x 7.50" tall x 26.00" deep, will be provided on the left side forward of the rear wheels and on the left side rearward of the rear wheels. The compartment will be square with angled corners. A polished stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

EXTINGUISHER STORAGE

A quantity of two (2) extinguisher compartments will be provided on the right side forward of the rear wheels and on the right side rearward of the rear wheels. The extinguisher compartment will be in the form of a 8.50" square tube and of adequate depth to accommodate different size extinguishers. A polished stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the extinguisher. A dielectric barrier will be provided between the door hinge, hinge fasteners, and the body sheet metal.

Inside the compartment, black rubber matting will be provided. There will also be a drain hole for each compartment.

EXTENSION LADDER

There will be two (2) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided.

AERIAL EXTENSION LADDERS

There will be one (1) 28' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided and located in the aerial torque box.

ROOF LADDER

There will be one (1) 20' aluminum, Duo-Safety, Series 875-DR roof ladder(s) provided.

ADDED ROOF LADDER

There will be one (1) 16' roof, aluminum, Series 875-A-DR provided.

AERIAL FOLDING LADDER

There will be one (1) 12' aluminum Duo-Safety Series 585-A folding ladder(s) provided.

GROUND LADDER STORAGE

The ground ladders are stored within the torque box and are removable from the rear.

Ladders will be enclosed to prevent road dirt and debris from fouling or damaging the ladders.

The ladders rest in full length stainless steel slides and are arranged in such a manner that any one ladder can be removed without having to move or remove any other ladder.

A Gortite rollup door will be provided at the rear, double faced, aluminum construction, and an anodized satin finish. A polished stainless steel lift bar to be provided for the rear roll-up door. The latching mechanism will consist of a full length lift bar lock with latches on the outer extrusion of the door frame.

A stainless plate with a 2-bend flange and a stainless steel hinge will be provided to secure the aerial ladder complement. The plate assembly will be mounted to the bottom of the entrance of the torque box ladder storage area.

When the plate is vertical, it will secure the ladders and prevent them from migrating to the rear of the apparatus. When the plate is down and not securing the ladders, the rollup door can not close, which will activate the "Open Door Indicator Light" within the cab. The hinged plate will have a positive latching feature that will secure the plate in the vertical position.

Compartment Storage

Below the ground ladder storage will be a water resistant storage compartment with interior measurements of 36.75" wide x 14.88" high x 19.75" deep. The compartment will have a single pan, drop down door with a pair of Southco raised trigger C2 chrome latches. The compartment and door material will match body interior. The opening will be 32.38" wide x 11.75" high.

LADDER STORAGE LIGHTING

There will be 36.00" white 12 volt DC LED strip lights provided to illuminate the torque box ladder storage area and the compartment directly below the ladder storage. One (1) light will be provided on each side of the ladder storage area.

The lights will be activated when the ladder storage compartment door is opened.

12' PIKE POLE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires two (2) pike poles mounted in brackets fastened to the apparatus.

The pike poles are not on the apparatus as manufactured. The fire department will provide and mount the pike poles.

There will be one (1) 12' pike pole(s) provided. The pike pole(s) will be a Duo-Safety 12' pike pole.

PIKE POLE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) 8' or longer pike pole mounted in a bracket fastened to the apparatus.

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

There will be one (1) pike pole(s) provided. The pike pole(s) will be a Duo-Safety 10' pike pole.

6' PIKE POLE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one 6' pike pole or plaster hook mounted in a bracket fastened to the apparatus.

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

There will be two (2) 6' pike pole(s) provided. The pike pole(s) will be a Fire Hooks Unlimited 6 foot and 8 foot roof hook.

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE

There will be a total of one (1) stainless steel trough(s) provided in the torque box/ladder storage area.

The trough(s) will accommodate a Fire Hooks Unlimited 10' arson trash hook with D handle.

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE

There will be aluminum tubing provided in the torque box/ladder storage area for a total of four (4) pike poles. The pike pole tube(s) will be notched to allow a New York style pike pole to fit in the tube.

If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided.

MIDSHIP FIRE PUMP

Midship fire pump will be a Waterous S100, 2000 gpm single (1) stage midship mounted centrifugal type.

Pump will be the class "A" type.

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

- 100% of rated capacity at 150 psi net pump pressure.

- 100% of rated capacity at 165 psi net pump pressure.

-70% of rated capacity at 200 psi net pump pressure.

-50% of rated capacity at 250 psi net pump pressure.

Entire pump and both suction and discharge passages will be hydrostatically tested to a pressure of 600 psi (40.8 bar).

Pump will be fully tested at the pump manufacturer's factory to the performance requirements outlined in the current NFPA 1901 standards and will be free from objectionable pulsation and vibration.

Pump body and related parts will be of fine grain, alloy cast iron with a minimum tensile strength of 30,000 psi (2041.2 bar).

All moving parts in contact with water will be of high quality bronze or stainless steel.

MECHANICAL SEAL ON PUMP

Pump will be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.

The mechanical seal will consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring will press against a highly polished stainless steel stationary ring that is sealed within the pump body.

In addition, a throttling ring will be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance will not deteriorate, nor will the pump lose prime, while drafting if the seal fails during pump operation.

Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.

PUMP TRANSMISSION

Pump transmission will be made of a three (3) piece, high tensile aluminum, horizontally split casing. Power transfer to pump will be through a passive lubricated, Morse HY-VO drive chain.

Drive shafts will be a minimum of 2.35" diameter hardened and ground alloy steel. All shafts will be ball bearing supported. The case will be designed as to eliminate the need for water cooling.

PUMPING MODE

An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.

AIR PUMP SHIFT

Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel.

Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump".

The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

The pump shift control in the cab will be illuminated to meet NFPA requirements.

TRANSMISSION LOCK-UP

The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be cylindrical type and will be a separate unit. The heat exchanger will be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.

INTAKE RELIEF VALVE

There will be One (1) Trident Air Max intake relief valve(s) installed on the suction side of the pump preset at 125 psig .

The relief valve will have a working range of 50 PSI to 350 PSI.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

One adjustable air regulator and pressure indicating gauge will be located on a common bezel on the left side pump panel to control the intake valve(s).

PRESSURE CONTROLLER

A Pierce Pump Boss Model PBA300 pressure governor will be provided.

A pressure transducer will be installed in the water discharge manifold on the pump.

The display panel will be located at the pump operator's panel.

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control will open the priming valve and start the pump primer.

PUMP MANUALS

There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.

FOAM SYSTEM PLUMBING

All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.

MAIN PUMP INLETS

Two (2) 6.00" pump inlets will be provided on the right side of the vehicle.

The suction inlets will include removable zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

MAIN PUMP INLET CAP PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 16.6.8 requires all intakes to be provided with caps or closures capable of withstanding a hydrostatic gauge pressure of 500 psi.

The caps are not on the apparatus as manufactured. The fire department will provide both caps for the main pump inlets.

SHORT SUCTION TUBE(S)

The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.

VALVES

All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a **ten (10) year** warranty.

LEFT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

The location of the valve for the one (1) inlet will be recessed behind the pump panel.

ANODE, INLET

A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.

INLET CONTROL

The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

INLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS

There will be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE DISCHARGE OUTLETS

There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

LARGE DIAMETER DISCHARGE OUTLET

There will be a 4.00" discharge outlet with a 4.00" Akron valve installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread adapter. This discharge outlet will be actuated with a small handwheel control at the pump operator's control panel.

An indicator will be provided to show when the valve is in the closed position.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with S/S cables will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.

Chrome plated, rocker lug, plugs with S/S cables will be furnished for all auxiliary inlets 1.00" thru 3.00" in size.

The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

LARGE DIAMETER OUTLET ELBOWS

The 4.00" outlet(s) will be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.

DISCHARGE OUTLET CONTROLS

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.

AERIAL OUTLET

The aerial waterway will be plumbed from the pump to the water tower line with 5.00" pipe and a 4.00" Akron valve. The small handwheel control for the waterway valve will be located at the pump operator's panel.

An indicator will be provided to show the position of the valve.

CROSSLAY HOSE BEDS

One (1) crosslay with 1.50" outlets will be provided. Each bed to be capable of carrying 200' of 1.75" double jacketed hose and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.

Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay controls will be at the pump operator's panel.

The center crosslay dividers will be fabricated of 0.25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish.

Stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) will also be equipped with a stainless steel scuffplate.

Crosslay bed flooring will consist of removable perforated brushed aluminum.

2.50" CROSSLAY HOSE BED

One (1) crosslay with a 2.50" outlet will be provided. This bed to be capable of carrying 200' of 2.50" double jacketed hose and will be plumbed with 2.50" i.d. pipe and gated with a 2.50" quarter turn ball valve.

Outlet to be equipped with a 2.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay control will be at the pump operator's panel.

The center crosslay dividers will be fabricated of 0.25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish.

Stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) will also be equipped with a stainless steel scuffplate.

Crosslay bed flooring will consist of removable perforated brushed aluminum.

CROSSLAY HOSE RESTRAINT

A 2.00" black nylon webbing design restraint will be provided at each of the ends of two (2) crosslay(s) to secure the hose during travel. The webbing assembly is to be attached at the bottom of the crosslays, with footman loops and a permanent attachment, and is to attach at the top outside corners with seat belt buckles. The female end of the seat buckle will be permanently attached at the top corner of the opening. A bar will be attached to the female ends of the seat belt buckles to allow a single pull release. A single red nylon strap will be attached to the bar for releasing the buckles on the webbing.

FOAM PROPORTIONER

A Pierce Husky™ 12 foam proportioning system will be provided that is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically balance and proportion foam solution at rates from .1 percent to 9.9 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system will allow operation from draft, hydrant, or relay operation. This will provide a versatile system to meet the demands at a fire scene.

SYSTEM CAPACITY

The system will have the ability to deliver the following minimum foam solution flow rates that meet or exceed NFPA requirements at a pump rating of 250 psi.

200 gpm @ 6 percent

400 gpm @ 3 percent

1200 gpm @ 1 percent

The foam concentrate setting may be adjusted in .1 percent increments from .1 percent to 9.9 percent. Typical settings are .3 percent, .5 percent and 1.0 percent (The maximum capacity will be limited to the plumbing and water pump capacity).

CONTROL SYSTEM

The system will be equipped with a digital electronic control display located on the pump operators panel. Push button controls will be integrated into the panel to turn the system on/off, control the foam percentage, direct which foam to use on a multi-tank system, and to set the operation modes (automatic, manual, draft, calibration, or flush).

The percent of injection will have presets for Class A or Class B foam. These presets can be changed at the fire department as desired. The percent of injection will be able to be easily changed at the scene to adjust to changing demands.

In order to minimize the use of abbreviations and interpretations, system information will be displayed on the panel by way of .50 tall LEDs that total 14 characters (two (2) lines of seven (7) each). System on and foam pump on indicator lights will also be included. Information displayed will include mode of operation (automatic, manual, draft, calibration, or flush), foam supply selected (Class A or Class B), water total, foam total, foam percentage, remaining gallons, and time remaining.

The control display will direct a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump.

LOW LEVEL FOAM TANK

The control head will display a warning message when the foam tank in use is below a quarter tank.

HYDRAULIC DRIVE SYSTEM

The foam concentrate pump will be powered by a hydraulic drive system, which is automatically activated, whenever the vehicle water pump is engaged. A large parasitic electric load used to power the foam pump can cause an overload of the chassis electrical system.

Hydraulic oil cooler will be provided to automatically prevent overheating of the hydraulic oil, which is detrimental to system components. The oil/water cooler will be designed to allow continuous system operation without allowing hydraulic oil temperature to exceed the oil specifications.

The hydraulic oil reservoir will be of four (4) gallons minimum capacity and will also be of sufficient size to minimize foaming and be located to facilitate checking oil level or adding oil without spillage or the need to remove access panels.

FOAM CONCENTRATE PUMP

The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic motor. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum will be present in its construction.

A relief system will be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump

The foam concentrate pump will have minimum capacity for 12 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.

EXTERNAL FOAM CONCENTRATE CONNECTION

An external foam pick-up will be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty. The external foam pick-up will be designed to allow use with training foam or colored water for training purposes.

PANEL MOUNTED STRAINER / EXTERNAL PICK-UP CONNECTION

A bronze body strainer / connector unit will be provided. The unit will be mounted to the pump panel. The external foam pick-up will be one (1) 1.00" male connection with chrome-plated cap integrated to a 2.00" strainer cleanout cap. A check valve will be installed in the pick-up portion of the cleanout cap. A basket style stainless steel screen will be installed in the body of the strainer / connector unit. Removal of the 2.00" cleanout cap will be all that is required to gain access to and remove the stainless steel basket screen. The strainer / connector unit will be ahead of the foam concentrate pump inlet port to insure that all agents reaching the foam pump has been strained.

PICK-UP HOSE

A 1.00" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a 1.00" female swivel NST thread swivel connector. The hose will be shipped loose.

DISCHARGES

The foam system will be plumbed to the lower speedlay and upper speedlay.

SYSTEM ELECTRICAL LOAD

The foam proportioning will not impose an electrical load on the vehicle electrical system any greater than five (5) amps at 12VDC.

FOAM SUPPLY VALVE

An electric valve will be used for the foam supply valve. The foam supply valve will be controlled at the foam system control head for ease of operation. The supply valve will be electric, remote controlled, to eliminate air pockets in the foam tank supply hose.

MAINTENANCE MESSAGE

A message will be displayed on the control head to advise when system maintenance needs to be performed. The message will display interval for cleaning the foam strainer, cleaning for the water strainers, and changing the hydraulic oil.

FLUSH SYSTEM

The system will be designed such that a flush mode will be provided to allow the system to flush all foam concentrate with clear water. The flush circuit control logic will ensure the foam tank supply valve is closed prior to opening the flush valve. The flush valve will be operated at the foam system control head for ease of operation. The valve will be electrically controlled and located as close to the foam tank supply valve as possible. A manual flush drain valve will be labeled and located under the left side running board.

SINGLE FOAM TANK REFILL

The foam system's proportioning pump will be used to fill the Class A foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A

foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller stating TANK FILL. While the proportioner pump is filling the tank, the controller will display FILL TANK. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will display TANK FULL.

FOAM SYSTEM TRAINING

The fire department will be provided training for the foam / CAFS system installed on their apparatus. The operation of the systems will only be demonstrated by factory approved or certified personnel.

This demonstration will include:

- A review of the foam system manual, emphasizing key areas
- A walk around review of the system components on the finished truck
- A hands-on foam / CAFS system startup and foam discharge session
- Instructions on the use of the manual overrides
- A demonstration explaining the proper way to shutdown and flush the foam system.

FOAM TANK

The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 25 gallons of foam with the intended use of Class A foam. The foam cell will reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

FOAM TANK DRAIN

A system of 1.00" foam tank drains will be provided, integrated into the foam systems strainer and tank to foam pump valve management system. The tank to pump hoses running from the tank(s) to the panel mounted strainer will 1.00" diameter. The foam system controller will have a mode that allows for a given foam valve to be opened at will. Flow of foam from the tank valve to the strainer will be usable as a tank drain mode.

An adaptor will be supplied, that allows the 1.00" foam intake screen to assembly to be used as a drain outlet. The standard supplied 1.00" foam pick up hose will be attached to the screen assembly by way of the adaptor. The drain mode will allow the operator to open and close the tank valve as required from the control head, to drain foam and re-fill foam containers through the connected hose, without foam spillage beneath the vehicle.

PUMP COMPARTMENT

The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. The pump compartment will be constructed of the same material as the body compartmentation.

The pump compartment substructure will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly.

PUMP MOUNTING

Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.

LEFT SIDE PUMP CONTROL PANELS

All pump controls and gauges will be located at the left side of the apparatus and properly identified.

Layout of the pump control panel will be ergonomically efficient and systematically organized.

The pump operator's control panel will be removable in two (2) main sections for ease of maintenance:

The upper section will contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels will be removable from the face of the pump panel for ease of maintenance. Below the sub panels will be located all valve controls and line pressure gauges.

The lower section of the panel will contain all inlets, outlets, and drains.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding. The linkage from the control rod to the valve will be stainless steel, this will not include the clevis ends of the linkage which will remain anodized steel.

IDENTIFICATION TAGS

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting will be removable from the face of the pump panel for ease of maintenance. The casting will be color coded to correspond with the discharge identification tag.

All remaining identification tags will be mounted on the pump panel in chrome plated bezels.

Trim rings will be installed around all inlets and outlets.

PUMP PANEL CONFIGURATION

The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.

PUMP OPERATOR'S PLATFORM

A pull out, flip down platform will be provided at the pump operator's control panel.

The front edge and the top surface of the platform will be made of DA finished aluminum with a Morton Cass insert.

The platform will be approximately 13.75" deep when in the stowed position and approximately 22.00" deep when extended. The platform stepping surface will be 28.00" wide. The platform will lock in the retracted and the extended position.

The platform will be wired to the "step not stowed" indicator in the cab.

PUMP OPERATOR'S PLATFORM PERIMETER LIGHT

There will be a TecNiq, Model T10-LC00-1, 15.00" white 12 volt DC LED strip light provided to illuminate the ground area.

PUMP AND GAUGE PANEL

The pump and gauge panels will be constructed of aluminum with a painted FormCoat black finish. A polished aluminum trim molding will be provided around each panel.

The right side pump panel will be removable and fastened with recessed chrome plated lift and turn type fasteners.

PUMP COMPARTMENT LIGHT

A pump compartment light will be provided inside the right side pump enclosure and accessible through a door on the pump panel.

A .125" weep hole will be provided in each light lens, preventing moisture retention.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

OK TO PUMP INDICATOR LIGHT

There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.

AIR HORN SWITCH

An air horn control switch will be provided at the pump operator's control panel. This switch will be red and properly labeled. The switch will be located within easy reach of the operator in the electrical switch panel.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1© interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

WATER LEVEL GAUGE

There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will

provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

There will be a Hale part number 106877, 4-light driver module included with this installation to power additional water level gauges.

The system(s) will be energized when parking brake is applied.

WATER LEVEL GAUGE

A water level gauge system shall be provided high each side rearward of crew cab doors. Each system shall be provided with four (4) Whelen 50*02Z*R Linear LED lights with chrome flanges. The total quantity of water level gauge systems to be provided shall be two (2).

The lights will be mounted and indicate the following:

- The top green light with green lens - water level full.
- Next blue light with blue lens - water level 3/4 full.
- Next amber light with amber lens - water level 1/2 full
- Bottom red light with red lens - water level 1/4 full when on solid and will flash when empty.

The flash rate will be determined by the main water tank sensor.

The above system will function similar to the standard five (5) light at the pump panel. The system shall activate parking brake is applied.

FOAM LEVEL GAUGE

An electronic foam level gauge will be provided on the operator's panel that registers foam level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The foam level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer

will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level.

PUMP PANEL ILLUMINATION

There will be a stainless steel light shield installed over the pump operators panel. This shield will include three (3) 12 volt DC white LED lights to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch.

There will be two (2) 12 volt DC white LED lights to illuminate the pump panel under the pump operators panel. These lights will be activated by the same switch as the lights over the pump operators panel.

There will be one (1) 12 volt DC white LED light to illuminate the pump panel under the pump operators panel. This light will be activated when the pump is in "Ok to Pump" mode.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

ADDITIONAL LIGHT SHIELD

An additional light shield will be provided above passenger's side pump panel. The pump panel will be illuminated by three (3) LED lights installed under a stainless steel light shield.

The lights will be operated from a switch on the pump panel.

AIR HORN SYSTEM

There will be two (2) Grover air horns recessed in the front bumper. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.

Air Horn Location

The air horns will be located on each side of the bumper, inside of the frame rails.

AIR HORN CONTROL

The air horn(s) will be activated by the following:

- Right side momentary switch
- Steering wheel horn ring with electric/air horn selector switch

ELECTRONIC SIREN

A Whelen, Model: 295SLSC1, electronic siren with detachable noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the driver side center switch panel.

The electronic siren shall be actuated by a push button located on the officer's side overhead switch panel, the siren head, and by the horn button in the steering wheel.

The driver shall have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

SPEAKERS

There will be two (2) Whelen®, Model SA315P, black nylon composite, 100-watt, speakers with through bumper mounting brackets and polished stainless steel grille provided. Each speaker will be connected to the siren amplifier.

The speakers will be recessed in each side of the front bumper, just outside of the frame rails.

AUXILIARY MECHANICAL SIREN

A Federal Q2B® siren will be furnished.

The control solenoid will be powered up after the emergency master switch is activated.

The mechanical siren will be mounted recessed in the front grille. The siren mounting will include a reinforcement plate.

MECHANICAL SIREN CONTROL

The mechanical siren will be activated by the following:

- Left side foot switch.
- Right side momentary switch.

A momentary red switch will be included in the left side overhead switch panel to activate the siren brake.

A momentary red switch will be included in the right side overhead switch panel to activate the siren brake.

FRONT ZONE UPPER WARNING LIGHTS

There will be one (1) 72.00" Whelen® Freedom™ IV LED lightbar mounted on the cab roof.

The lightbar will include the following:

- One (1) red flashing LED module in the left side end position.
- One (1) red flashing LED module in the left side front corner position.
- One (1) red flashing LED module in the left side first front position.
- One (1) white flashing LED module in the left side second front position.
- One (1) blue flashing LED module in the left side third front position.
- One (1) blue flashing LED module in the left side fourth front position.
- Open in the left side fifth front position.
- Open in the left side sixth front position.
- Open in the right side sixth front position.
- Open in the right side fifth front position.

- One (1) red flashing LED module in the right side fourth front position.
- One (1) red flashing LED module in the right side third front position.
- One (1) white flashing LED module in the right side second front position.
- One (1) blue flashing LED module in the right side first front position.
- One (1) blue flashing LED module in the right side front corner position.
- One (1) blue flashing LED module in the right side end position.

There will be clear lenses included on the lightbar.

There will be a switch installed in the cab on the switch panel to control this lightbar.

The two (2) white flashing LED modules will be disabled when the parking brake is applied.

The three (3) red flashing LED modules in the front positions and the two (2) blue flashing LED modules on the left side may be load managed when the parking brake is applied.

CAB FACE WARNING LIGHTS

There will be four (4) Whelen®, Model M6*C, LED flashing warning lights installed on the cab face, above the headlights, mounted in a common bezel.

- The driver's side front outside warning light to be red
- The driver's side front inside warning light to be blue
- The passenger's side front inside light to be green
- The passenger's side front outside warning light to be red

All four (4) lights will include a clear lens.

There will be a switch located in the cab, on the switch panel, to control the four (4) lights.

The inside lights may be load managed if colored or disabled if white, when the parking brake is set.

ROTO RAY LIGHT

There will be one (1) Roto Ray, Model 4000W rotating warning light provided on the front of the cab mounted through the top section of the front grille.

This warning light will include the following:

- Two (2) PAR46 lights with red LEDs and clear lenses
- One (1) PAR46 light with white LEDs and a clear lens

There will be a switch in the cab on the switch panel to control this light.

The rotation motor and the warning lights will be deactivated when the parking brake is applied.

HEADLIGHT FLASHER

The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING

There will be six (6) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) lights, one (1) each side of cab rearward of crew cab doors. The side middle lights to be blue.
- Two (2) lights, one (1) each side located between the tandems. The side rear lights to be blue.
- The lights will include clear lenses.

There will be a switch in the cab on the switch panel to control the lights.

SIDE WARNING LIGHTS

There will be four (4) Whelen®, Model WIONSM**, 1.69" high x 5.94" long x 1.13" deep flashing LED warning light(s) with chrome trim light(s) located, as far forward at the LS forward body rolled edge of treadplate, as far rearward over LS2, as far forward at the RS forward body rolled edge of treadplate and as far rearward over RS2.

The light(s) to include red LEDs with a clear lens.

The light(s) will be activated with the side warning switch.

White LEDs will be deactivated when the parking brake is applied.

Amber, blue, green or red LEDs may be load managed when the parking brake is applied.

REAR ZONE LOWER LIGHTING

There will be two (2) Whelen®, Model M6*C, LED flashing warning lights located at the rear of the apparatus.

- The driver's side rear light to be blue
- The passenger's side rear light to be red

Both lights will include a lens that is clear.

There will be a switch located in the cab on the switch panel to control the lights.

REAR WARNING LIGHTS

There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided at the rear of the apparatus, high each side of the rear bulkhead per the AD.

The light(s) to include green flashing LEDs. The warning light lens color(s) to be clear.

These light(s) will be controlled with the rear upper warning switch.

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

REAR OF HOSE BED WARNING LIGHTS

There will be two (2) Whelen, Model L31H*F, 4.00" high x 7.18" in diameter LED warning beacons provided at the rear of the truck.

- The driver's side beacon to include red LED's.
- The passenger's side beacon to include blue LED's.
- The lens will be clear.

There will be one (1) switch located in the cab on the switch panel that controls the beacons when the battery switch is on.

NOT REQUIRED, REAR UPPER ZONE BLOCKING LIGHTS

Rear upper zone blocking lights will not be required when beacon lights have clear lenses.

TRAFFIC DIRECTING LIGHT

There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen, Model TACTL5, control head will be included with this installation.

The controller shall be energized when the battery switch is on.

The auxiliary flash to be activated when the emergency master switch is on.

This traffic directing light shall be surface mounted over the rear door, inside the treadplate box at the rear of the apparatus.

The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.

120 VOLT RECEPTACLE

There will be four (4), 15/20 amp 120 volt AC three (3) wire straight blade duplex GFCI receptacle(s) with exterior flip up cover(s) installed 1 high corner left wall mount to the back wall LS2 compartment, 1 high corner right wall mount to the back wall RS2 compartment, 1 centered corner left wall mount to the back wall RS EMS cabinet and 1 centered corner right wall mount to back wall LS EMS . The NEMA configuration for the receptacles will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

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

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

AERIAL GENERAL INFORMATION

It is the intent of these specifications to describe a mid-mounted telescoping, elevating platform. The unit will consist of a five (5) section, steel ladder with a self-leveling basket attached to the ladder fly section.

Operation on Grades

The aerial unit will be capable of operating safely, on any slope up to 10 degrees at full capacities. (Operation beyond this limit will be at the operator's discretion).

Construction Standards

The ladder will be constructed to meet all of the requirements as described in the current edition of NFPA 1901.

These capabilities will be established in an unsupported configuration.

All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50 percent of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current NFPA 1901 standard.

All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20 percent of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current 1901 NFPA standard.

The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.

The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.

With the aerial device out of the cradle in the in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

The aerial device will be capable of operating in either of the two (2) following conditions:

- Conditions of high wind up to 35 mph
- Conditions of icing, up to a coating of 0.25" over the entire aerial structure

All of the design criteria must be supported by the following test data:

- Strain gage testing of the complete aerial device

The following criteria for materials are to be used in the design of the aerial device:

- Materials are to be certified by the mill that manufactured the material
- Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification.

Ladder Construction

The ladder will be comprised of five (5) sections and will extend to a nominal height, of 100' above the ground, as measured by 1901 recommendations. The ladder (handrails, baserails, trusses, k-braces and rungs) will be constructed of welded, high strength steel certified by the manufacturer as being a minimum of 100,000 lb per square inch of yield strength. All critical points will be reinforced, for extra rigidity, and to provide a high strength-to-weight ratio. Ladder rungs will be round and welded to each section in two (2) places with "K" bracing for torsional rigidity. A minimum of 70.25" of overlap between each of the aerial sections will be provided.

The inside width dimensions of the ladder will be:

Base Section:	56.12"
Lower Mid Section:	46.12"
Center Mid Section:	36.62"
Upper Mid Section:	28.12"
Fly Section:	22.12"

The height of the handrails above the centerline of the rungs will be:

Base Section:	40.72"
Lower Mid Section:	39.08"
Center Mid Section:	32.32"
Upper Mid Section:	29.02"
Fly Section:	26.37"

Vertical Height

The height of the unit will extend to no less than 100', as measured by a plumb line from the top surface of the basket handrail assembly to the ground, with the basket raised to a 77 degree angle.

Horizontal Reach

The rated horizontal reach will be 93'. The measurement of horizontal reach will be consistent with NFPA standards.

Mounting of Elevating Platform

The aerial device will be mid mounted, to a torque box, on the truck chassis.

Torque Box

A "torsion box" subframe will be installed between two sets of stabilizers. The torque box will be constructed of 100,000 lb per square inch yield steel with an integral ladder storage box. The torque

box assembly will be capable of withstanding all torsional and horizontal loads when the unit is on the stabilizers. The torque box will be bolted to the chassis frame rails using forty-eight 0.750" SAE grade 8 bolts with nuts.

Turntable

The turntable will be coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements in the current NFPA 1901 standard.

The turntable will serve as a step for access to the ladder.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel height of the vehicle. The handrails will be constructed from 1.62" diameter extruded 6061-T6 aluminum with a slip resistant knurled surface. The handrails will be anodized to resist corrosion.

Elevation System

Two (2) double acting, lift cylinders will be utilized to provide smooth, precise elevation from 15 degrees below horizontal to 77 degrees above horizontal. The lift cylinder will be attached to each side of the base section. The lift cylinders will have a 7.50" internal diameter (bore), 3.50" diameter cylinder rod and a 53.89" stroke. The lift cylinder rod will be chrome plated, to provide smooth operation of the aerial and reduce seal wear. The lift cylinders will be equipped with integral holding valves located in the cylinder, to prevent the unit from descending should the charged lines be severed, at any point within the hydraulic system and to maintain the ladder in the bedded position during road travel. The integral holding valves will NOT be located in the transfer tubes.

The elevation system will be controlled by the microprocessor. The microprocessor will provide the following features:

- Collision avoidance of the elevation system to prevent accidental body damage
- Automatic deceleration when the aerial device is lowered into the cradle
- Automatic deceleration at the end of stroke, in maximum raise and lower positions
- Deceleration of the aerial device from 0 to -15 degrees

Extension/Retraction System

A hydraulically powered, extension and retraction system will be provided through dual hydraulic cylinders and wire ropes. The extension cylinder will have a 6.50" internal diameter (bore), 2.75" diameter rod and a 53.12" stroke. Each set will be capable of operating the ladder in the event of a failure, of the other. For safety, systems that use only a single extension/retraction system will not be acceptable. The extension cylinder rod will be chrome plated to provide smooth operation of the aerial device and reduce seal wear. The extension/retraction cylinders will be equipped, with integral holding valves, to prevent the unit from retracting should the charged line be severed, at any point within the hydraulic system. The integral holding valves will NOT be located in the transfer tubes.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of

seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The extension/retraction system will be controlled by the microprocessor. The microprocessor will provide the following features:

- Automatic deceleration at the end of stroke, in maximum extend and retract positions
- Controls the rate of retraction while flowing water

All sheaves and sheave pins will utilize greasable bronze bushings. Sheave pins will be polished stainless steel.

Rotation System

A 54.00" diameter, external tooth, monorace rotation bearing will be used for the rotation system and will provide 360 degree continuous rotation. The turntable will be bolted to the bearing using 30 SAE grade 8, 0.875" diameter bolts. To secure the bearing to the base support, 36 grade 8, 0.875" diameter bolts will be used. The turntable base and the torque box bearing plate will be machined to fit the bearing, thereby providing even distribution of forces. Two (2) hydraulically driven, planetary gear boxes, with drive speed reducer, will be used to provide infinite and minute rotation control, throughout the entire rotational travel. Each planetary gearbox has a torque rating of 130,000 lb per square inch. A spring applied, hydraulically released, disc type, swing brake will be furnished to provide positive braking of the turntable assembly. Provisions will be made for auxiliary operation of the rotation system should complete loss of normal hydraulic power occur.

The rotation system will be controlled by the microprocessor. The microprocessor will provide the following features:

- Envelope control of rotation system to prevent accidental body damage
- Prevent the aerial from being rotated into the short-jacked side of the unit

Manual Override Controls

Manual override controls will be provided for all aerial and stabilizer functions.

Ladder Slide Mechanism

Wear pads will be used between the telescoping ladder sections, to reduce friction for smoother operation. Slide pads will also be used to control side play between the ladder sections.

Basket Leveling System

A basket leveling system will be provided and so designed, that the basket with it's rated load, can be supported and maintained level, relative to the turntable, regardless of the elevation or flexion of the ladder.

The leveling of the basket features a hydraulic cylinder system mounted between the ladder fly section and the basket with each side capable of supporting the load, while maintaining the basket level.

The hydraulic circuitry includes pressure operated counter balance valves, on the load side of the cylinders, to prevent the basket from tipping should the hydraulic lines be severed.

The microprocessor will control the level of the basket during bedding operations, preventing the basket from hitting the body deck when the truck is setup on unlevel ground.

Rotation Interlock

The microprocessor will be used to prevent the rotation of the aerial device, to the side in which the stabilizers have not been fully deployed (short-jacked). The microprocessor will allow full and unrestricted use of the aerial, in the 180 degree area, on the side(s) where the stabilizers have been fully deployed. The system will also have a manual override, to comply with NFPA 1901.

Load Capacities

The following load capacities will be established with the stabilizers at full horizontal extension and placed in the down position to level the truck and to relieve the weight from the tires and axles. Capacities will be based upon full extension and 360 degree rotation.

A load chart, visible at the operator's station, will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension.

35 MPH Wind Conditions/Dry

Degree of Elevation	-15 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 77
Basket	1000	1000	1000	1000	1000	1000	1000
Fly	-	-	-	-	250	250	500
Upper Mid	-	-	-	-	250	250	500
Center Mid	-	-	250	250	250	500	500
Lower Mid	-	-	250	250	500	500	500
Base	-	250	500	500	500	500	750

Water Tower Operation

The following capacities will be based upon continuous 360 degree rotation and full extension.

35 MPH Wind Conditions/Water Charged

Degree of Elevation	-15 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 77
Basket	500	500	500	500	500	500	500
Fly	-	-	-	-	-	-	250
Upper Mid	-	-	-	-	-	250	250
Center Mid	-	-	-	-	250	250	500
Lower Mid	-	-	-	250	250	500	500
Base	-	-	250	250	250	500	500

Elevation -15 to 77 Degrees

The aerial device will be able to maintain the above load capacities while flowing up to 1500 GPM and a nozzle position of 0 to 90 degrees to either side of the ladder centerline, and as far above and below horizontal to the platform as nozzle design allows.

The aerial device will be able to maintain the above load capacities while flowing up to 2000 GPM and a nozzle position of 0 to 45 degrees to either side of the ladder centerline, and 30 degrees above horizontal and as far below horizontal to the platform as nozzle design allows.

Reduced loads in the basket can be redistributed in 250 lb Increments to the fly, mid, or base as needed.

Ladder Cradle Interlock System

A ladder cradle interlock system will be provided through the microprocessor to prevent the lifting of the aerial device from the nested position until the operator places all the stabilizers in a load supporting configuration. A switch will be installed at the boom support to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

AERIAL BOOM PANEL

There will be one boom panel provided on each side of the aerial ladder base section. The boom panel will be painted #118 white.

There will be two (2) holes in the face of the boom panel on each side to grease the extension cylinder sheave pins for required maintenance.

AERIAL DEVICE RUNG COVERS

Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating.

The rung covers will be glued to each rung, and will be easily replaceable should the rung cover become damaged.

The center portion of each rung cover will be black and the outside 2.00" edge at each side will be photoluminescent to assist in providing a light source for each rung during low light conditions.

Under no circumstances will the rung covers be fastened to the rungs using screws or rivets.

The rung covers will have a 10-year, limited warranty.

STABILITY TEST

An aerial stability test will be run on this apparatus using the maximum weight allowance for tip options.

SAW STORAGE BOX

There will be a total of two (2) storage box(es) provided at the base section of the aerial ladder, one (1) on each side of the aerial device. The box(es) will be painted to match the aerial device and located at the tip of the base section. The box(es) will have a hinged cover with D-handle latch and two (2) gas struts to secure the saw. The cover will have the same finish as the box. The box will have no louvers.

The maximum capacity of each box will be 25 lb.

STOKES STORAGE BRACKETS

There will be one (1) aluminum bracket(s) at the base section of the aerial ladder on the right side of the aerial device while viewed from the turntable. The brackets will be located above the aerial boom panel. The brackets will be DA finished and include locking pins to secure the basket.

BASKET STRUCTURE

The complete basket structure will be constructed of welded high strength steel certified by the manufacturer to have a minimum of 100,000 lb per square inch yield strength on all structural members. The aerial basket will be fully tested and independent third party certified.

The flooring of the basket will be multi-piece Morton Cass material, preventing the accumulation of water on the standing surface. The floor will measure approximately 33.63" long x 72.75" wide. The stepping surfaces will meet the skid-resistance requirements of current NFPA 1901 standard.

The outside basket steps used for transferring in and out of the basket will be at the same level as the basket floor and will be constructed of aluminum treadplate. The steps on the front and sides are approximately 8.00" deep. The front corners of the basket step will be mitered at 45 degrees to allow the basket to be maneuvered closer to buildings when approaching at an angle.

Four (4) stainless steel pompier belt safety loops will be attached to the inside of the basket. Two (2) lifting eyes will be provided on the bottom side of the basket support structure.

Four (4) rubber bumpers are provided on the bottom side of the basket structure for damage protection when setting it down on a surface.

The basket interior will be illuminated as required per the current edition of NFPA 1901. Electrical sub-components will be mounted under the basket in a enclosed area providing protection from heat exposure while allowing for easy servicing and maintaining an unobstructed basket interior.

BASKET SIDES

The sides of the basket will be of tubular steel construction and aluminum sheet skin, and along with the basket doors, will form a continuous 42.00" high wall around the basket.

PLATFORM ENTRANCES/EXITS

Two (2) swing-in, spring-loaded, self-closing doors will be of steel frame construction with an aluminum sheet skin and will be provided on the 45 degree angles at the front of the platform. A paddle style door latch will allow the basket doors to be opened from the outside by applying pressure to the paddle with the hand. The rear of the platform will be equipped with a vertical self-closing gate for transfer to and from the platform's ladder device.

ACCESSORY MOUNTING RECEPTACLES

Universal accessory mounting receptacles will be permanently affixed on the left side of the basket to receive options such as the rescue basket holders, rappelling arms, roof ladder brackets, winch, etc. Complete interchangeability will be required without modification to the basket.

LIGHTS FOR TURNTABLE WALKWAY

There will be On Scene Model 73006-WHW 6.00" long white LED lights and P25 white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch.

TURNTABLE CONSOLE LIGHTING

There will be one (1), TecNiq Model E10, white LED light mounted in the turntable console cover to illuminate the controls located on both the upper and lower portion of the turntable control station. These lights will be activated by the aerial master switch.

BASKET HEAT SHIELDS

A heat reflective shield, constructed of 0.063 aluminum will be provided on the front, sides, bottom, and access doors of the basket.

These heat shields will be painted to match the aerial device.

The heat shields on the bottom of the basket will be easily removable for ease of servicing components located under the basket.

INFORMATION CENTER

There will be an information center provided. The information center will operate in temperatures from - 40 to 185 degrees Fahrenheit. The information center will employ a Linux operating system and a 7.00" (diagonal measurement) LCD display. The LCD will have a 1000 nits rated color display. The LCD will be daylight visible. The LCD display will be encased in an ABS, grey plastic housing with a black decal. There will be five (5), weather-resistant user interface buttons provided. The LCD display can be changed to an optional single foreign language.

Operation

The information center will be designed for easy operation in everyday use. There will be a page button to cycle from one screen to the next screen in a rotating fashion. A video button will allow an NTSC camera signal into the information center to be displayed on the LCD. If any button is pressed while viewing a video feed, the information center will return to the vehicle information screens. There will be a menu button to provide access to maintenance, setup, and diagnostic screens. All other button labels will be specific to the information being viewed.

General Screen Design

Where possible, background colors will be used to provide vehicle information *At A Glance*. If the information provided on a screen is within acceptable limits, a green background color will be used. If the information provided on a screen is not within acceptable limits, an amber background color will indicate a caution condition and a red background color will indicate a warning condition.

Every screen in the information center will include the aerial tip temperature, the time (12- or 24-hour mode) and a text Alert Center. The time will be synchronized between all Command Zone color displays located on the vehicle. The Alert Center will display text messages for audible alarms. The text messages will identify any items causing the audible alarm to sound. If more than one (1) audible

alarm is activated, the text message for each alarm will cycle every second until the problems have been resolved. The background for the Alert Center will change to indicate the severity of the warning message. Amber will indicate a caution condition and red will indicate a warning condition. If a warning and a caution condition occur simultaneously, the red background color will be shown for all Alert Center messages.

A label will be provided for each button. The label will indicate the function for each active button for each screen. If the button is not utilized on specific screens, it will have a button label with no text.

Symbols will accurately depict the aerial device type the information pertains to such as rear mount ladder, rear mount platform, mid-mount ladder or mid-mount platform.

Page Screens

The Information center will include the following pages:

The Aerial Main and Load Chart page will indicate the following information:

Rungs Aligned and Rungs Not Aligned will be indicated with text and respective green or red colored ladder symbols.

Ladder Elevation will be indicated via a fire apparatus vehicle with ladder symbol with the degree of elevation indicated between the vehicle and ladder.

Water Flow (if applicable) will be indicated via a water nozzle symbol and text indicating flow / time.

Breathing Air Levels will be indicated via an air bottle symbol and text indicating the percent (%) of air remaining. A green bar graphs shown inside the bottle will indicate oxygen levels above 20 percent. A red bar graph will indicate oxygen levels at or below 20 percent. When oxygen levels are at or below 10 percent the red bar graph will flash.

The Aerial Load Chart will indicate the load limit on each section of the ladder based on actual ladder position and water flow (if applicable).

At A Glance color features will be utilized on this screen. Caution type conditions will be indicated via a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Aerial Reach and Hydraulic Systems page will indicate the following information:

Aerial Hydraulic Oil Temperature will be indicated with symbol and text. At a glance features will be utilized.

Aerial Hydraulic Oil Pressure will be indicated with a symbol and text. At a glance features will be utilized.

The following calculations will be indicated on a representative vehicle symbol:

Aerial Device Extension length.

Aerial Device Height indicating the height of the aerial device tip from the ground.

Aerial Device Reach indicating the horizontal distance the aerial reaches from the turntable.

Aerial Device Angle indicating the angle from the vehicle which the device is at.

At A Glance color features will be utilized on this screen. Caution type conditions will be indicated via a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Level Vehicle page will indicate the following information:

The grade of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of grade shown in text format. The symbol will tilt dependent on the vehicle grade.

The slope of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of slope shown in text format. The symbol will tilt dependent on the vehicle slope.

Outriggers status will be indicated via a colored symbol for each outrigger present. Each outrigger status will be defined as one of the following:

Outrigger stowed indicated with a silver pan located close to the vehicle

Outrigger fully extended indicated with a fully deployed green outrigger

Outrigger short-jacked indicated by a yellow outrigger partially deployed

Outrigger not set indicated by a red outrigger that is not set on the ground

A text box located on the vehicle symbol will be utilized to identify the overall status of the outrigger leveling system. The following status will be indicated in the text box:

Deployed status will indicate all outriggers are properly set on the ground at full extension

Shortjacked status will indicate one or more outriggers are set on the ground but not fully extended.

Not Set status will indicate one or more outriggers is not properly set on the ground.

Stowed status will indicate all outriggers are stowed for vehicle travel.

A bedding assist alert will indicate that the aerial device is being aligned by the Command Zone system as the operator lowers the aerial device into the cradle with the joystick.

At A Glance color features will be utilized on this screen. Caution type conditions will be indicated via a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

Menu Screens

The following screens will be available through the Menu button:

The View System Information screen will display aerial device hours, aerial PTO hours, ladder aligned for stowing, aerial rotation angle, total water flow (if applicable), and aerial waterway valve status (if applicable).

The Set Display Brightness screen will allow brightness increase and decrease and include a default setting button.

The Configure Video Mode screen will allow setting of video contrast, video color and video tint.

The Set Startup screen allows setting of the screen that will be active at vehicle power-up.

The Set Date and Time screen has a 12- or 24-hour format, and allows setting of the time and date.

The View Active Alarms screen shows a list of all active alarms including the date and time of each alarm occurrence and shows all alarms that are silenced.

The System Diagnostics screen allows the user to view system status for each module and its respective inputs and outputs. Viewable data will include the module type and ID number; the module version; and module diagnostics information including input or output number, the circuit number connected to that input or output, the circuit name (item connected to the circuit), status of the input or output, and other module diagnostic information.

Aerial calibrations screen indicates items that may be calibrated by the user and instructions to follow for proper calibration of the aerial device.

Button functions and button labels may change with each screen.

LOWER CONTROL STATION

A lower control station with pendant control will be located at the rear of the apparatus in an easily accessible area. The controls and indication labels will be illuminated for nighttime operation. The following items will be furnished at the lower control station and will be clearly identified and conveniently located for ease of operation and viewing:

- Level assist switch
- Override switch to override microprocessor
- Emergency power unit switch

AERIAL DEVICE CONTROL STATIONS

There will be two (2) aerial device control stations, one (1) will be referred to as the basket control station, and the other as the turntable control station. All elevation, extension, and rotation controls will operate from both of these locations. The controls will permit the operator to regulate the speed of the aerial functions, within the safe limits as determined by the manufacturer and NFPA standards. The controls will be clearly marked and illuminated for night time operation.

Each control will be equipped with an operator presence, preventing accidental activation.

TURNTABLE CONTROL STATION

The turntable control station will be located on the right side of the turntable so the operator may easily observe the basket while operating the controls. A console cover will be provided at the turntable control station. The controls will be so designed to allow the turntable control station to immediately override the basket controls even if the ladder is being operated by the basket controls.

The following items will also be provided at the turntable control station and be clearly identified and illuminated for nighttime operation and conveniently located for ease of operation and viewing:

- Three (3) separate controls for raise/lower, extend/retract, and left/right rotation
- Intercom controls
- Tip tracking light switch
- Emergency power unit switch
- Operator's load chart
- Two (2) position switch for selecting aerial operational speed
- Aerial monitor switches

BASKET CONTROL STATION

The basket control station will be located at the front, center of the platform basket. The following items will also be provided at the basket control station and be clearly identified and illuminated for nighttime operation and conveniently located for ease of operation and viewing:

- Three (3) separate controls for raise/lower, extend/retract, and left/right rotation
- Intercom controls
- Tip tracking light switch
- Basket leveling switches
- Operator's load chart
- Aerial monitor switches

HIGH IDLE

The high idle will be controlled by the microprocessor. The microprocessor will automatically adjust the engine rpm, to compensate for the amount of load placed upon the system. The system will include a safety device that allows activation of the high idle, only when the parking brake is set and the transmission is placed in neutral.

INTERIOR BASKET ILLUMINATION

There will be three (3) 20.00" weather resistant strip lights with white LEDs and stainless steel shield provided to illuminate the interior of the aerial basket.

- One (1) light over the control console
- One (1) light on the left side rear of the basket
- One (1) light on the right side rear of the basket

The lights will be activated when the battery switch is on and the aerial master switch is on.

STABILIZERS

The vehicle will come equipped with a stabilization system consisting of six (6) hydraulically operated stabilizers. The middle two (2) will be out and down style, the front and rear two (2) will be down only. This system will meet or exceed all requirements of the NFPA specifications related to stabilization and setup on sloped surfaces.

The stabilizer/leveling jacks will have a maximum spread of 18' measured from the centerline of the jack footpads when the beams are fully extended. The beams will be 6.81" wide x 13.00" high with 1.00" thick top and bottom plates and 1/2" thick sides of 100,000-PSI minimum yield strength steel. The cylinders will have pilot-operated check valves with thermal relief designed to ensure that the beams will not drift out of the stowed position during travel. Wear pads will guide the stabilizers.

The horizontal extension cylinders will be totally enclosed within the beams and will incorporate telescoping hydraulic tubing to supply the jack cylinder hydraulic power. Stabilizer hydraulic hoses will remain stationary during operation of the stabilizers to prevent hose wear and potential failure. The cylinders will be equipped with decelerators to reduce the speed of extension and retraction when the beams are near the fully retracted and extended positions. The stabilizer extension hydraulic cylinders will have the following dimensions: 2.25" bore, 1.38" rod, and 62.25" stroke.

The front vertical jack cylinders will be capable of 15.00" ground penetration. The middle and rear vertical jack cylinders will be capable of 18.00" ground penetration. The cylinders will be supplied with pilot operated check valves on each jack cylinder to hold the cylinder in the stowed or working position, should a charged line be severed at any point in the hydraulic system. For safety, the integral holding valves will be located in the cylinder base, NOT in the transfer tube. Vertical jack cylinder rods will be fully enclosed by a telescoping inner box to protect the cylinder rods from damage. The stabilizer jack hydraulic cylinders will have the following dimensions: 4.25" bore, 3.00" rod, and 34.88" stroke.

The middle and rear stabilizer jack will have a polished stainless steel shield. The stainless steel shield will be a maximum of 14.00" wide so as to allow the extension of the stabilizer between parked cars or other obstacles. This plate will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back 90 degrees for added strength. The front stabilizers will be designed for easy cab tilt.

STABILIZER PADS

The stabilizer footpad will include an integrated stabilizer pad. The footpad will be attached to the jack cylinder rod by means of a machined ball at the end of the jack cylinder rod which mates to a socket machined into the footpad. The footpad will automatically position itself when being stowed so that no portion of the foot extends outside the body.

STABILIZER CONTROLS

A portable stabilizer control pendant will be provided. The control pendant will be weatherproof and oil resistant. Each function and indicator light will be labeled on a mylar lexan panel. The control pendant can be taken as far away as 15' from the vehicle with an attached coil cable.

The stabilizer control pendant will include the following:

- One (1) green power indicator light for stabilizer control that will be illuminated when the Stabilizer Power Enable switch has been activated. This will be interlocked such that the aerial master must be activated, the ladder is in the cradle, or the Global Override at the rear of the apparatus is activated.
- Two (2) electric toggle switches for stabilizers: each toggle switch will control the extend/retract (middle only) and raise/lower (front/middle/rear) of its respective stabilizer to allow vehicle set up in restricted areas and/or on uneven surfaces.
- Level assist switch: The stabilizer control system will incorporate a computerized leveling system to enhance the stabilizer set up. The computerized system will ensure full stabilizer extension, proper jack penetration, and will level the vehicle within eight tenths of a degree of level for safe operation of the aerial device.
- Stow assist switch: The stabilizer control system will incorporate a computerized system to move all six (6) stabilizer shoes to the full raised position while this switch is held.
- Tilt assist toggle switch: The stabilizer control system will incorporate a computerized system to tilt the chassis to five (5) degrees for enhanced side angle deployment of the aerial device.
- One (1) electric push button switch for the engaging the emergency power unit.
- One (1) red "stabilizer not stowed" indicator light: this light will illuminate when the stabilizers are not in the fully stowed position.
- Two (2) fully extended beams green indicator lights: these lights will be illuminated when each of the respective stabilizer beams are fully extended.
- Six (6) firm on ground green indicator lights: each light will be illuminated when its respective stabilizer shoe is in the load supporting condition.

Each toggle switch will activate the engine fast idle automatically.

Manual override will be supplied for each stabilizer control valve.

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move Indicator Light", which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

CRADLE INTERLOCK SYSTEM

A cradle interlock system will be provided, to prevent the lifting of the aerial from the nested position, until the operator has positioned all the stabilizers in a load supporting configuration. A switch will be installed at the cradle, to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

STABILIZER CONTROL BOX ALUMINUM DOOR

A vertically hinged smooth aluminum door will be provided over the stabilizer control box. The door will be hinged inboard.

STABILIZER PLACEMENT

There will be two (2) cameras provided and installed on the body, one (1) directly above each stabilizer. The cameras will be activated with a switch in the cab and will provide a picture to specify the fully

extended stabilizer position allowing the driver the ability to position the vehicle with the proper clearance for stabilizer deployment.

HYDRAULIC SYSTEM

All hose assemblies will be assembled and crimped by the hose manufacturers certified technician.

All manufacturing employees responsible for the installation of hydraulic components will be properly trained. Training will include: proper handling, installation, torque requirements, cleanliness and quality control procedures for hydraulic components.

Hoses used in the aerial hydraulic system will be of a premium quality hose with a high abrasion resistant cover. All pressure hoses will have a working pressure of 4000 psi and a burst pressure rating of 16,000 psi.

All hydraulic fittings and tubing will be plated or constructed of 304 stainless steel to minimize corrosion.

The fitting will use an O-ring seal where possible to minimize hydraulic leaks.

An interlock will be provided that prevents activation of the hydraulic pump until the transmission is placed in neutral and the parking brake is set as outlined in the current NFPA 1901 standard.

The system will meet the performance requirement of the current NFPA 1901 standard, which requires adequate cooling less than 2.5 hours of operations.

All hydraulic components that are non-sealing whose failure could result in the movement of the aerial will comply with current NFPA 1901 standards and have burst strength of 4:1.

Dynamic sealing components whose failure could cause aerial movement will have a margin of 2:1 on maximum operating pressure per the current NFPA 1901 standard.

All hydraulic hoses, tubes, and connections will have a minimum burst strength of 3:1 per the current NFPA 1901 standard.

A chassis mounted positive displacement piston pump for consistent pressure and rapid responses will supply hydraulic power for all aerial operations. The positive displacement pump will provide 3,000psi. The hydraulic pump will be solely dedicated to aerial operations.

Each aerial will be evaluated as to the region and climate where it will be used to determine the optimum viscosity and proper oil grade. Oil viscosity will be based on an optimum range of 80 to 1000 SUS during normal aerial use. Before shipment of the unit, an oil sample will be taken and analyzed to confirm the oil is within the allowable ISO grade tolerance.

The aerial hydraulic system will have a minimum oil cleanliness level of ISO 18/15/13 based on the ISO 4406:1999 cleanliness standard. Each customer will receive a certificate of actual cleanliness test results and an explanation of the rating system.

Oil samples can be taken from the hydraulic manifold GP1 port which is also used for verifying system pressure.

Ball valves will be provided in the hydraulic suction lines to permit component servicing without draining the oil reservoir.

The aerial will incorporate the use of trombone steel tubes inside the stabilizer beams to eliminate hydraulic hose wear and leaks.

Hydraulic power to the ladder will be transferred from the pedestal by a hydraulic swivel.

The system hydraulic pressure will be displayed on the turntable display.

The hydraulic system will be additionally protected from excessive pressure by a secondary pressure relief valve set at 3,500 psi. In the event the main hydraulic pump compensator malfunctions, the secondary relief will prevent system damage.

HYDRAULIC CYLINDERS

All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.

Each cylinder will include integral safety holding cartridges. No manifold or transfer tube mounted cartridge will be acceptable.

Each cylinder will be designed to a minimum safety factor of 4:1 to failure.

All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.

POWER TAKEOFF/HYDRAULIC PUMP

The apparatus will be equipped with a power takeoff driven by the chassis transmission and actuated by an electric shift, located inside the cab. The power takeoff which drives the hydraulic pump will meet all the requirements for the aerial unit operations.

An amber indicator light will be installed on the cab instrument panel to notify the operator that the power takeoff is engaged.

An interlock will be provided that allows operation of the aerial power takeoff shift only after the chassis spring brake has been set and the chassis transmission has either been placed in the neutral position or drive position after the driveline has been disengaged from the rear axle.

The hydraulic system will be supplied by a variable displacement load and pressure compensating piston pump. The pump will meet the demands of all three simultaneous aerial functions. The pump will provide proper flow for single aerial function with the engine at idle speed. A switch will be provided on the control console to increase the engine speed for multiple function operation.

EMERGENCY PUMP

The hydraulic system will be designed with an auxiliary power unit meeting the guidelines of the current NFPA 1901 standard.

The aerial will be equipped with an emergency hydraulic pump, electrically driven from the truck batteries. The pump will be capable of running for 30 minutes for limited aerial functions to stow the unit

in case of a main pump or truck system failure. A momentary switch will be located at the stabilizer and aerial control locations to activate the emergency pump.

AERIAL CONTROL VALVE

The aerial hydraulic control valve will be designed with special spool flows, limiting the oil flow for the designed function speed. The valve will be electrically controlled and be located below the swivel and integrated with the stabilizer control manifold. The handles will be oriented outward and will be spaced 1.80" apart. The valve spools will be designed to bleed off downstream pressure, in the neutral position and allow proper sealing of any cylinder holding cartridge.

OIL RESERVOIR

The oil reservoir will have a minimum capacity of 39 gallons. The oil fill location will be easily accessible and be labeled "Hydraulic Oil Only" and also indicate the grade of oil that is installed in the reservoir. A drain port will be provided.

Two suction ports will be provided, one for the main hydraulic pump and one for the emergency pump. The emergency suction port will be raised slightly off the bottom of the reservoir.

Magnetic filter will be installed in line with the return hose.

A float type sending unit in the reservoir will provide an indication of oil level on an electronic display. A temperature sending unit in the reservoir will provide indication of the oil temperature on an electronic display.

The hydraulic oil reservoir will be labeled per the current edition of NFPA 1901 standard.

RETURN FILTER

The low pressure oil return filter will be remote mounted in the return line and designed to prevent oil loss during filter change. A 50 psi bypass will be included to protect the element and hydraulic system during lower than normal operating temperatures. The system will incorporate the following filter to provide dependable service:

- return filter: beta 1000 at 6 micron

HYDRAULIC SWIVEL

The aerial ladder will be equipped with a three (3) port, high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir through the rotation point to the aerial control bank. The hydraulic swivel will allow for 360 degree continuous rotation of the aerial.

ELECTRIC SWIVEL

The ladder will be equipped with an electric swivel to allow 360 degrees rotation of the aerial while connecting all electrical circuits through the rotation point. A minimum of 36 collector rings will be provided that are capable of supplying 20 amp continuous service. All collector rings will be enclosed and protected with desiccant plugs against condensation and corrosion. No oil or silicone will be used.

WATER SWIVEL

Water will be transferred to the aerial waterway by means of a 5.00" internal diameter waterway, through the swivel, permitting 360 degree continuous rotation.

13-BIT ABSOLUTE ENCODER

The aerial ladder will be equipped with a 13-Bit Absolute Encoder which provides 8192 counts per shaft turn for position and direction reference.

The 13-Bit Absolute Encoder will provide a unique binary word to reference each position and direction for all 360 degrees of rotation.

If the power is interrupted for any reason, the 13-Bit Absolute Encoder will allow power to be returned to the system without having to re-zero the settings.

The 13-Bit Absolute Encoder will be an integral part of a micro-processor based control system.

ELECTRICAL SYSTEM

The aerial device will utilize a microprocessor-based control system. The system will consist of the following components:

- Control System Modules

Each of the control system modules will be configured as follows:

- Sealed to a NEMA 4X rating
- Operating range from -40 degrees F to 156 degrees F (-40 degrees C to 70 degrees C)
- Communicate using J1939 data link
- Two (2) diagnostic LED lights
 - o One (1) green light that illuminates when module has power (B+) and ground
 - o One (1) red light that flashes to indicate the module is capable of communicating via the data link
- Up to 16 diagnostic LEDs on each module
- Ground matrix identification system

The following control system modules will be used:

- Control Module
 - o Main controller for the system
 - o USB connection allows for computer diagnostics
- Power Module
 - o Built-in fault sensing
 - o Eight (8) digital outputs
 - o Pulse width modulating (PWM) capable
 - o 10A continuous per output
 - o Circuit protection based on actual current draw (not affected by heat)
- Current Control Module
 - o Built-in fault sensing
 - o Three (3) analog inputs
 - o Eight (8) digital outputs
 - o Pulse width modulating (PWM) capable

- o 3A continuous per output
 - o Closed Loop System
 - o Circuit protection based on actual current draw (not affected by heat)
- Input Module
 - o 16 software selectable (digital or analog) inputs
- Output Module
 - o 16 digital outputs
- Input/Output Module
 - o Eight (8) software selectable (digital or analog) inputs
 - o Eight (8) digital outputs
- Valve Module
 - o 36 digital inputs
 - o 36 digital outputs

TIP LIGHT

There will be one (1) HiViz Model FT-MB-2.18-*-* , 19,008 raw lumens 21.00" long x 3.00" high x 3.3" deep 12 volt DC lights with white LEDs, FT-MBKIT-PX end mounts and a combination of flood and spot optics installed on the front of the basket. The painted parts of the light housing and brackets to be painted job color.

The lights will be controlled from a switch at the turntable and tip, at the left side cab switch panel, at the right side cab switch panel and at the left side pump panel.

TRACKING LIGHTS

There will be two (2) HiViz Model FT-WL-X-9-*-* , 7,200 raw lumens 12 volt DC lights with white LEDs and adjustable bail mounts installed near the tip of the base section of the aerial device. The lights are installed at the tip so the overall width of the apparatus is not affected. The lights will be mounted below the top edge of the aerial device so the overall height of the apparatus is not affected. The lights will include the following:

- The left side tracking light to include a combination of flood and spot optics
- The right side tracking light to include a combination of flood and spot optics
- The painted parts of the light housing and brackets to be painted job color

The tracking lights will be controlled by a switch located at the platform/tip and turntable.

BASKET ACCESS LADDER

Access to the basket will be provided by a pull-out, swing-down, heavy duty, tubular constructed climbing ladder attached to the rear panel. The access ladder will be recessed into the angled corners of the rear body.

All steps will have a height not greater than 14.00" from top surface to top surface.

The "pool" style ladder will have knurled aluminum rungs and non-knurled aluminum stiles.

The bottom step height will not exceed 24.00" from the ground to the top surface of the step at any time.

STEP LIGHTS

There will be two (2) white LED step lights provided for each set of aerial basket access steps.

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

The step lights will be actuated by the aerial master switch in the cab.

These lights will meet NFPA requirements for step lighting.

LIGHTING ON AERIAL DEVICE

There will be TecNiq, Model D02, LED rung lighting provided on both sides of the aerial ladder base, lower mid, upper mid and fly sections. The lighting will be located adjacent to the ladder rungs along the lower rail of the ladder sections and will run the length of the ladder section.

The color of the sections will be per the following:

- The base section of the ladder to be white.
- The lower mid section of the ladder to be white.
- The mid section of the ladder to be white.
- The upper mid section of the ladder to be white.
- The fly section of the ladder to be white.

The LED rung lighting will be activated when a switch at the turntable operator's panel is activated through the aerial master.

The lights may be load managed when the parking brake is applied.

STABILIZER WARNING LIGHTS

There will be four (4) Whelen®, Model M6*C, LED flashing warning lights with Whelen, Model M6FC, chrome flanges installed, one (1) on each stabilizer cover panel.

- The front stabilizer pan lights will be red LED with a clear lens
- The rear stabilizer pan lights will be red LED with a clear lens

These warning lights will be activated by the same switch as the side warning lights.

STABILIZER BEAM WARNING LIGHTS

Two (2) 4.00" diameter red LED flashing lights will be mounted on each stabilizer, one (1) facing forward and one (1) facing rearward. The lights will be Grote Supernova 40 series LED lights. The lights will be recessed in the horizontal beam of the stabilizer. These warning lights will be activated with the aerial master switch.

STABILIZER SCENE LIGHTS

There will be one (1) Amdor®, Model AY-LB-12HW012, 190 lumen, 12" long, white LED strip light installed under each stabilizer beam to illuminate the surrounding area. A total of six (6) lights will be installed. The lights will be activated by the aerial master switch.

DC POWER CABLE TO TIP

There will be a cable installed in the aerial device to provide 12.88 amps @ 12 volts DC to the tip of the aerial device.

UNDER PLATFORM LIGHTING

There will be two (2) HiViz Model FT-MB-2.6-*-* , 6,336 raw lumens 3.46" high x 7.90" long x 3.31" deep light(s) with white LEDs, a combination of flood and spot optics and end mount(s) provided per the following One (1) light installed under the left side corner step in the center position and One (1) light installed under the right side corner step in the center position. The painted parts of the light housing and brackets to be painted job color.

The light(s) will be controlled from switch(es) at the platform/tip and turntable.

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

2-WAY AERIAL COMMUNICATION SYSTEM

There will be a Fire Research model ICA910 two-way intercom system provided. The control module with an LED volume display and push-button volume control will be located on the turntable operator console.

A hands free module will be located at the aerial tip or platform and constantly transmit to the other module unless the control module push-to-talk button is pressed.

Each intercom unit will be weatherproof.

AERIAL PEDESTAL

The aerial pedestal will accommodate the height of the cab.

LYFECOMBO™ BRACKETS

Brackets will be provided to increase the safety of firefighters during fire ground and rescue operations. The removable brackets will have the following three (3) functions: securing a roof ladder to the basket, two (2) rappelling anchor points, and mounting bars to allow the secure mounting of a rescue basket stretcher.

LyfeLadder™ brackets will be designed to allow firefighter access below the basket using up to a 20' roof ladder. The ladder will be secured through its beams and one (1) rung, by a 1.00" diameter aluminum rod capable of being positively latched in place and able to withstand a minimum of a 500lb load. There will be a latch to keep the ladder in a vertical position at all times. A set of nylon guides will be provided to aid in positioning the roof ladder on the mounting brackets.

Two (2) **LyfeEye™** rappelling arms will be provided. Forged stainless steel eyebolts with a 1.38" inside diameter will be incorporated into the design of the brackets for use as a rappel line anchor. Each anchor point will have a capacity of 300lb.

LyfeSupport™ rescue basket support brackets will be provided to allow patient transport using the aerial. Two (2) quick clip basket straps will be used to secure the basket to the brackets.

Strain gauging and testing will have been completed on the system (ladder and complete holding device) to ensure structural integrity of all components and maintain a minimum of two to one (2:1) safety factor.

AERIAL TURNTABLE MANSAVER™ BAR

A ManSaver™ bar will be installed at the aerial turntable.

AERIAL WATERWAY

The aerial waterway will be capable of being supplied by either a midship mounted pump or an external water source through a 5.00" intake at the side of the apparatus.

A 5.00" water swivel will be installed below the aerial turntable permitting the ladder to rotate 360 degrees continuously.

A 5.00" water swivel will be installed at the aerial heel pivot pin that will permit water tower operations of -15 degrees to 77 degrees. The heel pivot pin will not be integral with the waterway swivel at any point. The waterway design will allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

A telescoping aluminum waterway will be installed on the side of the aerial ladder sections. The waterway will consist of a 5.50" diameter tube for the base section, 5.00" diameter tube for the lower mid section, 4.50" diameter tube for the center mid section, 4.00" diameter tube for the upper mid section, and 3.50" diameter tube for the fly section.

A 1.50" drain will be provided for the waterway.

WATERWAY SEALS

The waterway seals will be of type-B PolyPak design, composed of nitroxile seal and a nitrile wiper, which together offer maximum stability and extrusion resistance on the waterway. The seal will be capable of withstanding pressures up to 2000 psi, temperatures in excess of 250 degrees Fahrenheit and have resistance to all foam generating solutions. The seals will be internally lubricated.

The waterway seals will have automatic centering guides constructed of synthetic thermalpolymer. The guides will provide positive centering of the extendible sections within each other and the base section to insure longer service life and smoother operation.

PLATFORM WATER SYSTEM

A 4.00" (internal diameter) water swivel will connect the fly section waterway to the platform waterway. The water swivel will permit water tower operations from -15 degrees to 77 degrees. The water will be routed from the swivel to a 4.00" gear operated valve(s) on the front of the platform using a combination of 4.00" tubes and piping. The monitor(s) will be bolted onto the valve(s).

A 2.50" preset pressure relief valve will be provided in the waterway system. It will be designed to protect the aerial waterway from excess pressure. It will dump water to the ground when operating.

A shower nozzle rated at 75 gpm will be provided beneath the platform for heat protection for the platform personnel. A direct linkage control for the shower nozzle will be provided.

AERIAL MONITOR

There will be two (2) Task Force Tips monitors provided at the platform.

One will be a Y4-MP1A-P-01 double crank controlled monitor with a TFT YST-4NN stacked tips.

The other will be a Y4-EP1A-P electric monitor with a TFT 2000 gpm Model M-ERP2000 electric nozzle.

The controls for the electronic monitor will be located at the platform and the turntable control console.

WATERWAY FLOWMETER

Waterway flow, including total water flowed, will be monitored by the microprocessor. An LCD display will be located at the upper and lower control stations.

WATERWAY INLET

There will be a 5.00" schedule 10 stainless steel inlet pipe on the right side of the apparatus. The inlet will be connected to the base of the ladder, through the turntable swivel, to assure continuous rotation. The inlet will terminate with a 5.00" NST chrome adapter and a long handled chrome cap.

STORZ INLET ADAPTER

There will be one (1) 5.00" FNST x 5.00" Storz adapter with blind cap provided on the aerial inlet.

VALVE UNDER MONITOR

A TFT Valve Under Monitor (VUM) valve and manifold will be provided under each monitor at the aerial platform. Each (VUM) will be manually controlled at the basket with a handwheel control. The outboard facing port of each (VUM) will have one (1) gated elbow with 2.50" NH threads. One (1) 1.5" x 2.5" reducer and cap will be provided on the gated elbow. All remaining ports of the (VUM) will be provided with a blind plug.

An automatic ball drain will be provided on each VUM.

TOOLS

The following tools will be provided for retorquing of all specified bolts as recommended by the manufacturer:

- Torque Wrench
- All Required Extensions, Sockets and Adapters
- 4-to-1 Multiplier

MANUALS

The aerial manufacturer will provide two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device.

INITIAL INSTRUCTION

On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of four (4) consecutive days.

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 9.9.3 and 9.9.4 will be provided by the fire department.

- 800 ft (240 m) of 2.50" (65 mm) or larger fire hose, in any combination.
- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose, in any combination.
- One (1) handline nozzle, 200 gpm (750 L/min) minimum.
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum.
- One (1) playpipe with shutoff and 1.00" (25 mm), 1.125" (29 mm), and 1.25" (32 mm) tips.
- One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.
- One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).
- One (1) first aid kit.
- Four (4) salvage covers, each a minimum size of 12 ft × 14 ft (3.6 m × 5.5 m).
- Four (4) combination spanner wrenches.
- Two (2) hydrant wrenches.
- One (1) double female 2.50" (65 mm) adapter with National Hose threads.
- One (1) double male 2.50" (65 mm) adapter with National Hose threads.
- One (1) rubber mallet, for use on suction hose connections.
- Four (4) ladder belts meeting the requirements of NFPA 1983.
- One (1) 150 ft (45 m) light-use life safety rope meeting the requirements of NFPA 1983.
- One (1) 150 ft (45 m) general-use life safety rope meeting the requirements of NFPA 1983.
- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.
- Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (102 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.

- One (1) automatic external defibrillator (AED).
- If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus.
- If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6.
- If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.
- If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried.

Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.

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

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.

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

AERIAL LADDER BELTS

The following ladder belts will be provided:

- one (1) small/medium belt for 26"-34" waist
- two (2) large/extra large belts for 34"-42" waist
- one (1) XXL belt for 42"-50" waist

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.

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

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.

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

PAINT - BODY PAINTED TO MATCH CAB

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.
3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color

standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T. standard in critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab and the body will be painted #118 white.

PAINT - ENVIRONMENTAL IMPACT

Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with primer and gloss paint to match the lower job color before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be painted are:

- Frame rails

- Frame liners
- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Air tanks
- Steel fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process will meet the technical properties shown.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

AERIAL DEVICE PAINT COLOR

The aerial device paint procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.
2. Zinc Rich Primer - Zinc rich primer will be applied to the torque box and stabilizers.
3. Primer/Surfacer Coats - A two (2) component epoxy primer/surfacer will be applied to the mechanically shot-blasted metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked with a two (2) component epoxy caulk before painting.
4. Hand Sanding - The primer/surfacer coat of the outer surfaces of the hand rails and base rails will be lightly sanded to a smooth finish.
5. Primer Coat - A two (2) component epoxy primer coat will be applied over the sanded primer.
6. Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.

7. Clear Coat - Two (2) coats of an automotive grade two (2) component urethane will be applied.

Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.

The aerial device components will be painted as follows using the aforementioned seven (7) step finishing process:

- Aerial basket and basket leveling cylinders at tip: blue metallic 499
- Aerial device ladder sections and extension cylinders: blue metallic 499
- Aerial turntable and leveling cylinders (if applicable) at turntable: blue metallic 499
- Aerial control console: white 118
- Aerial lift cylinders: white 118
- Aerial rotation motor (if applicable): blue metallic 499
- Aerial torque box, support structure and components below the rotation point: gloss black primer
- Aerial stabilizers: black 101
- Aerial boom support: gloss black primer

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" blue stripe at the top with a 1.00" gap then a 6.00" blue stripe with a 1.00" gap and a 1.00" blue stripe on the bottom.

The reflective band provided on the cab face will be below the headlights on the fiberglass.

REAR CHEVRON STRIPING

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered.

The colors will be light blue scotchlite and fluorescent yellow green diamond grade.

Each stripe shall be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

REFLECTIVE STRIPE ON STABILIZERS

There will be 4.00" wide alternating light blue and fluorescent yellow green diamond grade reflective chevron stripes provided on the forward and rear facing sides of both aerial stabilizers. The stripes will be angled at a 45 degree angle.

CHEVRON REFLECTIVE STRIPING ON THE FRONT BUMPER

There will be alternating reflective chevron striping located on the front bumper.

The colors will be light blue and white.

The size of the striping will be 6.00".

"Z" RIBBON IN REFLECTIVE STRIPE

"Z" type ribbon(s) will be added to the reflective stripe. Areas adjacent to the "Z" portion of the stripe will be shaded and highlighted with an air brush to give it a ribbon affect. There will be one (1) pair on the vehicle.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" light blue reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

LETTERING

There will be reflective lettering, 4.00" high, with outline and shade provided. There will be 18 letters provided.

LETTERING

There will be reflective lettering, 4.00" high, with outline and shade provided. There will be 16 letters provided.

LETTERING

There will be reflective lettering, 8.00" high, with outline and shade provided. There will be six (6) letters provided.

LETTERING

Twenty-one (21) to forty (40) reflective lettering, 11.00" high, with outline and shade will be provided.

LETTERING

There will be reflective lettering, 3.00" high, with outline and shade provided. There will be 12 letters provided.

LETTERING

There will be reflective lettering, 12.00" high, with outline and shade provided. There will be six (6) letters provided.

LETTERING

There will be reflective lettering, 18.00" high, with no outline or shade provided. There will be four (4) letters provided.

EMBLEM

There will be two (2) reflective emblem(s), approximately 14.00" - 16.00" in size, installed cab doors. the emblem will be modeled after the department submitted information (art, patch, etc).

CAB GRILLE DESIGN

A Texas flag design will be painted on the cab grille.

FIRE APPARATUS PARTS MANUAL

There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.

The manual(s) will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in alphabetical order
- Instructions on how to locate parts

Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

Service Parts Internet Site

The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

CHASSIS SERVICE MANUALS

There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit.

The manual will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine/Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

CHASSIS OPERATION MANUAL

The chassis operation manual will be provided on one (1) USB flash drive.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.

ENGINE WARRANTY

A Detroit Diesel **five (5) year** limited engine warranty will be provided. A limited warranty certificate, WA0180, is included with this proposal.

STEERING GEAR WARRANTY

A Sheppard **three (3) year** limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.

FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY

A Pierce fifty four (54) month warranty will be provided for the camera system.

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A **six (6) year** limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included with this proposal.

PUMP WARRANTY

A Waterous pump limited warranty certificate, WA0225, is included with this proposal.

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

FOAM SYSTEM WARRANTY

The Husky 12 foam system limited warranty certificate, WA0231, is included with this proposal.

TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY

The Pierce device limited warranty certificate, WA0052, is included with this proposal.

AERIAL SWIVEL WARRANTY

An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

HYDRAULIC SYSTEM COMPONENTS WARRANTY

Aerial hydraulic system components will be provided with a five (5) year material and workmanship limited warranty.

HYDRAULIC SEAL WARRANTY

Aerial hydraulic seals will be provided with a three (3) year material and workmanship limited warranty.

A copy of the warranty certificates will be submitted with the bid package.

AERIAL WATERWAY WARRANTY

An Amity ten (10) year limited waterway warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FOUR (4) YEAR PRO-RATED PAINT AND CORROSION

A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

The Pierce graphics fading and deterioration limited warranty limited warranty certificate, WA0168, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of bid.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab integrity certification with this proposal. The certification will state that the cab has been tested and certified by an independent third-party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state-licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Roof Crush

The cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of 10 metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lbs. This value exceeds the ECE 29 criteria by nearly 4.5 times.

Side Impact

The same cab will be subjected to dynamic preload where a 13,275 lb moving barrier slams into the side of the cab at 5.5 mph at a force of 13,000 ft-lbs. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lbs of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lbs of force using a moving barrier, (twice the force required by SAE J2420).

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION

Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap

and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

PERFORMANCE CERTIFICATIONS

Cab Air Conditioning

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
 - o The nameplate rating of the alternator.
 - o The alternator rating under the conditions specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - o The minimum continuous load of each component that is specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).

- o Additional loads that, when added to the minimum continuous load, determine the total connected load.
- o Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).



Proposal Option List

5/4/2020

Customer: Windcrest Volunteer Fire Department
Representative: Wherry, Shawn
Organization: Siddons-Martin Emergency Group
Requirements Manager:
Description: 2020 Windcrest Velocity AAT
Body: Aerial, 100AAT, Alum Body
Chassis: Velocity Chassis, 100AAT

Bid Number: 684
Job Number:
Number of Units: 1
Bid Date: 03/19/2020
Stock Number:
Price Level: 39 (Current: 39)
Lane:

Line	Option	Type	Option Description	Qty
1	0769372		Boiler Plates, 100AAT	1
			Fire Department/Customer - Windcrest Fire Department	
			Operating/In conjunction W-Service Center - Operating	
			Miles - 10 Miles	
			Number of Fire Dept/Municipalities - 5	
			Bidder/Sales Organization - Siddons-Martin Emergency Group	
			Delivery - Delivery representative	
			Dealership/Sales Organization, Service - Siddons-Martin Emergency	
			Group	
2	0018180		Single Source Compliance, Aerials	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0610784		Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	1
7	0533351		Quint Fire Apparatus	1
8	0588612		Vehicle Certification, Aerial w/Pump	1
9	0681278		Agency, Apparatus Certification, Aerial w/Pump, U.L.	1
10	0000114		Inspection Trip(s)	2
			Qty, - 02	
			Fill in Blank - Four (4)	
11	0536644		Customer Service Website	1
12	0620362		Consortium, HGAC	1
13	0537375		Unit of Measure, US Gallons	1
14	0030006		Bid Bond Not Requested	1
15	0540326		Performance Bond, Not Requested	1
16	0000007		Approval Drawing	1
17	0670758		Drawing, Compartment Layout, Aerial	1
18	0002928		Electrical Diagrams	1
19	0771624		Velocity Chassis, 100AAT	1
20	0000110		Wheelbase	1
			Wheelbase - 265.00"	
21	0000070		GVW Rating	1
			GVW rating - 78,000 pounds	
22	0000203		Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	1
23	0756544		Frame Liner, Internal "C" 12.50" x 3.00" x .25", Full Length, 57"Q, 100AAT	1
24	0508846		Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity	1
25	0090914		Suspension, Front TAK-4, 24,000 lb, DLX/Qtm/AXT/Vel/Enf	1
26	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	1
27	0000322		Oil Seals, Front Axle	1
28	0677592		Tires, Front, Goodyear, G296 MSA, 425/65R22.50, 20 ply, Fire Service Load Rating	1
29	0019611		Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	1
30	0754936		Axle, Rear, Meritor RT52-185, 54,000 lb, 100AAT	1
31	0544244		Top Speed of Vehicle, 60 MPH	1
32	0660628		Suspen, Rear, Air Link, AL- 520, Air Ride, 54,000 lb	1
33	0000485		Oil Seals, Rear Axle	1
34	0587016		Tires, Rear, Goodyear, G622 RSD, 12R22.50, 16 ply, Tandem	1
35	0019639		Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Tandem	1
36	0568081		Tire Balancing, Counteract Beads	1
37	0620569		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle	1
			Qty, Tire Pressure Ind - 10	
38	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1

Line	Option	Type	Option Description	Qty
39	0013241		Axle Hub Covers, Rear, S/S High Hat (Tandem)	1
40	0057936		Covers, Lug Nut, Chrome	1
41	0002045		Mud Flap, Front and Rear, Pierce Logo	1
42	0766669		Chocks, Wheel, SAC-44-E, Folding, 100AAT	1
			Qty, Pair - 01	
43	0766668		Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal, 100AAT	1
			Qty, Pair - 01	
			Location, Wheel Chocks - Left Side Rear Tire, Rearward	
44	0010673		ABS Wabco Brake System, Tandem Rear Axle	1
45	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
46	0590981		Brakes, Meritor, Cam, Rear, 16.50 x 8.63", Tandem	1
47	0058463		Air Compressor, Brake, Bendix 15.8 CFM	1
48	0000789		Brake Reservoirs, Five	1
49	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
50	0000790		Brake Lines, Nylon	1
51	0000854		Air Inlet, w/Disconnect Coupling	1
			Location, Air Coupling(s) - a) DS Step Well, Forward	
			Qty, Air Coupling (s) - 1	
52	0070810		All Wheel Lockup (Aerial/Tanker Chassis)	1
53	0610848		Engine, DDC DD13, 525 hp, 1850 lb-ft, W/OBD, EPA 2016, Velocity	1
54	0001244		High Idle w/Electronic Engine, Custom	1
55	0590300		Engine Brake, Jacobs Compression Brake, DD13	1
			Switch, Engine Brake - f) DD13	
56	0552334		Clutch, Fan, Air Actuated, Horton Drive Master	1
57	0123135		Air Intake, w/Ember separator, Imp/Vel	1
58	0565965		Exhaust System, 5", 2010 DD13, ISX engine, Horizontal, Right Side	1
59	0787999		Radiator, Impel/Velocity	1
60	0616439		Cooling Hoses, Gates Silicone	1
61	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
62	0001129		Lines, Fuel	1
63	0595087		DEF Tank, 4.5 Gallon, DS Fill, Forward of Rear Axle	1
			Door, Material & Finish, DEF Tank - Polished Stainless	
64	0552793		Not Required, Fuel Priming Pump	1
65	0552712		Not Required, Shutoff Valve, Fuel Line	1
66	0553019		Cooler, Engine Fuel, Imp/Vel, AXT/Qtm/Sab/DCF/SFR/Enf	1
67	0690880		No Selection Required From This Category	1
68	0642533		Trans, Allison 5th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/DCF/Enf	1
69	0512762		Transmission, Shifter, 6-Spd, Push Button, 4500, Imp/Vel/Qtm/DCF/Enf	1
			Trans, ratio - 4500 EVS, 6Spd	
70	0684459		Transmission Oil Cooler, Modine, External	1
71	0535530		Mode, Downshift, Aggressive downshift to 2nd, w/engine brake, 6 speed	1
72	0001375		Driveline, Spicer 1810	1
73	0669988		Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	1
74	0001544		Not Required, Steering Assist Cylinder on Front Axle	1
75	0509230		Steering Wheel, 4 Spoke without Controls	1
76	0690274		Logo/Emblem, on Dash	1
			Text, Row (1) One - ***BLANK***	
			Text, Row (2) Two - WINDCREST	
			Text, Row (3) Three - FIRE	
77	0767817		Bumper, 15" Extended, Alum, Painted,100AAT, VEL	1
78	0510226		Lift & Tow Package, Imp/Vel, AXT, Dash CF	1
79	0522573		Tow Hooks Not Required, Due to Lift and Tow Package	1
80	0667513		Bracket, License Plate, Under Frt Bumper, Hinged, Non-Illuminated, Oversize	1
81	0651334		Cab, Velocity FR, 7000	1
82	0602647		Engine Tunnel, ISL/DD13, Spray Insulation, Imp/Vel FR	1
83	0677467		Rear Wall, Exterior, Cab, Aluminum Treadplate, Full Coverage	1
84	0764124		Cab Lift, Elec/Hyd, Manual Override, Stabilizer Interlock, Vel 100AAT	1
85	0123176		Grille, Bright Finished, Front of Cab, Impel/Velocity	1
86	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	1
			Material Trim/Scuffplate - c) S/S, Polished	

Line	Option	Type	Option Description	Qty
87	0646179		Trim, S/S, Rect Headlights, VEL/IMP Material Trim/Scuffplate - c) S/S, Polished Turnsignal Covers - No Covers	1
88	0087357		Molding, Chrome on Side of Cab	1
89	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1
90	0651313		Door, Half-Height, Velocity FR 4-Door Cab, Level Roof Key Model, Cab Doors - 751	1
91	0655511		Door Panel, Brushed Stainless Steel, Impel/Velocite 4-Door Cab	1
92	0667905		Storage Pockets w/ Elastic Cover, Recessed, Impel/Velocite FR	1
93	0667902		Controls, Electric Windows, All Cab Doors, Impel/Velocite FR	1
94	0555485		Steps, 4-Door Full Tilt Cab, Imp/Vel	1
95	0770200		Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab Color, Handrail Light - Blue Control, Handrail Light - Parking Brake	1
96	0509649		Lights, Cab and Crew Cab Access Steps, P25, LED w/Bezel, 1Lt Per Step	1
97	0541830		Crowns, Front Fender, Rubber, AXT/VEL/IMP	1
98	0592071		No Windows, Side of Crew Cab, Vel/Imp	1
99	0568605		Not Required, Interior Trim, No Cab Side Windows	1
100	0509287		Windows, Rear CC, (2) 11.25" x 18", Velocity	1
101	0553196		Trim, Cab Rear Windows, Velocity	1
102	0775133		Insulation, Cab C/C Floor, Spray, IPOS, AXT, Imp/Vel FR	1
103	0663383		Mounting Provisions, 3/16" Alum, Full Engine Tunnel, Vel/Imp Mounting Provision Spacing - .75" Material Finish, Cab Interior - Painted	1
104	0763654	SP	Bracket, Air Bottle, Zico, Quic-Hold, MWAB-03-7 Location - low on the RS rear wall (Match 34238) Qty, - 01	1
105	0657960		Bracket, Seat Riser, 45 Degrees, To Mount Air Bottle Bracket, Crew Cab Location - low on the RS rear wall (Match 34238) Qty, - 01	1
106	0748671		Cab Interior, Vinyl, Velocity FR, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	1
107	0667943		Cab Interior, Paint Color, Impel/Velocite FR Color, Cab Interior Paint - i) fire smoke gray	1
108	0690163		Floor, Rubber Padded/Treadplate, Cab & Crew Cab, Imp/Vel, Dash CF	1
109	0736037		HVAC, Impel/Velocite, w/Aux System Paint Color, A/C Condenser - Painted by OEM HVAC System, Filter Access - Tool Free Panel Auxiliary Cab Heater - Left Aux HVAC System, Power Source - Shoreline	1
110	0735443		Not Required, Heater/Defroster System Selected in Cab, HVAC System	1
111	0735535		Not Required, HVAC, System Selected in Cab, HVAC System	1
112	0639675		Sun Visor, Smoked Lexan, AXT, Dash CF, Imp/Vel, Saber FR/Enforcer Sun Visor Retention - No Retention	1
113	0548173		Grab Handles, Driver and Passenger Door Post, Imp/Vel	1
114	0002526		Light, Engine Comp, All Custom Chassis	1
115	0122516		Fluid Check Access, Imp/Vel	1
116	0583042		Side Roll and Frontal Impact Protection	1
117	0622618		Seating Capacity, 5 Seats	1
118	0697005		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety	1
119	0696994		Seat, Officer, Pierce PS6, Premium, Air Ride, SCBA, Safety	1
120	0002517		Not Required, Radio Compartment	1
121	0765627		Cabinet, Rear Facing, LS, 24 W x 38 H x 30.5 D, Web, Ext Acc, Imp/Vel Type of fastener - 1" cam buckle Restraint Location - Inboard Light, Short Cabinet - Pierce, Exterior, Right Side Scuffplate, Door Pan, Material/Finish - S/S, Polished Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 1.25" Up-Turned Lip Door, Cab Exterior Cabinet - Double Pan, Locking #751 Door, Exterior Stop - Stay Arm Louvers, Cabinet - 0-No Louvers	1
122	0102783		Not Required, Seat, Rr Facing C/C, Center	1

Line	Option	Type	Option Description	Qty
123	0752574		Cabinet, Rear Facing, RS, 21.5 W x 38 H x 26.5 D, Web, Ext Acc, Imp/Vel Type of fastener - 1" cam buckle Restraint Location - Inboard Light, Short Cabinet - Pierce, Exterior, Left Side Scuffplate, Door Pan, Material/Finish - S/S, Polished Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 1.25" Up-Turned Lip Door, Cab Exterior Cabinet - Double Pan, Locking #751 Door, Exterior Stop - Stay Arm Louvers, Cabinet - 0-No Louvers	1
124	0628561		Seat, Fwd Facing C/C, DS Outbrd, Pierce PS6, Hi-Back,Foldup,9 Deg,17" Btm,Safety	1
125	0122744		Seat, Forward Facing C/C, Center, (2) Pierce PS6, Premium, SCBA, Safety	1
126	0108190		Not Required, Seat, Forward Facing C/C, PS Outboard	1
127	0766467		Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray Qty, - 05	5
128	0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats Qty, - 03	3
129	0735335		Door, Access, Front, (1) Rear Facing Seat Risers, No Heater Latch, Door, Storage - Southco C2 Chrome Raised Material Finish, Cab Interior - Painted Louvers, Cabinet - 0-No Louvers Location, Rear Facing Riser - Right	1
130	0603221		Seat Belt, ReadyReach, Extended Shoulder Belt Length Seat Belt Color - Red	1
131	0604864		Seat Belt Height Adjustment, 5 Seats, Imp/Vel, Dash CF	1
132	0602464		Helmet Storage, Provided by Fire Department, NFPA 2016	1
133	0647647		Lights, Dome, FRP Dual LED 4 Lts Color, Dome Lt - Red & White Color, Dome Lt Bzl - Black Control, Dome Lt White - Door Switches and Lens Switch Control, Dome Lt Color - Lens Switch	1
134	0631776		Not Required, Overhead Map Lights	1
135	0602622		Portable Hand Light, Provided by Fire Department, Quint NFPA 2016 Classification	1
136	0695283		Handlight, Streamlight, Survivor, 90503, C4 LED, 12v, Orange, Steady Charge Qty, Lights - 05 Location, Lights - inboard of the driver and officer mounted on the ceiling, rearward of the headset brackets and ceiling mounted to the right of each forward facing rear seat (Match 34238)	5
137	0568369		Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010, Dash CF	1
138	0509511		Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	1
139	0543751		Light, Do Not Move Apparatus Alarm, Do Not Move Truck - Pulsing Alarm	1
140	0743386		Messages, Open Door/Do Not Move Truck, MUX, Color Display, 100AAT	1
141	0611681		Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX Location, Emerg Sw Pnls - Driver's Side Overhead	1
142	0555915		Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	1
143	0002565		Hourmeter, Aerial Inside Cab	1
144	0002615		Switch, Aerial 12V Master	1
145	0002617		PTO switch, w/light - aerial	1
146	0548006		Wiring, Spare, 15 A 12V DC 2nd Qty, - 03 12vdc power from - Battery direct Wire termination - 15 amp power point plug Location - officer side end of dash at position 126	3
147	0548004		Wiring, Spare, 15 A 12V DC 1st Qty, - 02 12vdc power from - Battery direct Wire termination - Butt Splice Location, Spare Wiring - Coiled up Behind Officer Seat and Coiled up in Officer Dash	2
148	0615386		Vehicle Information Center, 7" Color Display, Touchscreen, MUX System Of Measurement - US Customary	1

Line	Option	Type	Option Description	Qty
149	0606247		Vehicle Data Recorder w/CZ Display Seat Belt Monitor	1
150	0602598		Intercom, Firecom 5100D Single Radio, 1 Wireless Base Station, 1-5 Wireless Location - officer side left (Location 4)	1
151	0006240		Cable, Radio to Intercom Interface, Firecom, 1 Radio Radio, First Two-Way Make - GE, Erickson, M/A Com, or Harris Radio, First, Two-Way Model - XG75M	1
152	0602376		Headset, Firecom, Wireless, UHW-505 Under Helmet, Radio Transmit Qty, - 02 Location, Headset - Driver Seat and Officer Seat	2
153	0602027		Headset, Firecom, Wireless, UHW-503 Under Helmet, Intercom Only Qty, - 03 Location - LS forward facing and two center forward facing seats (Match 34238)	3
154	0681408		Hangers For Headsets, NFPA, Each Qty, - 05 Location, Headset Hangers - Driver Seat, Officer Seat, DS Inbrd, Fwrd Fcng Seat, DS Outbrd, Fwrd Fcng Seat and PS Inbrd, Fwrd Fcng Seat	5
155	0698805		Bracket, Johnny Ray, Heavy Duty Swivel, 14 lb. Rating Location - centered overhead	1
156	0559156		Install Customer Provided Two-Way Radio(s) Location - centered overhead on swivel Qty, - 01	1
157	0687904		Antenna Mount, Custom Chassis, Cable Routed to Behind Officer Seat Location - RS rearward of lightbar Qty, - 02	2
158	0653526		Camera, Pierce, Driver Mux, Rear Camera Only Camera System Audio - Not Provided	1
159	0511071		Guard, 4-Way, Rear Vision Camera Qty, - 01 Location - centered over the traffic advisor tradplate box	1
160	0615100		Pierce Command Zone, Advanced Electronics & Control System, Diag LEDs, Vel, WiFi	1
161	0624254		Electrical System, Velocity	1
162	0079211		Batteries, (6) Exide Grp 31, 950 CCA each, Threaded Stud	1
163	0008621		Battery System, Single Start, All Custom Chassis	1
164	0123174		Battery Compartment, Imp/Vel	1
165	0614406		Charger, Sngl Sys, IOTA, DSL-75, 75 Amp, Kussmaul 091-94-12 Ind, AXT/DCF/Vel/Imp	1
166	0539734		Location, Charger, Cab Behind Driver Seat	1
167	0530952		Location, Bat Chrg Ind, DS Behind Crew Cab Door	1
168	0782026		Shoreline, 20A 120V, Blue Sea Sure Eject 7851 Qty, - 01 Connection, Shoreline - battery charger, HVAC, cab and body outlets Color, Cover, BI Sea Inlet - Blue	1
169	0026800		Shoreline Location Location, Shoreline(s) - DS Crew Cab	1
170	0647728		Alternator, 430 amp, Delco Remy 55SI	1
171	0092582		Load Manager/Sequencer, MUX Enable/Disable Hi-Idle - e)High Idle enable	1
172	0780484		Headlights, Rect LED, HiViz FT-4X6-4KIT, AXT/DCF/Enf/Imp/Sab/Vel	1
173	0648425		Light, Directional, WIn 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF Color, Lens, LED's - c)clear	1
174	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
175	0736083		Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor Lt	1
176	0670831		Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts, 100AAT	1
177	0602938		Light, Marker End Outline, Rubber Arm, LED Marker Lamp, Rear Body Qty, Lights, Pair - 1	1
178	0564683		Lights, Tail, WIn M6BTT* Red LED Stop/Tail & M6T* Amber LED Dir Arw For Hsg Color, Lens - Clear	1
179	0561471		Lights, Backup, WIn M6BUW, LED, For Tail Lt Housing	1
180	0664481		Bracket, License Plate & Light, P25 LED	1
181	0556842		Bezels, WIn, (2) M6 Chrome Pierce, For mtg (4) WIn M6 lights	1
182	0589905		Alarm, Back-up Warning, PRECO 1040	1

Line	Option	Type	Option Description	Qty
183	0626588		Lights, Perimeter Cab, TecNiq T10-LC00-1 15" LED 4Dr	1
184	0616648		Lights, Perimeter Pump House, TecNiq T10-LC00-1 15" LED 1lt	1
185	0793896	SP	Lights, Perimeter Body, TecNiq T10-LC00-1 15" LED 3lts, 100AAT	1
			Control, Perimeter Lts - Parking Brake Applied	
186	0735865		Step Illumination, Pump Panel Light Shield, 100AAT, w/Pump	1
187	0610357	SP	Light, HiViz FT-MB-2.27-*.*, 30.20", 1st	2
			Location, Lights - on the crew cab roof as far to the exterior as possible centered over the left side crew cab door and on top of the body as far to the exterior as possible centered over the LS2 compartment	
			Qty, - 02	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw DS and Cab Sw Panel PS	
			Color, Lt Housing HiViz - White	
			Scene Light Optics - Flood/Spot	
188	0610354	SP	Light, HiViz FT-MB-2.27-*.*, 30.20", 2nd	2
			Location, Lights - on the crew cab roof as far to the exterior as possible centered over the right side crew cab door and on top of the body as far to the exterior as possible centered over the RS2 compartment	
			Qty, - 02	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw DS and Cab Sw Panel PS	
			Color, Lt Housing HiViz - White	
			Scene Light Optics - Flood/Spot	
189	0741463	SP	Light, Extruded Brow, HiViz FT-BG2-R275C-80-ML-*, 80", Sw Fet	1
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw DS and Cab Sw Panel PS	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw DS and Cab Sw Panel PS	
			Color, Lt Housing HiViz - White	
190	0766802		Not Required, Deck Lights, Other Hose Bed & Rear Lighting, 100AAT	1
191	0766801		Lights, Hose Bed, Front/Rear, LED Light Strips, 100AAT	1
			Control, Hose Bed Lts - Cup Switch At Rear	
192	0763552	SP	Lights, Rear Scene, HiViz, FT-GSMJR 2Lts	1
			Location, Lights - each side of the rear body bulkhead inboard of the upper M6 warning lights	
			Control, Rear Scene Lts - Cab Switch Panel DS, Cab Switch Panel PS, Pump Panel DS and Body Switch, DS Rear Bulkhead	
193	0766879		Lights, Walk Surf, FRP Flood, P25 LED, 100AAT	1
194	0771870		Aerial, 100AAT, Alum Body	1
195	0554271		Body Skirt Height, 20"	1
196	0769002		Tank, Water, 300 Gallon, Poly, 100AAT	1
197	0751917		Overflow, 3.00" Water Tank, Poly	1
198	0028104		Foam Cell Required	1
199	0003429		Not Required, Direct Tank Fill	1
200	0769016		Hose Bed, Alum, Right Side, 100AAT	1
201	0555137		Hose Bed Capacity 800' of 5.00", 100AAT, 100' RMAP	1
202	0748063		Hose Restraint, Front Vinyl/Treadplate, 1" Heavy Nylon Web Rear, 100AAT	1
			Color, Vinyl Cover - i) blue	
203	0003512		Running Boards, Ascendant, PAL	1
204	0735630	SP	Turntable Steps,Punched Grip Pattern,Swing-Down,LS,Alum LED Handrail,100AAT	1
			Color, Handrail Light - Blue	
			Control, Handrail Light - Parking Brake	
205	0554001		Lights, Step (3), P25 LED, Swing Down Access Steps, One Side	1
206	0690023		Wall, Rear, Smooth Aluminum	1
207	0074515		Tow Eyes (2), 100AAT, Ascendant Single Axle, 75' HAL	1
208	0769019		Construction, Compt, Alum, 100AAT	1
209	0771504		Compt, Left Side, Roll, 100AAT	1
210	0771505		Compt, Right Side, Roll, 100AAT	1
211	0766483		Doors, Gortite Rollup, Side Compartments	9
			Qty, Door Accessory - 09	
			Color, Roll-up Door, Gortite - Painted to Match Lower Body	
			Latch, Roll-up Door, Gortite - Non-Locking Liftbar	
212	0740006		Bumper, Rear, 3", Counterweight, Steel, Full 45 Degree Angled Corners, 100AAT	1

Line	Option	Type	Option Description	Qty
213	0603083		Lights, Compt,Pierce LED,Dual Light Strips,Each Side Dr,Ascend TA,75'HAL,PAP,HDL Qty, - 09 Location, Compartment Lights - All Body Compts	9
214	0687145		Shelf Tracks, Recessed, PUC/3rd Generation	1
215	0600289		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial Qty, Shelf - 03 Material Finish, Shelf - Painted - Spatter Gray Location, Shelves/Trays, Predefined - RS2-Centered, LS2-Centered and LS3-Lower Third Left of Partition	3
216	0003984		Tray, 250 lb Slide-out, 2" Sides - Adj. Height Location - LS4 upper third and RS4 upper third Qty, Tray (slide-out) - 02	2
217	0083986		Tray, 215 lb, Tilt/Slide-Out, 30 Deg, Adj Qty, Tray (slide-out) - 04 Location, Tray - LS2, LS3, RS2 and RS3	4
218	0647772		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides, 3G Qty, - 04 location - LS2, LS4, RS2 and RS4 Material - paint to match compt interior	4
219	0544614		Toolboard, Swing-out, Alum, .188", Peg Board, 3G Qty - 1 Location, Pivot - Front Mounting, Toolboard - Adjustable Frt-back Hole Diameter, Pegboard/Toolboard - .203" diameter Finish, Pegboard/Toolboard - Painted - Spatter Gray Location, Toolboard - LS3 - Ahead of Partition	1
220	0650491		DuraSurf, Compartment Floor Location - LS3 Qty, - 01	1
221	0600281		Partition, Vertical Compartment, Predefined Locations Qty, Partition - 01 Location, Partition/Toolboard, Predefined - LS3- 60.00" From Forward Door Frame Material Finish, Partition - Painted - Spatter Gray	1
222	0757235	SP	Rub Rail, 2.00" High Rubber, Side of Body, 100AAT	1
223	0741457	SP	Fender Crowns, Rear, Rubber, Painted, w/Removable Fender Liner, Tandem Aerial,3G	1
224	0519849		Not Required, Hose, Hard Suction	1
225	0621021		Handrails, Side Pump Panels, Per Print, Hansen Knurled Alum Tubing, LED Backlit Switch, Handrail Light Control - Park Brake Color, Light, Hansen Handrail - Blue	1
226	0760668		Compt, Equipment/Air Pack, Betw Tandems, No Dividers, w/Strap, 100AAT, Bolt-In Qty, Air Bottle Comp - 1 Location, driver's/passenger's/center - LS Door Finish, Fender Compt - Polished Latch, Air Bottle Compt - Southco C2 Chrome Raised, Pair Insert, Air Bottle Compt - Dura-Surf Lining Door Type - lift up with pneumatic spring	1
227	0765324		Compt, Air Bottle/Extinguisher,Between Tandems,Three (3),w/Straps,100AAT,Bolt-In Qty, Air Bottle Comp - 1 Location, driver's/passenger's/center - RS Door Finish, Fender Compt - Polished Latch, Air Bottle Compt - Southco C2 Chrome Raised, Pair Insert, Air Bottle Compt - Rubber Matting Door Type - lift up with pneumatic spring	1
228	0795333		Compt, Air Bottle, Single, Fender Panel, Bolt-In Qty, Air Bottle Comp - 2 Door Finish, Fender Compt - Polished Location, Fender Compt - Single - LS Fwd and Single - LS Rear Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	2
229	0749265		Compt, Extinguisher in Fender Panel, 8.50" Square, Bolt-In, 100AAT Qty, - 02 Door Finish, Fender Compt - Polished	2

Line	Option	Type	Option Description	Qty
229			Location, Fender Compt - Single - RS Fwd and Single - RS Rear Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	
230	0768635		Ladder, 35' Duo-Safety 1200A 2-Sect	2
			Qty, - 02	
231	0010406		Ladder, 28' Duo-Safety 1200A 2-Section	1
			Qty, - 1	
			Location, Extension Ladder - torque box	
232	0652543		Ladder, 20' Duo-Safety 875-DR Roof	1
			Qty, - 01	
233	0542436		Ladder, 16' Duo-Safety 875-DR Roof	1
			Qty, - 01	
234	0024233		Not Required, Attic Extension Ladder	1
235	0054244		Ladder, 12' Duo-Safety Folding, 585A	1
			Qty, - 01	
236	0745985		Ladders Stored in Torque Box, Gortite Roll, 100AAT	1
			Color, Roll-up Door, Gortite - Satin finish	
			Latch, Roll-up Door, Gortite - Non-Locking, Rear	
			Latch, Door Ladder Storage - Southco C2 Chrome Raised, Pair	
237	0766602		Lights, Torque Box Ladder Storage, Pierce LED Strip Lights, 2 Lts, 100AAT	1
238	0602706		Pike Pole, 12', Quint, Provided by Fire Department, NFPA 2016	1
			Qty, - 01	
			Pike Pole Make/Model - Duo-Safety 12' Pike Pole	
239	0602688		Pike Pole, Quint, Provided by Fire Department, NFPA 2016	1
			Qty, - 01	
			Pike Pole Make/Model - Duo-Safety 10' Pike Pole	
240	0602866		Pike Pole, 6', Quint, Provided by Fire Department, NFPA 2016	2
			Qty, - 02	
			Pike Pole Make/Model - Fire Hooks Unlimited 6'/8' New York Roof Hook	
241	0014343		Not Required, Pike Pole, 3'	1
242	0770464		Trough, S/S, Torque Box/Ladder Storage, D-Handled Pike Pole/Trash Hooks	1
			Qty, - 01	
			Pike Pole Make/Model Predefined - Fire Hooks Unlimited 10' Arson Trash Hook D Handle	
243	0770572		Pike Pole Tubes, in Torque Box/Ladder Storage, Alum, Special Notch, NY Style	4
			Qty, - 04	
244	0767622		Pump, Waterous, S100, 2000 GPM, Single Stage, 100' AAT	1
245	0504116		Seal, Mechanical, Waterous, w/S100 Pump	1
246	0559768		Trans, Pump, Waterous C20, S100 Pump Only	1
247	0635600		Pumping Mode, Stationary Only	1
248	0605126		Pump Shift, Air w/Manual Override, Split Shaft, Interlocked, Waterous	1
249	0003148		Transmission Lock-up, EVS	1
250	0004547		Auxiliary Cooling System	1
251	0014486		Not Required, Transfer Valve, Stage Pump	1
252	0746508		Valve(s), Relief Intake, Trident Air Max, Control Location	1
			Qty - 1	
			Pressure Setting - 125 psig	
			Intake Relief Valve Control - Left Side Pump Panel	
253	0794959		Controller, Pressure, Pierce, Pump Boss, PBA300	1
254	0072153		Primer, Trident, Air Prime, Air Operated	1
255	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
256	0602492		Plumbing, Stainless Steel and Hose, Single Stage Pump, 100AAT	1
257	0795135		Plumbing, Stainless Steel, w/Foam System	1
258	0758412		Inlets, 6.00", (2) Right Side, 1500-2000 GPM Pump, 100AAT	1
259	0602448		Cap, Main Pump Inlet, Provided by Fire Department, NFPA 2016	1
260	0014650		Pump Suction Tube(s), Short, All	1
261	0084610		Valves, Akron 8000 series- All	1
262	0004660		Inlet, Left Side, 2.50"	1
263	0016158		Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	1
			Qty, Inlets - 1	
264	0034720		Anode, Zinc, Pair, Pump Inlets	1
265	0004700		Control, Inlet, at Valve	1
266	0563738		Valve, .75" Bleeder, Aux. Side Inlet, Swing Handle	1

Line	Option	Type	Option Description	Qty
267	0767284		Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing, 100AAT	1
268	0004905		Outlet, Tank Fill, 1.50"	1
269	0004940		Outlet, Left Side, 2.50"	2
			Qty, Discharges - 02	
270	0004945		Outlet, Right Side, 2.50"	1
			Qty, Discharges - 01	
271	0767613		Outlet, 4" w/4" Right, Sm Handwheel, 100AAT	1
			Valve, Brand - Akron	
272	0092572		Not Required, Outlet, Front	1
273	0752078		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, S/S Cable	1
274	0563739		Valve, 0.75" Bleeder, Discharges, Swing Handle	1
275	0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
276	0025091		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
277	0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	1
			Qty, - 01	
278	0062133		Control, Outlets, Manual, Pierce HW if applicable	1
279	0029106		Not Required, Deluge Outlet	1
280	0767110		Waterway Outlet & Control, 4" Akron, Sm HW, 100AAT	1
281	0762277		Crosslays Sngl Sheet Unpainted, (1+) 1.50" Std. Cap, 100AAT	1
			Qty, Crosslays - 1	
282	0762275		Crosslays Sngl Sheet Unpainted, (1) 2.50" Std Cap, 100AAT	1
283	0623374		Hose Restraint, Crosslays, 2" Nylon Web, Seat Belt Buckle, Tether, Bar, Sides	2
			Qty, - 02	
			Color, Strap - Red	
284	0767109		Foam Sys, Husky 12, Single Agent, Multi Select Feature, 100AAT	1
			Discharge, Foam Locations - Speedlay Lower and Speedlay Upper	
			Discharge, Foam Locations - Speedlay Lower and Speedlay Upper	
285	0012126		Not Required, CAF Compressor	1
286	0552481		Refill, Foam Tank, Single Tank, Husky 12, Class A Foam	1
287	0553150		Demonstration, Foam System and CAFS, Dealer Provided, Siddons-Martin	1
			Emergency	
288	0041377		Foam Cell, 25 Gallon, Reduce Water	1
			Type of Foam - Class "A"	
289	0505016		Drain, 1.00", Foam Tank #1, Husky 12 Foam System	1
290	0091112		Not Required, Foam Tank #2 Drain	1
291	0765390		Pump House, Side Control, 42", 100AAT, Control Zone	1
292	0738072		Approval Dwg, Pump Panel(s), Not Required	1
293	0032479		Pump Panel Configuration, Control Zone	1
294	0747651		Step, Slide-Out/Fold-Out, Pump Operator Platform, 100AAT	1
295	0617393	SP	Light, Slide-Out Pump Operator Step, TecNiq T10-LC00-1 15" LED, Short Step	1
296	0635355		Material, Pump Panels, Side Control Painted FormCoat Black	1
			Material Finish, Pump Panel, Side Control - Painted FormCoat Black	
			Material, Pump Panel, Side Control - Aluminum	
297	0743479		Panel, Pump Access - Right Side Only, Recessed Lift & Turn Latches, 100AAT	1
298	0767048		Pump House Structure	1
299	0005945		Light, Pump Compt	1
300	0536401		Gauges, Engine, Included With Pierce Pressure Controller	1
301	0005601		Throttle, Engine, Incl'd w/Press Controller	1
302	0549333		Indicators, Engine, Included with Pressure Controller	1
303	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
304	0553643		Control, Air Horn at Pump Panel w/Red Switch	1
305	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
306	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
307	0757359		Gauge, Water Level, Class 1, Remote Module Driver	1
			Activation, Water Level G - pb) parking brake is applied	
308	0693788		Water Level Gauge, Wln 50*02Z*R LED w/Flange, Gr-BI-Amb-Rd	2
			Location - high each side rearward of crew cab doors	
			Qty, - 02	
			Activation, Water Level G - pb) parking brake is applied	
309	0062992		Gauge, Foam Level, (1) Tank, Class 1, 5lt	1
310	0593126		Light Shield, S/S DS & PS, 100AAT, Std LED	1
311	0761601		Air Horns, (2) Grover, In Bumper, 100AAT	1

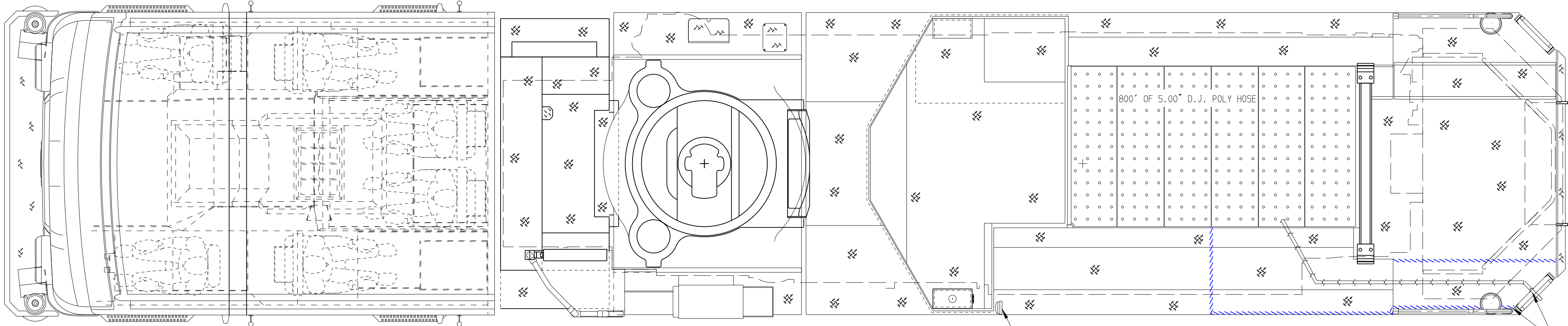
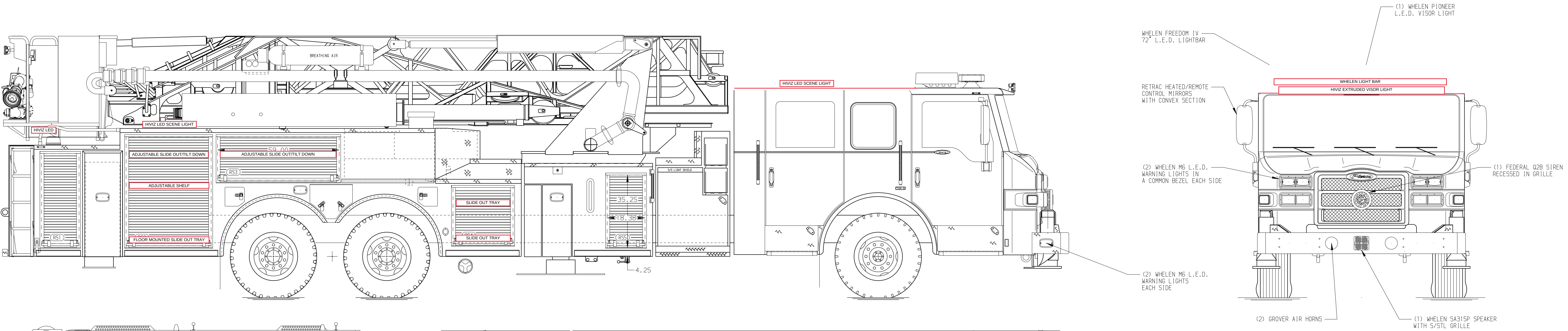
Line	Option	Type	Option Description	Qty
312	0606833		Location, Air Horns, Bumper, Each Side, Inside Frame (Pos #3 & #5)	1
313	0757092		Control, Air Horn, Multi Select	1
314	0757072		Control, Air Horn, Rocker/Membrane Sw, RS	1
315	0757084		Control, Air Horn, Horn Ring	1
316	0533071		Siren, Wln 295SLSC1, w/Detachable Mic Cord	1
317	0510206		Location, Elect Siren, Recessed Overhead In Console	1
			Location, Elec Siren - Overhead, DS Center Sw Pnl	
318	0604087	SP	Control, Elec Siren, Horn Ring, PS Overhead Switch Panel	1
319	0601304		Speaker, (2) Wln, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	1
			Connection, Speaker - siren head	
320	0601558		Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame, Inbrd (Pos 2/6)	1
321	0767024		Siren, Federal Q2B, VEL, 100AAT	1
322	0578974		Siren, Mechanical, Recessed In Grille, Imp/Vel	1
323	0748305		Control, Mech Siren, Multi Select	1
324	0748274		Control Mech Siren, Rocker/Membrane Sw, RS	1
325	0748282		Control Mech Siren, Ft Sw LS	1
326	0740834		Sw, Siren Brake, Momentary Red, LS Overhead Sw Pnl	1
327	0740392		Sw, Siren Brake, Momentary Red, RS Overhead Sw Pnl	1
328	0748713	SP	Lightbar, Wln, Freedom IV-Q, 72", RRRWBB____RRWBBB	1
			Filter, Whl Freedom Ltbrs - No Filters	
329	0540460		Light, Front Zone, Wln M6*C LED, Clear Lens, 4lts Q Bezel	1
			Color, Lt DS Frnt Outside - DS Front Outside Red	
			Color, Lt PS Frnt Outside - PS Front Outside Red	
			Color, Lt DS Front Inside - b) DS Front Inside Blue	
			Color, Lt PS Front Inside - g) PS Front Inside Green	
330	0757440		Light, Front, Roto Ray 4000W, PAR46 LED, 2-R, 1-W, Hidden Mt Top Section Grl	1
331	0653937		Flasher, Headlight Alternating	1
			Headlt flash deactivation - a)w/high beam	
332	0540692		Lights, Side Zone Lower, Wln M6*C LED, Clear Lens, 3pr, Ovr 25	1
			Location, Lights Front Side - b)each side bumper	
			Color, Lt Side Front - Red	
			Color, Lt Side Middle - Blue	
			Color, Lt Side Rear - Blue	
			Location, Lights Mid Side - Rearward of Crew Cab Doors	
			Location, Lights Rear Side - Between Tandem	
333	0745871		Lights, Side, Wln WIONSM** LED, Trim Fet, 1st	4
			Location, Lights - as far forward at the LS forward body rolled edge of treadplate, as far rearward over LS2, as far forward at the RS forward body rolled edge of treadplate and as far rearward over RS2	
			Qty, - 04	
			Color, Lights, Warning - Red	
			Control, Light - b) side warning	
			Color, Trim - Chrome Trim	
334	0564655		Lights, Rear Zone Lower, Wln M6*C LED, Clear Lens, For Tail Lt Housing	1
			Color, Lt DS Rear - b) DS Rear Lt Blue	
			Color, Lt PS Rear - r) PS Rear Lt Red	
335	0754220		Lights, Rear, Wln M6** LED, Features 1st	2
			Location - high each side of the rear bulkhead per the AD	
			Qty, - 02	
			Color, Lights, Warning - Green Flashing	
			Control, Light - a) rear upper warning	
			Color, Lens, LED's - Clear	
			Color, Trim - Chrome Trim	
336	0636558		Light, Rear Zone Upper, Wln L31H*F LED Beacon	1
			Color, Lens, LED's - c)clear	
			Color, Beacon, DS LED's - Red	
			Color, Beacon, PS LED's - Blue	
337	0785832	SP	Not Required, Lights, Rear Upper Zone Blocking	1
338	0791501		Light, Traffic Directing, Wln TAL65, 36" Long LED, Aerials	1
			Activation, Traffic Dir L - Aux Flash with Emergency Master	
339	0738095		Location, Traf Dir Lt, Surface Mounted Over Rear Door in Box 100AAT	1
340	0530282		Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	1

Line	Option	Type	Option Description	Qty
341	0780244		Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, GFCI Location, Receptacles - 1 high corner left wall mount to the back wall LS2 compartment, 1 high corner right wall mount to the back wall RS2 compartment, 1 centered corner left wall mount to the back wall RS EMS cabinet and 1 centered corner right wall mount to back wall LS EMS Qty, - 04 AC Power Source - Shoreline Cover, Receptacle - Exterior Flip Up Duplex Cover(s)	4
342	0519934		Not Required, Brand, Hydraulic Tool System	1
343	0649753		Not Required, PTO Driven Hydraulic Tool System	1
344	0771866		Aerial, Ascendant 100' Aerial Tower	1
345	0739073		Boom Panel, Pair, 100AAT	1
346	0526890		Paint Color, Predefined - #118 white Not Required, Indicator, Extension	1
347	0688232		Rung Covers, Aerial Device Rung Cover Color - Photoluminescent	1
348	0623645		Aerial Stability Test, Max Tip Options	1
349	0741339		Box, Saw Storage, w/Cover, Universal Box, Base Section Above Boom Panel, 100AAT Qty, - 02 Finish - Painted, Aerial Device Color Latch, Door, Storage - "D" Handle Latch w/(2) Gas Struts Location, Aerial Device - each side Louvers - no louvers	2
350	0766887		Brackets, Stokes Storage, Base Section Above Boom Panel, 100AAT Qty, - 01 Finish - DA Finish Location, Aerial Device - right side	1
351	0770598		Basket, 100AAT	1
352	0766894		Lights, Turntable Walkway, P25, On Scene, LED, 100AAT	1
353	0767535		Light, Turntable Console, TecNiq E-10, LED	1
354	0766962		Basket Heat Shields, 100AAT	1
355	0766953		Control Stations, 100AAT	1
356	0751348		Lights, Basket Interior, CLC-1049-20, 20" 100AAT	1
357	0771862		Stabilizers, 100AAT, Three Sets	1
358	0746173		Door, Stabilizer Control Box, Aerial MUX, Hinged Inboard, Smooth Aluminum, 100AAT	1
359	0615058		Stabilizer Placement, Cameras w/Command Zone Color Display, 1 Set	1
360	0771218		Hydraulic System, 100AAT	1
361	0767932		Swivels, w/Encoder, 36, 100AAT	1
362	0767931		Electrical System, 100AAT	1
363	0750002	SP	Light, Tip, HiViz FT-MB-2.18-*. 20.6" FT-MBKIT-PX, Frnt of Bskt 100AAT 1lt Color, Lt Housing HiViz - Job Color Scene Light Optics - combination Control, Tip Lts - Turntable and Tip, LS Cab, RS Cab and LS Pump Panel	1
364	0751828		Lights, Tracking, HiViz FT-WL-X-9-*. LED, 100AAT 2lts Location, Sw, Arl DC Lts - m) 2 locations Color, Lt Housing HiViz - Job Color Scene Lt Optics LH Base - Left Flood Combination Scene Lt Optics RH Base - Right Flood and Spot	1
365	0769515		Basket Access, Ladder Style, 100AAT	1
366	0554330		Lights, Step (4), P25, Ladder Style Access Steps, Both Sides	1
367	0749120		Lighting, Rung, LED, TecNiq, 5 Section, Base, Low, Cent, Upper, Fly, 100AAT Control, Aerial Rung Lighting - Turntable Sw w/Aerial Mstr Color, Lt Aerial Fly Sect - White Color, Lt Aerial Base Sect - White Color, Lt Aerial Lower Mid Sect - White Color, Lt Aerial Upper Mid Sect - White Color, Lt Aerial Mid Sect - White	1
368	0749072		Review Required, Rung Lighting 100AAT	1
369	0540743		Lights, Stabilizer Warn (2) Sets, WIn M6*C LED, Clear Lens Color, Lt Rr Stabilzr Pan - r) Pan Light Red Color, Lt Fr Stabilzr Pan - r) Pan Light Red	1
370	0068703		Lights, Grote Supernova LED, Stabilizer Beam, (1) Set	1

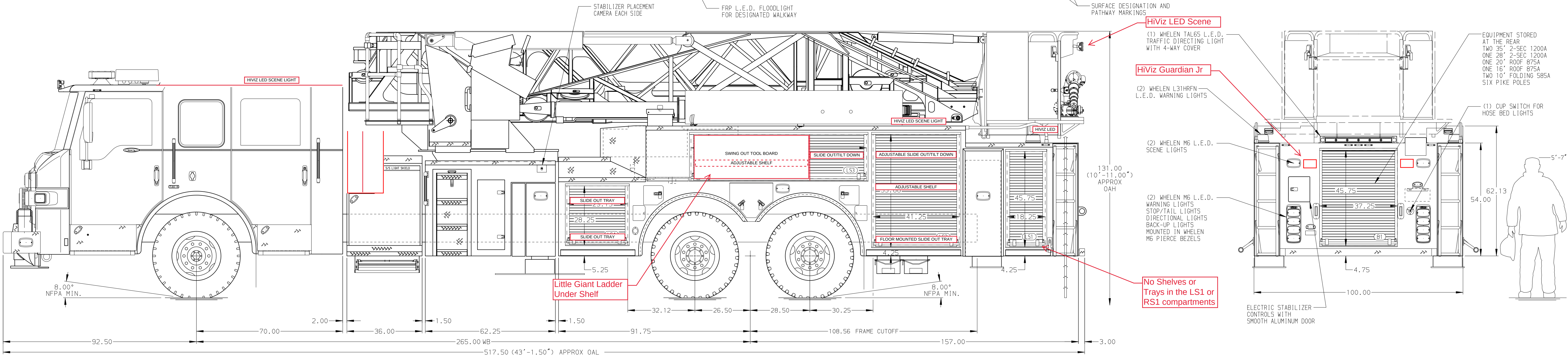
Line	Option	Type	Option Description	Qty
371	0762387		Lights, Stabilizer Scene, (3) sets, Amdor AY-LB-12HW012, 100AAT	1
372	0764091		DC Power To Tip, 12.88 Amp, 100AAT	1
373	0737500	SP	Light, HiViz, FT-MB-2.6-**, 7.9" 12 Volt Under Steps, 100AAT, 1st	2
			Qty, - 02	
			Location, Sw, Arl AC Lts - M)2 Pos	
			Color, Lt Housing HiViz - Job Color	
			Scene Light Optics - combination	
			Location, Lts Under 100'AAT Steps - LS Under Corner Step Center (US5)	
			and RS Under Corner Step Center (US11)	
374	0737181		Intercom, 2-Way Fire Research ICA910 Hands Free	1
375	0540918		Not Required, Breathing Air to Tip, Aerial Platform	1
376	0024742		Not Required, Mask, Breathing Air To Tip	1
377	0767396		Aerial Pedestal, 100AAT	1
378	0766834		Lyfe Brackets, 3-In-1, Used w/Duo-Safety 875 Ladders ONLY, 100AAT	1
379	0767149		Turntable Access, ManSaver Bar, Yellow	1
380	0769514		Waterway, 100AAT	1
381	0554243		Not Required, Preconnect At Platform, TFT VUM or Akron AVM	1
382	0764417		Monitors, (2), TFT Monsoon, Y4-MP1A-P-01 Manual and Y4-EP1A-P Elec, (Use w/VUM)	1
			Nozzle, Monitor 1, PAP - TFT YST-4NN Tips	
			Nozzle, Monitor 2, PAP - TFT M-ERP2000 Electric 2000 gpm	
383	0086971		Flowmeter, Waterway, MUX, PAP	1
384	0009364		Inlet, 5.00", S/S, w/ Pump, 100AAT	1
385	0003839		Adapter, Aerial Inlet, 5" FNST x 5" Storz w/Cap	1
			Qty, - 1	
386	0685122		Valves, (2) TFT VUM (Valve Under Monitor), Manual, (PAP)	1
387	0047897		Tools, Aerial	1
388	0655391		Manuals and Training, 4 Consecutive Days, Platform	1
389	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
390	0602497		NFPA Required Loose Equipment, Quint, NFPA 2016, Provided by Fire Department	1
391	0602397		Soft Suction Hose, Provided by Fire Department, Quint NFPA 2016 Classification	1
392	0027023		No Strainer Required	1
393	0602534		Extinguisher, Dry Chemical, Quint NFPA 2016, Provided by Fire Department	1
394	0602352		Extinguisher, 2.5 Gal. Pressurized Water, Quint, NFPA 2016, Provided by Fire Dept	1
395	0765595		Ladder Belts, Aerial	1
			Safety Belt, Large/XL - (2) two Large/XL (34"-42" waist)	
			Safety Belt, Small/Medium - (1) one Small/medium (26"-34" waist)	
			Safety Belt, XXL - (1) one XXL (42"-50" waist)	
396	0007482		Not Required, Crowbars	1
397	0007484		Not Required, Claw Tools	1
398	0602883		Axe, Flathead, Quint NFPA 2016, Provided by Fire Department	1
399	0602670		Axe, Pickhead, Quint NFPA 2016, Provided by Fire Department	1
400	0007494		Not Required, Sledgehammers	1
401	0559573		Paint, Single Color, Custom	1
			Paint Color, Predefined - #118 white	
402	0646901		Paint Chassis Frame Assy, With Liner, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Lower Job Color	
403	0693797		No Paint Required, Aluminum Front Wheels	1
404	0693792		No Paint Required, Aluminum Rear Wheels	1
405	0007230		Compartment, Painted, Spatter Gray	1
406	0792638		Aerial Platform Paint	1
			Paint Color, Aerial Device - Blue metallic 499	
			Paint Color, Turntable - blue metallic 499	
			Paint Color, Boom Support - gloss black primer	
			Paint Color, Cylinders - white 118	
			Paint Color, Aerial Torque Box - gloss black primer	
			Paint Color, Aerial Stabilizers - black 101	
			Paint Color, Aerial Basket - blue metallic 499	
			Paint Color, Aerial Rotation Motor - blue metallic 499	
			Paint Color, Aerial Control Console - white 118	
407	0544129		Reflective Band, 1"-6"-1"	1
			Color, Reflect Band - A - d) blue	

Line	Option	Type	Option Description	Qty
407			Color, Reflect Band - B - o) blue	
			Color, Reflect Band - C - z) blue	
408	0510041		Reflective across Cab Face, Imp/Vel	1
409	0738142	SP	Stripe, Chevron, Rear, Diamond Grade/Scotchlite, Non-NFPA 2016 Colors, Aerial	1
			Color, Reflect Band - A - k) light blue	
			Color, Chevron DG - Yellow Green, Fluorescent	
410	0598747		Stripe, Reflective/Diamond Grade, Chevron Stripes, Two (2) Stabilizers	1
			Color, Reflect Band - A - k) light blue	
			Color, Reflect Chev - A - t) fluorescent yellow green diamond grade	
			Size, Stripe - a) 4.00"	
411	0749089	SP	Stripe, Reflective, Chevron, Front Bumper, Non-NFPA colors	1
			Color, Reflect Band - A - k) light blue	
			Color, Reflect Band - B - l) white	
			Size, Chevron Striping - 06	
412	0022087		"Z" Ribbon, w/Shade in Reflective Stripe, Pair	1
			Qty, - 1	
413	0065687		Stripe, Reflective, Cab Doors Interior	1
			Color, Reflective - k) light blue	
414	0033179		Lettering Specifications, Reflective	1
415	0686154		Lettering, Reflective, 4.00", Each	18
			Qty, Lettering - 18	
			Outline, Lettering - Outline and Shade	
416	0685978		Lettering, Reflective, 18.00", Each	4
			Qty, Lettering - 04	
			Outline, Lettering - No Outline or Shade	
417	0685985		Lettering, Reflective, 12.00", Each	6
			Qty, Lettering - 06	
			Outline, Lettering - Outline and Shade	
418	0685987		Lettering, Reflective, 11.00", (21-40)	1
			Outline, Lettering - Outline and Shade	
419	0686002		Lettering, Reflective, 8.00", Each	6
			Qty, Lettering - 06	
			Outline, Lettering - Outline and Shade	
420	0686084		Lettering, Reflective, 3.00", Each	12
			Qty, Lettering - 12	
			Outline, Lettering - Outline and Shade	
421	0686033		Lettering, Reflective, 4.00", Each	16
			Qty, Lettering - 16	
			Outline, Lettering - Outline and Shade	
422	0695610		Emblem, Reflective, Per Dept. Submittal, Each	2
			Qty, - 02	
			Location, Emblem - cab doors	
			Size, Dept Seal, Reflect - 14" - 16"	
423	0769755		Emblem, Texas Flag Painted on Cab Grille, All Custom Chassis	1
424	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	1
			Qty, - 01	
425	0772037		Manual, Chassis Service, USB Flash Drive, Custom	1
			Qty, - 01	
426	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
427	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
428	0611136		Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	1
429	0696696		Warranty, Engine, Detroit DD13, 5 Year, WA0180	1
430	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
431	0595767		Warranty, Frame, 50 Year, Velocity/Impel, Dash CF, WA0038	1
432	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
433	0777368		Warranty, Axle, 2 Year, Meritor, General Service, WA0328	1
434	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
435	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
436	0595813		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
437	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
438	0695416		Warranty, Pierce Camera System, WA0188	1
439	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
440	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1

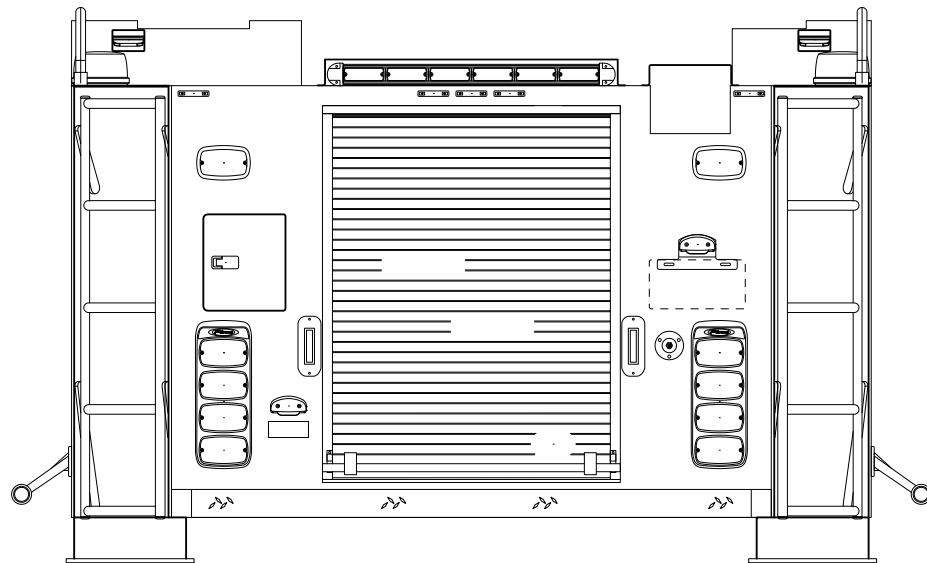
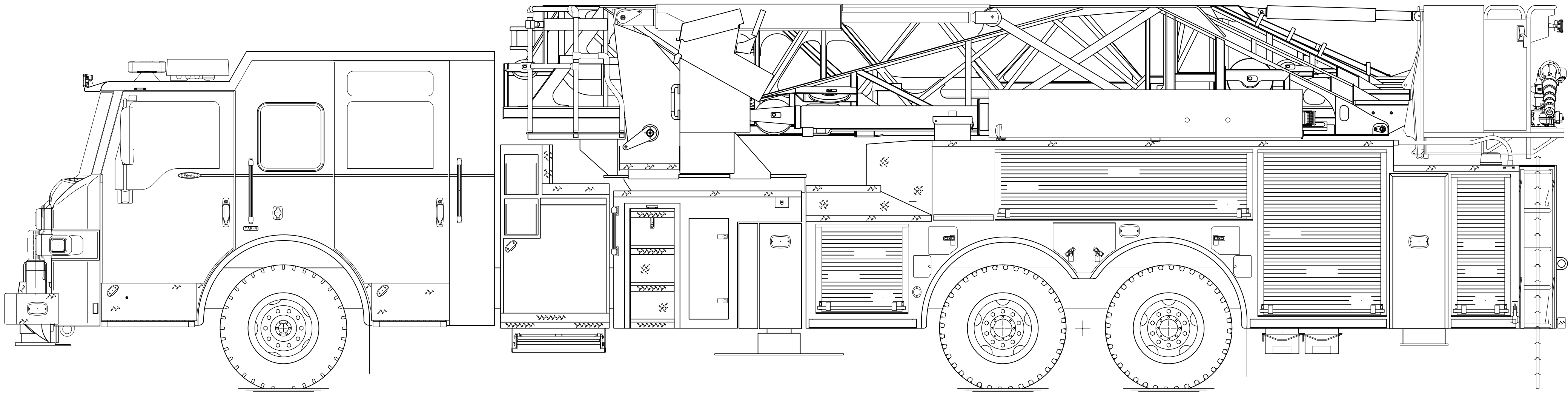
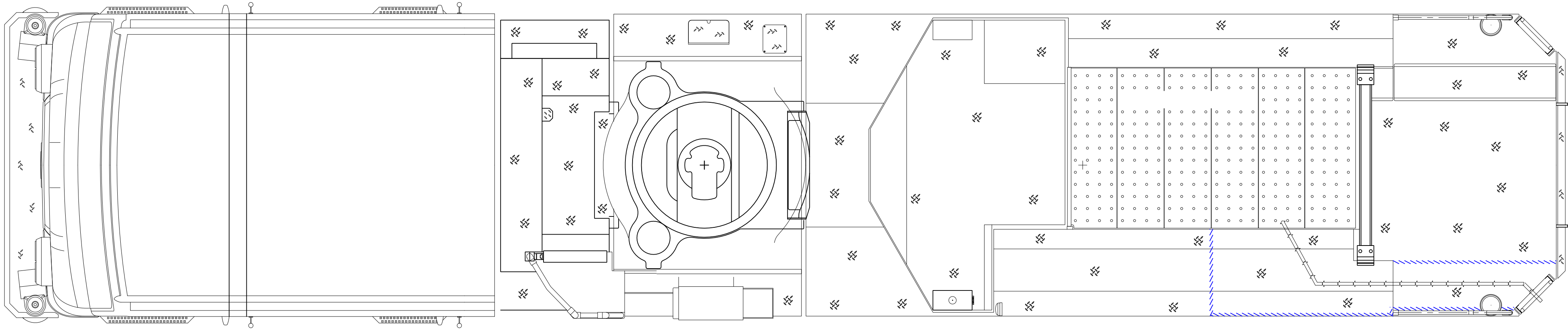
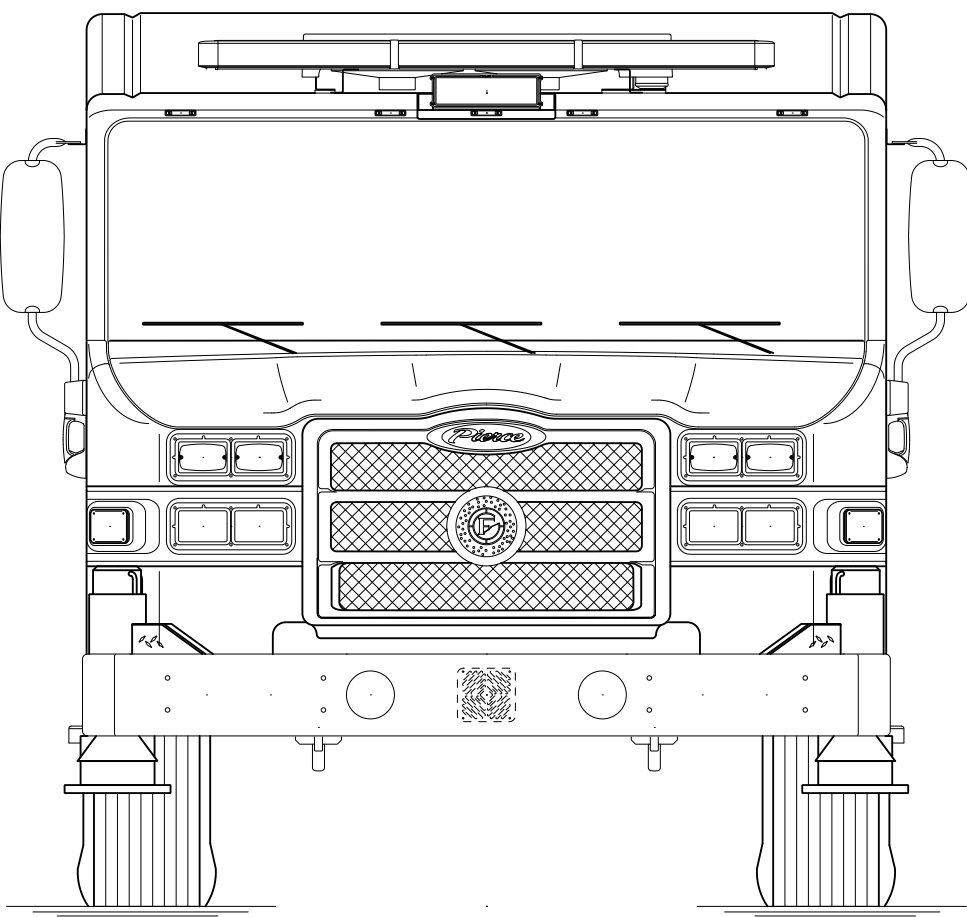
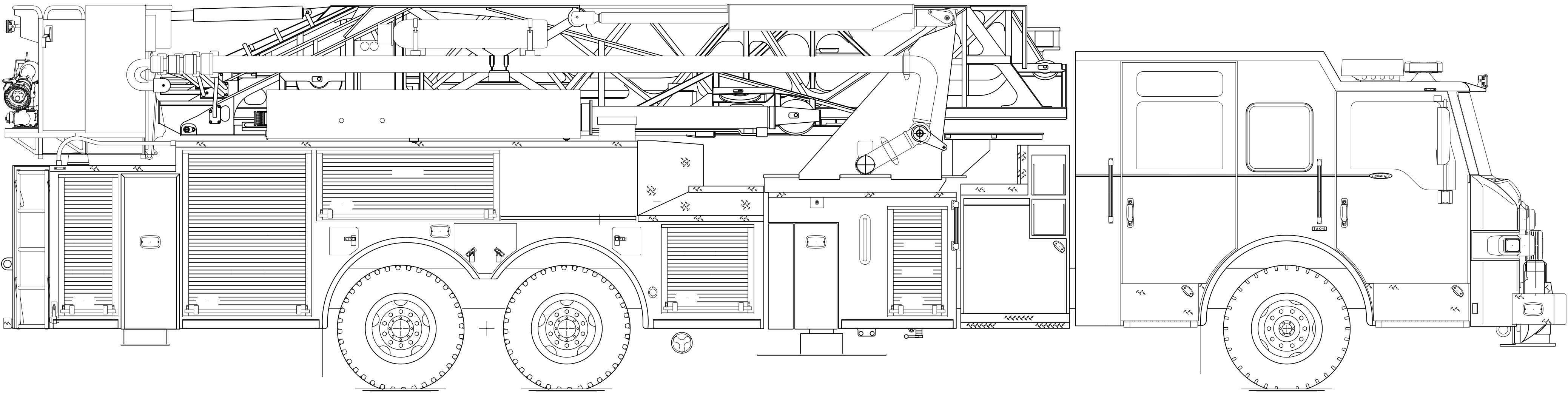
Line	Option	Type	Option Description	Qty
441	0685945		Warranty, Transmission Cooler, WA0216	1
442	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
443	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
444	0693127		Warranty, Gortite, Roll-up Door, 6 Year, WA0190	1
445	0063510		Warranty, Pump, Waterous, 5 Year Parts, WA0225	1
446	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
447	0657846		Warranty, Foam System, Husky 12, WA0231	1
448	0006999		Warranty, Structure, 20 Year, Aerial Device, WA0052	1
449	0687388		Warranty, Swivels, 5 Year, Aerial Device, WA0197	1
450	0685727		Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200	1
451	0687327		Warranty, Waterway, 10 Year, Aerial Device, WA0198	1
452	0595860		Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047	1
453	0553455		Warranty, Electronics, 5 Year, MUX, WA0014	1
454	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
455	0595412		Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	1
456	0683627		Certification, Vehicle Stability, CD0156	1
457	0610837		Certification, Engine Installation, Velocity, Detroit DD13, 2016, CD0148	1
458	0686786		Certification, Power Steering, CD0098	1
459	0667417		Certification, Cab Integrity, Velocity FR, CD0009	1
460	0548950		Certification, Cab Door Durability, Velocity/Impel, CD0001	1
461	0548967		Certification, Windshield Wiper Durability, Impel/Veloccity, CD0005	1
462	0667411		Certification, Electric Window Durability, Velocity/Impel FR, CD0004	1
463	0549273		Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	1
464	0735440		Certification, Not Required, Selection from Another Category	1
465	0735449		Certification, Not Required, Selection from Another Category	1
466	0735950		Certification, Cab HVAC System Performance, Velocity/Impel FR, CD0166/CD0168	1
467	0545073		Amp Draw Report, NFPA Current Edition	1
468	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
469	0799248		Appleton/Florida BTO	1
470	0000053		Ascendant Tower	1
471	0000012		PIERCE CHASSIS	1
472	0562778		DD13 ENGINE	1
473	0046396		EVS 4000 Series TRANSMISSION	1
474	0020011		WATEROUS PUMP	1
475	0020009		POLY TANK	1
476	0028048		FOAM SYSTEM	1
477	0020006		SIDE CONTROL	1
478	0020007		AKRON VALVES	1
479	0020015		ABS SYSTEM	1
480	0755454		AERIAL MEDIUM	1



BODY	WATER TANK
100' Ascendant Aerial Tower Alum Body	275 Gallon Poly Water Tank
COMPT, LEFT SIDE	Foam System
Full Height RollUp Doors	Husky 12 Single Agent Foam System
COMPT, RIGHT SIDE	Foam Cell
Full Height RollUp Doors	25 Gallon Foam Cell, Reduced Water



CHASSIS Velocity Chassis (Big Block) ENGINE 525 HP DD13 Engine	CAB 7010 Velocity FR Cab BUMPER 15" Extended Painted Aluminum	AXLE, FRONT, CUSTOM 24,000 Lb TAK-4 Axle AXLE, REAR 52,000 Lb Meritor Axle	TRANSMISSION Allison 5th Gen, 4000 EV5 P	PUMPHOUSE 36" Control Zone Side Mount PUMP 2000 GPM Waterous S100	CROSSLAYS, 1.50" (2) 1.50", With Trays, 200" CROSSLAYS, 2.50" 2.50" CrossLay Not Required	SPEEDLAYS Speedlays Not Required GENERATOR Generator Not Required	SAFETY Side Roll and Frontal Impact Protection	CUSTOMER APPROVAL APPROVED BY: _____ DATE: _____	MANUFACTURING INC.	JOB NO. — SCALE 1:24 DATE
NOTE DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS AS MAY OCCUR OR BE NECESSARY IN CONSTRUCTION. MINOR DETAILS NOT SHOWN.		1. HUSKY 12 RESERVOIR LOCATED PER SHOP ORDER 2. SHORELINE RECEPTACLE WITH KUSSMAUL SUPER AUTO-EJECT LOCATED ON DRIVER SIDE OF THE CAB 3. AIR INLET WITH DISCONNECT COUPLING IN THE DRIVER SIDE STEPWELL 4. BATTERY CHARGER LOCATED IN COMPARTMENT PER SHOP ORDER 5. BATTERY CHARGE INDICATOR LOCATED NEAR DRIVER SEAT RISER WITH BRACKET 6. ADJUSTABLE SHELVES IN COMPARTMENTS PER SHOP ORDER 7. NON-RAISED AERIAL PEDESTAL 8. 3-in-1 LIVECOMBO BRACKETS AT AERIAL BASKET								CHECKED BY — SHEET NO. 1 OF 1
REV	DATE	BY	CH	MAKE PIERCE	MODEL	TITLE FOR 2020 Windcrest Velocity AAT	DWG NO.			



NOTE
LAYOUT AND SIZES PROVIDED BY CUSTOMERS
MAY VARY DUE TO AVAILABLE WORKING SPACE.

COLOR LEGEND	
PINK	LETTERING (VINYL OR REFLECTIVE)
ORANGE	STRIPING (VINYL OR REFLECTIVE)
GREEN	GOLD LEAF
YELLOW	CUSTOMER FURNISHED PRODUCT

CUSTOMER APPROVAL

APPROVED BY: _____
DATE: _____

				CHASSIS DATA
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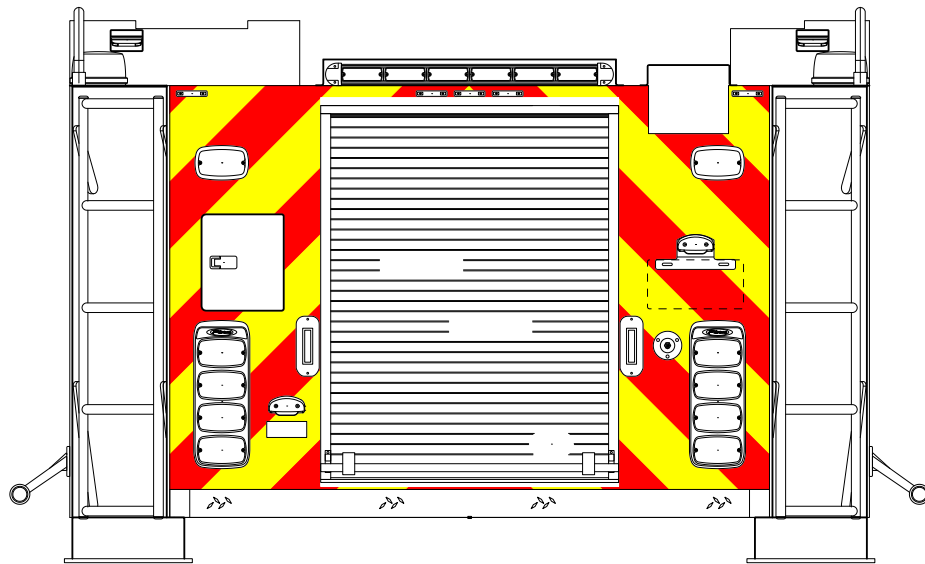


MANUFACTURING INC.

TITLE LETTERING, STRIPING, AND PAINTING INSTRUCTIONS
FOR 2020 Windcrest Velocity AAT

DWG NO. LSP-LP

JOB NO.	-
SCALE	1:24
DATE	
DRAWN BY	-
CHECKED BY	-
SHEET SIZE	D
SHEET NO.	1 of 1



CUSTOMER APPROVAL

APPROVED BY: _____

DATE: _____

NOTE: PLEASE REVIEW CHEVRON COVERAGE AND DOOR MATERIAL PER PULSE OPTIONS. NON-RELATED OR NON-CRITICAL MINOR DEVIATIONS MAY EXIST.



MANUFACTURING INC.

JOB NO.

—

SCALE

1:24

DRAWN BY

—

DATE

20FEB20

TITLE

CHEVRON DRAWING

—

FOR

2020 Windcrest Velocity AAT

—

DWG
NO.

CHEVRON-CD

SHEET SIZE

A

SHEET NO.

1 of 1



Apparatus Specialists, Inc.

514 Michigan / South Houston, Texas 77587 / (713) 475-2411 / (713) 475-2428 fax

PROPOSAL

Thursday, May 14, 2020

Windcrest Fire Department
Attention: Fire Chief Daniel Kramer
8601 Midcrown Drive
Windcrest, TX 78239

The undersigned is prepared to furnish for you, upon an order being placed by you, for final acceptance by Metro Fire Apparatus Specialists, Inc at its office in Houston, Texas the apparatus and equipment herein named and for the following prices:

One (1) Spartan Mid-Mount Platform Quint on a Gladiator Chassis as specified

\$1,327,907.00 (85' MMPQ) or \$1,485,398.00 (93' MMPQ)

Proposal price includes HGAC fee and Loaner Aerial for FD during construction

No State, Federal or local taxes included

The apparatus and equipment are to be supplied and shipped in accordance with the specifications and approvals by the Windcrest Fire Department. Delays due to strikes, war or other causes beyond our control not preventing, within **365-395 calendar days after receipt of order**, and to be delivered to you at:

*Windcrest Fire Department
Windcrest, Texas*

The specifications herein contained shall form a part of the final contract and are subject to changes desired by the Windcrest Fire Department. The proposal specifications are supplied for construction purposes. Any additions and/or changes to the enclosed specifications shall be generated and/or approved by the Windcrest Fire Department, and accepted by Metro Fire Apparatus Specialists, Inc.

Unless accepted within 45 days from this date, Metro Fire Apparatus Specialists, Inc. reserves the right to withdraw this proposal.

TERMS:

Payment due upon delivery and acceptance of completed apparatus.

By: 

Brian Russell – Apparatus Manager

“The Apparatus Specialists”



Apparatus Specialists, Inc.

514 Michigan / South Houston, Texas 77587 / (713) 475-2411 / (713) 475-2428 fax

PROPOSAL INFORMATION

Any of the below aerials could be used as the loaner unit during construction. The unit to be used will be determined by the City of Windcrest and the Windcrest Fire Department.

Loaner Aerial Apparatus Options:

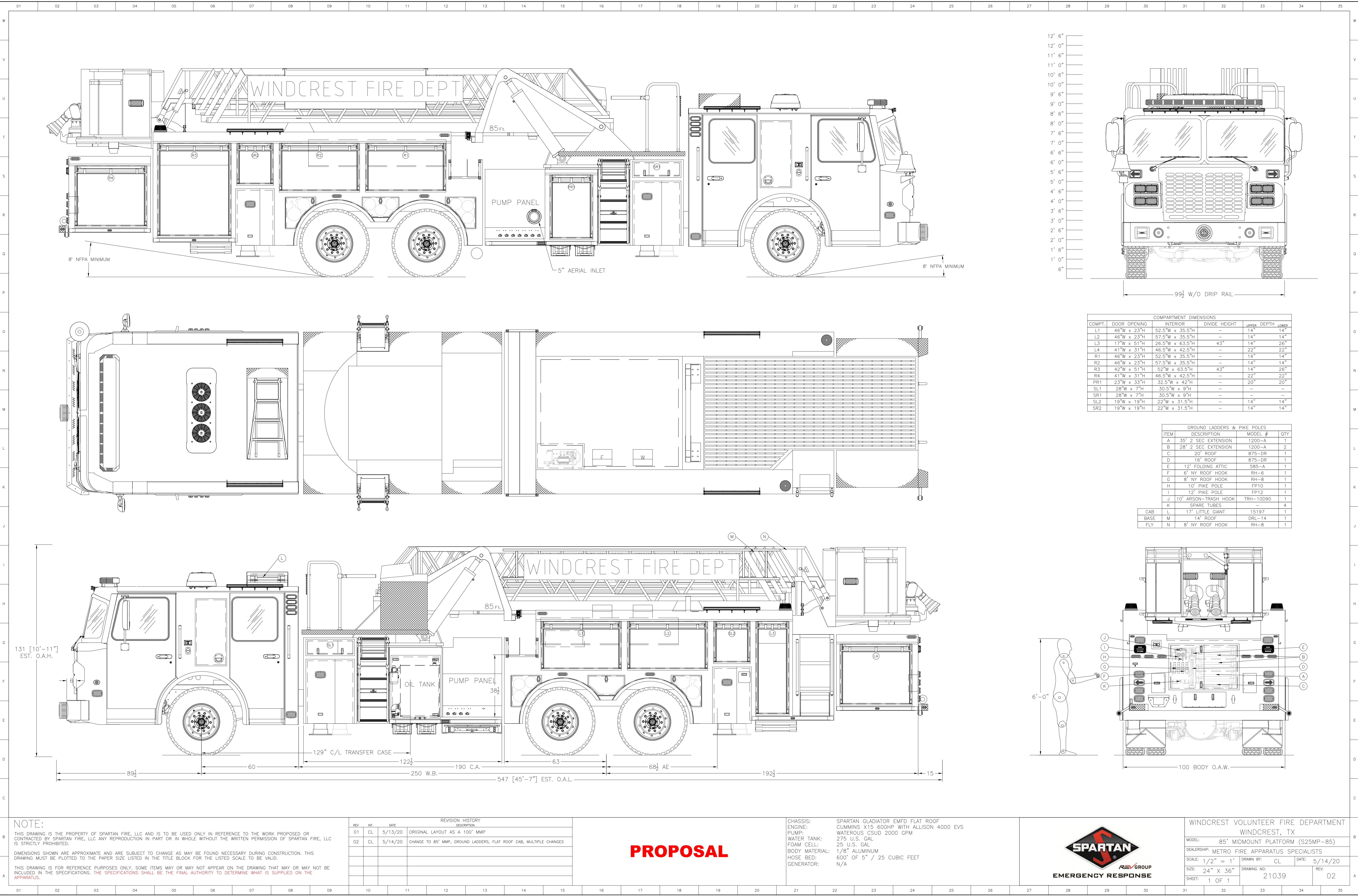
- 105' Rear Mount Aerial Quint
 - o Unit # S4855
 - o 11' 11" Height
 - o 41' 8" Length
 - o 225" Wheelbase

- 75' Rear Mount Aerial Quint (2 Options)
 - o Unit # L218229-01
 - o 11' 5" Height
 - o 36' 6" Length
 - o 207" Wheelbase

 - o Unit # 4971
 - o 11' 5" Height
 - o 38' 7" Length
 - o 212" Wheelbase

For the loaner that is chosen we will add the Windcrest FD patch to the front cab doors and install a fire department radio in the unit.

"The Apparatus Specialists"





Apparatus Specialists, Inc.

514 Michigan / Houston, Texas 77587 / (713) 692-0911 / (713) 692-1591 fax

Windcrest 85' Mid Mount Platform Quint Specifications

INTENT OF SPECIFICATIONS

It is the intent of these specifications to cover the furnishing and delivery to the purchaser of a complete apparatus equipped as herein specified. With a view to obtaining the best results and the most acceptable apparatus for service in the fire department, these specifications cover the general requirements as to the type of construction, together with certain details as to finish, equipment, and appliances with which the successful bidder must conform. Minor details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features.

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in business for a minimum of 50 years.

Each bidder shall furnish satisfactory evidence of his ability to construct the apparatus specified. The bidder shall also show that they are in a position to render prompt service and furnish replacement parts for said apparatus.

Aerials containing load ratings and capabilities of the highest level within the respective model class shall be accepted. Bids submitted containing medium duty or light duty aerial ladders shall not be considered as meeting minimum requirements and will automatically be rejected.

CONTRACTOR'S SPECIFICATIONS

Each bid shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed and to which the apparatus furnished under contract shall conform.

These specifications shall indicate size, type, model, and make of all component parts and equipment.

The submitted bids shall clearly describe the capabilities of the aerial device. Items such as safety factor certification, horizontal reach, vertical reach, scrub chart information, load capabilities, flow ratings, monitor capabilities, short set capabilities, safety interlock information, estimated completed weight information and other pertinent information shall be either submitted with the bid or readily available if requested.

TIMELY PROPOSALS

It is the bidder's responsibility to see that their proposals arrive on time. Late proposals, facsimiles, e-mails, telegram, or telephone bids shall not be considered.

WINDCREST VOL FIRE DEPARTMENT

DRAWINGS

All bid drawings shall be stamped PROPOSAL.

- A total of six (6) drawings shall be supplied. The provided drawings can be printed to any paper size, but the scale will only be valid when printed to the paper size listed in the title block
- Drawings shall show five (5) views: left (drivers), right (officers), front, rear, and top
- OAL (overall length) in feet and inches. The estimated length shall be rounded up to the nearest inch
- OAH (overall height) in feet and inches. The estimated height shall be rounded up to the nearest inch
- Wheelbase in inches
- Pump house width in inches
- Front of the body to the centerline of the rear axle in inches
- Front and rear overhang in inches
- Angle of approach and departure
- Roll up doors will be shown in open position. Lap doors will be shown in the closed position
- Compartment dimensions shall be shown in a table on the drawing. The table shall display

1. Clear door opening – The width/height of the clear door opening
2. Interior dimensions – The interior compartment dimensions excluding any accessories or pockets (i.e. roll up door drums, hard suction hose pans, suspension pockets, etc.)
3. Divide heights – The measurement where the compartment changes from full depth to shallow depth
4. Compartment depths – Depth of the compartment with the door closed

- Ground ladders shall be labeled with a letter designation referring to the table for an explanation of the ladder
- No pump panel or instrument panel controls, discharges or inlets shall be shown. The panel space is to be left blank and labeled "Pump Panel"
- Rear plumbing, such as 2-1/2" discharges, rear steamers, and direct tank fills, shall be shown
- Water tank outline (if applicable)
- Water tank and foam cell fill towers (If applicable)
- Generator outline (if applicable)
- Warning lights
- D.O.T. lights

Text Block Items

- Chassis make/model
- Fire pump make/model
- Water tank capacity (if applicable)

WINDCREST VOL FIRE DEPARTMENT

- Foam cell capacity (if applicable)
- Body material
- Hose bed capacity in cubic feet (if applicable)
- Total compartment cubic feet
- Utilize an unique bid number
- Drawings shall be printed on white paper with black ink

PURCHASER'S OBLIGATIONS

The purchaser reserves the right to accept or reject any or all bids on such basis as the purchaser deems to be in its best interest. All bidders shall be advised that the purchaser is not bound in any manner to automatically accept the lowest bid. The purchaser shall only be obligated to purchase the lowest bid that meets these detailed specifications as closely as possible.

SPECIALIZATION

Due to the complexity of the apparatus proposed, it is the desire of the purchaser to obtain equipment that is built by companies that specialize in the construction in accordance with NFPA 1901, current edition compliant aerial devices.

The aerial device shall be engineered and fabricated by a manufacturer with a minimum of 40 years of experience in the aerial field. No exceptions shall be allowed.

No prototype devices or aerials without a proven field record shall be acceptable. The aerial device provided shall be of the highest quality available in the industry.

SAFETY REQUIREMENTS

It is required that the bidder shall meet all State and Federal safety standards and laws that are in effect on the date of the bid for the item(s) that are specified and the particular use for which they are meant.

ACQUAINTANCE WITH SPECIFICATIONS

It is the responsibility of the bidder to review all of the bidding requirements. Failure of a bidder to be acquainted with this information shall not relieve them from any obligations of the bid requirements.

QUALITY AND WORKMANSHIP

The design of the apparatus shall embody the latest approved automotive engineering practices. Experimental designs and methods shall not be acceptable.

The workmanship shall be of the highest quality in its respective field. Special consideration shall be given to the following points: accessibility of the various units that require periodic maintenance, ease of operation (including pumping and driving), and symmetrical proportions.

WINDCREST VOL FIRE DEPARTMENT

Construction shall be rugged and ample safety factors shall be provided to carry loads as specified.

GENERAL CONSTRUCTION

The complete apparatus, assemblies, sub-assemblies, component parts etc., shall be designed and constructed with due consideration to the nature and distribution of the load to be sustained and to the general character of service which the apparatus is to be subjected when placed in service.

All parts of the apparatus shall be strong enough to withstand the general service under full load. The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment, and repair.

The apparatus shall be designed and constructed, and the equipment mounted, with due consideration to the distribution of the load between the front and rear axles, and side to side loading that all specified equipment, including a full complement of specified ground ladders, full water tank, loose equipment, and firefighters; shall be carried without overloading or damaging the apparatus in accordance with NFPA 1901, current edition requirements.

LIABILITY

The bidder, if their bid is accepted, shall defend any and all suits and assume all liability for the use of any patented process, device or article forming a part of the apparatus or any appliance furnished under the contract.

WARRANTY

A copy of the warranties for the chassis, pump, body, paint, water tank (if applicable), aerial device, waterway, and waterway seals shall be furnished with each bidder's proposal.

INFORMATION REQUIRED UPON DELIVERY

The manufacturer shall supply at the time of delivery at least two copies of a complete operation and maintenance manual covering the completed aerial device as delivered.

Parts manuals, where possible, shall be cross-referenced to show the actual manufacturer's name, part number and description on all parts and fittings that are commercially available.

DESIGN / CONSTRUCTION / TESTING CRITERIA

The following criteria shall be applicable to this specification to the extent specified herein:

- NFPA 1901, Current Edition
- American Society for Testing and Materials (ASTM A-36)
- Society of Automotive Engineers, Inc. (SAE) "SAE Handbook"

WINDCREST VOL FIRE DEPARTMENT

- American Welding Society (AWS) AWSO 14.4-77
- American Welding Society (AWS) D1.1 and D1.2
- American Society of Non-Destructive Testing (ASNT) "ASNT CP-189

The aerial ladder shall be designed, fabricated, and tested in accordance with the above codes and specifications, as well as all other applicable codes, standards, and specifications that may be referenced by any of the above.

NON-DESTRUCTIVE TESTING

Steel ladders, turntable, stabilizers, and torque box shall have 100% of all welds tested using both magnetic particle method and visual testing method. Aerials that are fabricated of aluminum shall have 100% of all welds tested using dye penetrant method and visual method. All testing shall be performed by certified technicians, which are employees of an independent nationally recognized and certified third-party testing company. Manufacturers who rely on visual inspection (either in-house or by a third party) as the primary method of testing, and magnetic particle or dye penetrant as a secondary or "proving" test method for only suspect areas shall not be acceptable. In any case, welds shall be tested using two (2) separate NDT inspection methods regardless of the material used to construct the aerial device.

THIRD PARTY CERTIFICATION

All bids shall include copies of the certification of testing of the aerial device. The purchaser desires a device that has been tested by a third party for compliance with the minimum 2 to 1 safety factor specified in accordance with NFPA 1901, current edition. Devices that have not been certified by a third party engineering firm that is independent of the manufacturer shall not be acceptable, no exceptions.

AERIAL DEVICE SAFETY FACTOR AND RATED CAPACITY

The purchaser desires to purchase, using these specifications, an aerial device with a minimum 2.0:1 Safety Factor as required and defined in accordance with NFPA 1901, current edition. Therefore, the aerial manufacturer shall hereby certify, by submitting a bid for these specifications that the aerial device meets or exceeds all requirements and conditions in these specifications, no exceptions.

BID FORMS / SPECIFICATIONS

All bid forms shall be submitted on the attached bid form. The bid form and/or these specifications shall be filled out by checking either the "YES" or "NO" column for each and every section/paragraph. Failure to use this form and/or these specifications shall be cause for immediate rejection of any bid.

EXCEPTION TO SPECIFICATIONS

The following chassis, pump, and body specifications shall be strictly adhered to. Exceptions shall be allowed if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page entitled "EXCEPTIONS

WINDCREST VOL FIRE DEPARTMENT

TO SPECIFICATIONS". Exception lists shall refer to the specification page number. Each check in the "NO" column shall be listed and fully explained. Where no check is made in a particular paragraph either "YES" or "NO", it shall be assumed the bidder is taking exception to that paragraph. If a paragraph contains an empty column, where the bidder neglected to check the proper "YES" or "NO" column, it is assumed the bidder is not conforming to the requirements of this paragraph. If no explanation is given in the "EXCEPTIONS TO SPECIFICATIONS" document, the bid is subject to immediate rejection.

PROPOSALS TAKING TOTAL EXCEPTION TO THESE SPECIFICATIONS WILL BE IMMEDIATELY REJECTED.

The buyer is aware that all bidders shall have to take some exceptions, therefore; **BIDDERS THAT TAKE NO EXCEPTIONS shall BE REQUIRED TO MEET EVERY PARAGRAPH TO THE FULLEST EXTENT SHOULD THEIR BID BE ACCEPTED.** It is the intent of the purchaser to receive bids that do not require telephone calls or other communications to ascertain what a bidder is intending to supply.

Upon delivery, the apparatus shall be inspected against these specifications and not those supplied by the bidder with their proposal. Deviations shall not be acceptable unless noted as exceptions at the time of bid. The apparatus shall be rejected until said deviations are corrected to the satisfaction of the buyer.

Decisions regarding equal to or better than shall be the sole responsibility of the recipient of the bids rather than companies submitting bids. All deviations, regardless of significance, must be explained in the "EXCEPTIONS TO SPECIFICATIONS" section of the bid.

When exceptions are not taken but inconsistencies are noted in the submitted detailed specifications, the bid may be rejected.

ROADABILITY

The apparatus, when fully equipped and loaded, shall be capable of the following performance while on dry paved roads that are in good condition:

- Accelerating from 0 to 35 mph within 25 seconds on a 0 percent grade
- Attaining a speed of 50 mph on 0 percent grade
- Maintaining a speed of at least 20 mph on any grade up to and including 6 percent
- The maximum top speed of the apparatus shall not exceed the tire manufacturer's maximum speed rating for the tires installed on the apparatus

FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements of these specifications on the first trials, second trials may be made at the option of the bidder within 30 days of the date of the first trials.

Such trials shall be final and conclusive and failure to comply with these requirements

WINDCREST VOL FIRE DEPARTMENT

shall be cause for rejection. Failure to comply with changes as required to conform to any clause of the specifications within 30 days after notice is given to the bidder of such changes, shall be cause for rejection of the apparatus.

Permission to keep or store the apparatus in any building owned or occupied by the department during the specified period, with the permission of the bidder, shall not constitute acceptance.

PROPOSAL SEQUENCE

Bid specifications shall be submitted in the same sequence as these specifications for ease of checking compliance. No exceptions shall be allowed to this requirement. The apparatus committee intends to be thorough during the evaluation of bids process. In order to maximize efficiency and minimize time to thoroughly evaluate all received bids, this requirement must be strictly enforced.

AWARD OF CONTRACT

All bids submitted shall be valid for a minimum of 30 days during which time bid securities submitted with the proposals shall be held by the purchaser. Criteria for the award shall include, but not be limited to, the following:

- Apparatus Performance And Safety Levels / Considerations
- Completeness of proposal
- Accuracy of accompanying data
- Past performance of bidder
- Compliance with the detailed specifications
- Compliance with purchasers request(s) for personnel qualifications or certifications
- Exceptions and clarifications
- Financial stability of bidder
- Local representation of the manufacturer
- Serviceability of the proposed apparatus
- Service capabilities of the bidder's local representative
- Compliance with NFPA 1901, current edition
- Any other factor the purchaser deems relevant

After the evaluation and award process is complete, all bidders shall be notified of the results and securities shall be returned.

PREREQUISITE BIDDING REQUIREMENTS

Any manufacturer submitting a proposal or bid, to these specifications, shall meet the following conditions:

- The manufacturer of the apparatus herein specified, shall be wholly owned (100%) and managed by a Company, Corporation, and/or Parent Company that is wholly based and permanently resides in the United States of America.
- The Company, Corporation, and/or Parent Company, and all assets belonging to such, shall be wholly owned and managed (100%) by the entities specified above.

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Any proposal, bid, or response to these specifications by any foreign based, owned, or managed (in part or in whole) Company, Corporation, and/or Parent Company shall be cause for immediate rejection. Any proposal, bid, or response to these specifications by any Company, Corporation, and/or Parent Company, that is owned, operated, managed, or held in contract, in part or wholly by a partnership or other agreement, shall be cause for immediate rejection.

Exceptions to these conditions will not be allowed under any circumstances.

NFPA 1901-2016

The National Fire Protection Association "Standard for Automotive Fire Apparatus", 2016 edition, is hereby adopted and made a part of these specifications, the same as if it were written out in full detail, with the exception of the section dealing with "Equipment Recommended for Various Types of Apparatus". Bidders shall provide the equipment requested herein and the buyer shall supply the rest before the apparatus is put into service. It is the intent of the purchaser to purchase an apparatus that meets 100% of the minimum standards defined and outlined in NFPA 1901-2016 edition. There are to be no exceptions to this requirement.

INSPECTION CERTIFICATE - NFPA 1901 COMPLIANCE

An OEM inspection certificate for the apparatus shall be furnished upon delivery. The purpose of this NFPA 1901 compliance inspection shall be to serve as proof to the customer that all applicable standards have been met or exceeded by the responsible manufacturer.

The following objectives shall be achieved as a result (this listing shall not be construed as being all inclusive):

- Ensure that understanding of all parties respective responsibilities have been addressed by the actual referencing of NFPA 1901 and the amendments in these specifications and the purchase contract and documentation.
- Ensure that only structural materials complying with appropriate standards and codes are used for construction.
- Ensure the applicable standards of design and manufacturing have been met or exceeded.
- Ensure that safety factors have been met or exceeded where required.
- Ensure that applicable standards for testing and inspection have been met or exceeded by personnel with the appropriate qualifications, experience, and certifications.
- Ensure that where applicable components, equipment, and loose equipment carry the appropriate characteristics, classifications, and/or certifications.
- Ensure that in general and as a whole, all applicable requirements set forth in NFPA 1901, and those codes, standards, and specifications referenced by said parties are met, exceeded, and/or addressed.

CONSTRUCTION DOCUMENTATION

The contractor shall supply, at the time of delivery, at least one (1) copy of the following

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documents:

1. The manufacturer's record of apparatus construction details, including the following information:

- Owners name and address
- Apparatus manufacturer, model, and serial number
- Chassis make, model, and serial number
- GAWR of front and rear axles
- Front tire size and total rated capacity in pounds or kilograms
- Rear tire size and total rated capacity in pounds or kilograms
- Chassis weight distribution in pounds with water and manufacturer mounted equipment (front and rear)
- Engine make, model, serial number, rated horsepower and related speed and governed speed
- Type of fuel and fuel tank capacity
- Electrical system voltage and alternator output in amps
- Battery make, model, and capacity in cold cranking amps (CCA)
- Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio
- If applicable, the pump make, model, rated capacity in gallons or liters per minute, and serial number
- Pump transmission make, model, serial number, and gear ratio, if unit is equipped with a pump
- If applicable, the auxiliary pump make, model, rated capacity in gallons or liters per minute, and serial number
- Water tank certified capacity in gallons or liters
- On aerial apparatus, the device type, rated vertical height in feet or meters, rated horizontal reach in feet or meters, and rated capacity in pounds or kilograms
- Paint manufacturer and paint number(s)
- Company name and signature of responsible company representative

2. Certification of slip resistance of all stepping, standing, and walking surfaces

3. If the apparatus has a fire pump, a copy of the following shall be provided: pump manufacturers certification of suction capability, apparatus manufacturers approval for stationary pumping applications, engine manufacturers certified brake horsepower curve showing the maximum governed speed, pump manufacturers certification of the hydrostatic test, and the certification of inspection and test for the fire pump

4. If the apparatus has an aerial device, the certification of inspection and test for the aerial device, and all the technical information required for inspections to comply with NFPA 1914, Standard for Testing Fire Department Aerial Devices

5. If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source

6. If the apparatus is equipped with an air system, test results of the air quality, the SCBA fill station, and the air system installation

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7. Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus (with the water tank full but without personnel, equipment, and hose)
8. Written load analysis and results of the electrical system performance tests
9. When the apparatus is equipped with a water tank, the certification of water tank capacity

OPERATION AND SERVICE DOCUMENTATION

The contractor shall supply, at the time of delivery, at least two (2) sets of complete operation and service documentation covering the completed apparatus as delivered and accepted. The documentation shall address at least the inspection, service, and operations of the fire apparatus and all major components thereof. The contractor shall also provide documentation of the following items for the entire apparatus and each major operating system or major component of the apparatus:

- Manufacturers name and address
- Country of manufacturer
- Source of service and technical information
- Parts and replacement information
- Descriptions, specifications, and ratings of the chassis, pump, and aerial device
- Wiring diagrams for low voltage and line voltage systems to include the following information: representations of circuit logic for all electrical components and wiring, circuit identification, connector pin identification, zone location of electrical components, safety interlocks, alternator-battery power distribution circuits, and input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
- Lubrication charts
- Operating instructions for the chassis, any major components such as a pump or aerial device, and any auxiliary systems
- Precautions related to multiple configurations of aerial devices, if applicable
- Instructions regarding the frequency and procedure for recommended maintenance
- Overall apparatus operating instructions
- Safety considerations
- Limitations of use
- Inspection procedures
- Recommended service procedures
- Troubleshooting guide
- Apparatus body, chassis, and other component manufacturers warranties
- Special data required by this standard
- Copies of required manufacturer test data or reports, manufacturer certifications, and independent third-party certifications of test results
- A material safety data sheet (MSDS) for any fluid that is specified for use on the apparatus
- One (1) copy of the FAMA Safety Guide

The contractor shall deliver with the apparatus all manufacturers operations and service

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documents supplied with components and equipment that are installed or supplied by the contractor.

STATEMENT OF EXCEPTIONS

The proposed apparatus as described in this specification document and all related material with the bid package shall meet or exceed all applicable sections for the category of apparatus as defined by NFPA 1901 unless specifically noted within this specification or other official documents associated with this bid.

Should any area, section or portion of the apparatus not meet the intent and applicable requirements, a clearly defined listing or explanation of what and why compliance was not achieved shall be provided to the purchaser at the time of delivery.

OWNER'S MANUAL

An owner's manual containing the construction, operation, and service documentation shall be provided on a USB Drive. One (1) copy of the USB shall be provided with the apparatus.

ELECTRICAL MANUAL

A complete electrical manual for the apparatus shall also be provided on the USB Drive. This manual shall be specifically prepared for this individual unit rather than a generic schematic manual designed to accommodate all apparatus. The electrical manual shall also include electrical schematics, harness layouts, V-Mux specifications (including Node Input/output Spreadsheet and Node Relationship Spreadsheet), and Master Wire Listing. A contact letter shall also be provided by the electrical engineer, who built the manual, with instructions on using the manual and contact information for assistance with electrical manual questions.

ELECTRICAL SCHEMATICS

A section of the electrical manual shall include schematics of the electrical system and components on the apparatus. These schematics shall be specifically prepared for this individual unit rather than a generic schematic designed to accommodate all apparatus.

PUMP PLUMBING SCHEMATICS (if applicable)

A section of the electrical manual shall include a schematic of the pump plumbing. This schematic shall be specifically prepared for this individual unit rather than a generic schematic designed to accommodate all apparatus.

HYDRAULIC SCHEMATICS (if applicable)

A section of the electrical manual shall include schematics of the hydraulic components on the apparatus including but not limited to:

- Ladder Rack(s) and Hose Bed Door(s) (if applicable)

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- Aerial – Retraction/Extension (if applicable)
- Aerial – Rotation (if applicable)
- Tiller – HVAC Hydraulics System (if applicable)

FIRE APPARATUS SAFETY GUIDE

One (1) printed copy of the FAMA Fire Apparatus Safety Guide shall be provided with the apparatus. This guide provides safety instructions for operations of the fire apparatus.

AERIAL OPERATION/PARTS/MAINTENANCE MANUALS

One (1) printed aerial operation and maintenance manual shall be provided with the apparatus at the time of delivery. These manuals shall be written in a "step by step" format for ease of reference. One (1) USB shall be provided with a digital copy of the aerial manuals included with the printed version. Finally, a digital version of the aerial manuals will also be included with the complete Owner's Manual USB for the apparatus.

Information included in the manuals shall include, but not be limited to the following:

1. Manufacturer Defined Terminology; (to help impart full understanding of terminology used in the manuals)
2. Safety Information and Warnings; (to warn of dangerous conditions/personnel injury/equipment damage)
3. Complete Rated Capacities Information; (allowable loads and GPM flows)
4. Complete and Detailed Operating Systems Descriptions; (to impart understanding of operation/capabilities/working principles)
5. Instruction For Manufacturer Recommended Deployment and Operation Of All Systems During All Specific Conditions; (to ensure safer, more efficient operation of the aerial device)
6. Current, Actual Illustrations Of Aerial Components Throughout The Manual; (to aid in location of specific components, being addressed in the manual)
7. Complete Maintenance Instructions/Methods/Materials/Intervals/Inspections.

AERIAL PLATFORM DEVICE DEMONSTRATION - (3) DAYS

A factory trained and authorized instructor shall provide three (3) consecutive days of on-site classes after apparatus acceptance.

Topics covered in the class shall include:

- General familiarization and demonstration of aerial device
- Aerial apparatus safety including a review of all safety devices, interlocks, and operational hazards
- Positioning and locating the vehicle for safe operations
- Chassis parking brakes and engagement of hydraulic system
- Deployment of stabilization devices and use of ground pads

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- Operation of elevation, extension, and rotation of the aerial device
- Operation of waterway, nozzle, and other firefighting devices of aerial device
- Operation and use of breathing air system
- Specific aerial device maintenance and service areas for operators
- Shutdown and return to service operations
- Operation of tip controls and platform controls if equipped

Classes shall consist of presentations as well as hands-on demonstration.

MISCELLANEOUS EQUIPMENT ALLOWANCE

The Gross Axle Weight Rating (GAWR) and the Gross Combined Weight Rating (GCWR) or Gross Vehicle Weight Rating (GVWR) of the chassis shall be adequate to carry the weight of the unequipped apparatus with the water tank and other tanks full, specified hose load, unequipped personnel weight, ground ladders, and miscellaneous equipment allowance of 2,500 pounds.

TILT TABLE TESTING NOT REQUIRED

The chassis of the apparatus is equipped with Electronic Stability Control (ESC), which is in accordance with NFPA 1901, current edition requirement of maintaining a stability of 26.5 degrees in both directions.

VEHICLE STABILITY

The apparatus shall comply with the requirements of NFPA 1901 as it applies to vehicle stability. The particular apparatus as described in the specification provided within the bid package shall be classified into one of the following categories:

- The apparatus shall go through actual tilt table testing which shall be determined by the apparatus manufacturer.
- The apparatus shall be equipped with a rollover stability control system as defined in section 4.13.1.2 of NFPA 1901.
- The apparatus shall be deemed a similar apparatus and meeting the intent of section 4.13.1.1.2 of NFPA 1901.

INDEPENDENT THIRD PARTY PUMP CERTIFICATION

The fire pump shall be tested and certified by Underwriter's Laboratories, a nationally recognized independent third party testing company. Tests shall be conducted so that the pump performs as listed below:

- 100% of rated capacity at 150 pounds net pressure

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- 70% of rated capacity at 200 pounds net pressure
- 50% of rated capacity at 250 pounds net pressure
- 100% of rated capacity at 165 pounds net pressure

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 spots as outlined in accordance with NFPA 1901, current edition. The pump shall be free from objectionable pulsation and vibration.

PUMP CERTIFICATION

The pump shall be certified in U.S. gallons per minute (GPM).

ONLINE CUSTOMER INTERACTION

Smeal Holding LLC. shall provide the capability for online access.

The fire department shall be able to view digital photos of their apparatus in the specified phases of construction.

The following phases will be captured and displayed:

- Chassis arrival to the OEM
- Fabrication
- Pump and Plumbing
- Paint
- Assembly
- Completion of production

The photos shall be uploaded to a secure website, only accessible to the customer and representatives of the OEM.

PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be held at the apparatus manufacturer's factory. Fire department personnel, dealer representative(s) and factory representative(s) shall be present during the pre-construction meeting process. The purpose of conducting this meeting at the factory is to allow the fire department personnel to see various features of or similar components on other apparatus that may be found on the production floor. The pre-construction meeting is the most important meeting during the after-sale production process. The purpose of this meeting is to finalize all aspects of the specifications, discuss and clarify all design details of the apparatus, and to share or provide all information so all parties are in agreement on the apparatus being constructed. The ultimate goal of the pre-construction meeting is for the fire department officials, dealer representative(s), and factory representative(s) to discuss and clarify all aspects of the proposed apparatus and to provide all necessary information to the apparatus manufacturer that will ensure the apparatus is built to the satisfaction of all parties involved.

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The apparatus manufacturer shall create and forward to the dealer a "Pre-construction" document containing the following items:

- Complete specifications of the apparatus including the chassis
- Detailed amp draw report
- Listing of clarifications or questions from the manufacturer that require attention (shelf locations, lettering details, etc.)
- A total of six (6) packets of 11" x 17" drawings, each packet complete with a single view drawing for each side of the apparatus shall be supplied
- All drawings shall be drawn and printed to an appropriate scale to maximize the size of the apparatus on each 11" x 17" sheet of paper.

During this pre-construction meeting, any changes or clarifications must be documented on a manufacturer issued change order. The change order shall be signed by the customer and dealership and ultimately by the apparatus manufacturer. The change order becomes an extension of the contract with the official signatures of all three parties. All change order items resulting from the pre-construction meeting shall be implemented into the official shop order document.

FINAL INSPECTION

The department/dealer representative will inspect the final apparatus prior to it leaving the apparatus body manufacturer's facility. This will allow any changes that may be required, to be done so in a timely manner. After leaving the facility, all repairs or alterations will be performed by either the dealer or an OEM-approved service center.

MAXIMUM OVERALL HEIGHT

The overall height of the apparatus shall not exceed 132" (11'-0") from the ground. This measurement shall be taken with the tires properly inflated and with the apparatus in the unloaded condition to ensure a maximum overall height. In order to provide the maximum overall height, proposed units using calculated weight as a means to achieve a lower overall height shall not be accepted. The measurement shall be taken at the highest point of the apparatus.

MAXIMUM OVERALL LENGTH

The overall length of the apparatus shall not exceed 547" (45'-7").

WHEELBASE

The wheelbase of the apparatus shall not exceed 250".

ANGLE OF APPROACH

The angle of approach of the apparatus shall be a minimum of 8 degrees.

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ANGLE OF DEPARTURE

The angle of departure of the apparatus shall be a minimum of 8 degrees.

CHASSIS MODEL

The chassis shall be a Gladiator model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2021 model year.

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. Spartan Chassis is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from Spartan Chassis or their OEM needed to be in compliance with those regulations.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English. All applicable caution, warning, and safety notice labels shall be Innovative Controls brand. Where applicable to the location within the specific layout and label package of the cab and chassis, the labels shall include decorative chrome bezels. Designs shall include bezels that fit individual labels or packaged configurations of labels in certain common locations.

The following labels shall be Innovative Controls brand, each including a decorative chrome bezel (where applicable):

- Shoreline
- Aerial Stowed
- Aerial Breakers 2
- Air Conditioner
- Cab Tilt Plate
- Air Compressor Breaker
- Battery Conditioner Breaker
- Helmet Caution
- Horn Tag
- Q2B Tag
- Load Center Plate
- Not a Step Label
- Occupancy Tag
- Do Not Move
- Occupants Must Be Seated

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- Do Not Stand
- Danger Do Not Weld
- Danger--Untrained Operator
- Def Tag, including any additional labels selected in the 2907- subcat
- Battery Direct
- Kneeling
- IFS Air Fault
- Engine Brake
- Retarder
- LR 100 Amp Node
- 300 Amp EPU
- 100 Amp Front O/R Node
- 100 Amp T/T Node
- 100 Amp RR O/R Node
- 10 Amp EPU
- Master Power
- 12 Volt Power
- Aerial Hours
- Pump In Drive
- Windshield Washer Fluid

APPARATUS TYPE

The apparatus shall be a Quint vehicle designed for emergency service use. The apparatus shall include a permanently mounted fire pump which has a minimum rated capacity of 750 gallons per minute (3000 L/min), a water tank, a hose storage area, a mid mount aerial ladder or elevating platform with a permanently mounted waterway, and compliment of ground ladders.

VEHICLE TYPE

The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.

VEHICLE ANGLE OF APPROACH PACKAGE

The angle of approach of the apparatus shall be a minimum of 8.00 degrees.

NFPA1901 Angle of Approach definition:

"To determine the angle of approach, place a thin steel strip against the front of the tires where they touch the ground or stretch a tight string from one front tire to the other at the front where they touch the ground. Determine the lowest point (component or equipment) on the vehicle forward of the front tire that would make the smallest angle of approach. Hang a plumb bob from the lowest point and mark the point on the ground where the point of the plumb bob touches. Measure the vertical distance from the ground to the point where the plumb bob was hung (distance V). Measure the horizontal distance from the plumb bob point to the steel strip or string running from front tire to front tire (distance H). Divide the vertical distance by the horizontal distance. The ratio of V/H is the tangent of the angle of approach. If the ratio is known, the angle of approach can be determined from a table of trigonometric functions of angles or from a math calculator. The standard requires a minimum angle of approach of 8.00 degrees: since the tangent of 8.00 degrees is 0.1405, if V divided by H is 0.1405 or larger, the angle of approach is 8.00 degrees or greater."

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AXLE CONFIGURATION

The chassis shall feature a 6 x 4 axle configuration consisting of a tandem rear drive axle set with a single front steer axle.

GROSS AXLE WEIGHT RATINGS FRONT

The front gross axle weight rating (GAWR) of the chassis shall be 24,000 pounds.

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 60,000 pounds.

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

CAB STYLE

The cab shall be a custom, fully enclosed, EMFD model with a flat roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to eight (8) seating positions.

The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.

The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.

All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.

The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and roof skin shall be 0.13 inch thick; the rear wall skin shall be 0.09 inch thick; the front cab structure shall be 0.19 inch thick.

The exterior width of the cab shall be 99.40 inches wide with a minimum interior width of 91.00 inches. The overall cab length shall be 137.10 inches with 60.00 inches from the centerline of the front of the axle to the back of the cab.

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The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

The cab shall offer an interior height of 57.50 inches from the front floor to the headliner and a rear floor to headliner height of 55.00 inches at a minimum. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of 55.88 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 51.00 inches high, from the cab floor to the top of the door opening.

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.

The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.

The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.

OCCUPANT PROTECTION

The vehicle shall include the Advanced Protection System™ (APS) which shall secure belted occupants and increase the survivable space within the cab. The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The system components shall include:

- Driver steering wheel airbag
- Driver dual knee air bags (patent pending) with energy management mounting (patent pending) and officer knee airbag.
- Large driver, officer, and crew area side curtain airbags
- APS advanced seat belt system - retractor pre-tensioners tighten the seat belts around the occupants, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries

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- Heavy truck Restraints Control Module (RCM) - receives inputs from the outboard sensors, selectively deploys APS systems, and records sensory inputs immediately before and during a detected qualifying event
- Integrated outboard crash sensors mounted at the perimeter of the vehicle - detects a qualifying front or side impact event and monitors and communicates vehicle status and real time diagnostics of all critical subsystems to the RCM
- Fault-indicating Supplemental Restraint System (SRS) light on the driver's instrument panel

Frontal impact protection shall be provided by the outboard sensors and the RCM. In a qualifying front impact event the outboard sensors provide inputs to the RCM. The RCM activates the steering wheel airbag, driver side dual knee airbags (patent pending), officer side knee airbag, and advanced seat belts for each occupant in the cab.

Rollover, side impact, and ejection mitigation shall be provided by the outboard sensors and the RCM. In qualifying rollover or side impact events the outboard sensors provide inputs to the RCM. The RCM activates the side curtain airbags and advanced seat belts for each occupant in the cab. The RCM measures roll angle, lateral acceleration, and roll rate to determine if a rollover event or side impact event is imminent or occurring.

In the event of a qualifying offset or other non-frontal impact, the RCM shall determine and intelligently deploy the front impact protection system, the side impact protection system, or both front and side impact protection systems based on the inputs received from the outboard crash sensors.

CAB FRONT FASCIA

The front cab fascia shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate which shall be an integral part of the cab.

The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab and shall be the "Classic" design.

The front cab fascia shall include two (2) molded plastic modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated molded plastic bezel shall be provided on each side around each set of four lamps.

FRONT GRILLE

The front cab fascia shall include a classic box style, 304 stainless steel front grille. The grille shall measure 55.45 wide X 33.50 inches high X 1.50 inches deep. The upper portion of the grille shall be hinged to provide service access behind the grille. The grille shall include a minimum free air intake of 750.00 square inches.

CAB UNDERCOAT

There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

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CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.

CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper followed by sealing the seams with SEM brand seam sealer.

The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils. The entire cab shall then be baked at 180 degrees for one (1) hour to speed the curing process of the coatings.

CAB PAINT MANUFACTURER

The cab shall be painted with PPG Industries paint.

CAB PAINT PRIMARY/LOWER COLOR

The primary/lower paint color shall be:

CAB PAINT WARRANTY

The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for ten (10) years from the first owner's date of purchase or in service or the first 100,000 actual miles, whichever occurs first.

The warranty details can be found in the chassis warranty document.

CAB PAINT INTERIOR

The visible interior cab structure surfaces shall feature a medium gray Spar-Liner spray on bedliner coating which shall mold to each surface of the cab interior. The Spar-Liner shall be environmentally friendly and chemically resistant.

CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of

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extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.

CAB ENTRY DOOR TYPE

All cab entry doors shall be barrier clear design resulting in exposed lower cab steps. The doors shall provide approximately 32.00 inches of clearance from the ground to the bottom of the door so cab doors may be opened un-hindered by most obstacles encountered, such as guard rails along interstate highways.

Entry doors shall include Pollak mechanical plunger style switches for electrical component activation.

CAB INSULATION

The cab ceiling and walls shall include 1.00 inch thick foam insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

LH MID EMS COMPARTMENT

The cab shall include a compartment located in the middle of the wall above the left side wheel well. This compartment shall measure 17.00 inches wide X 43.00 inches high X 23.00 inches deep.

LH MID EMS EXTERIOR ACCESS

The cab shall include a hinged box pan door featuring a full length stainless steel piano style hinge and a bright aluminum tread plate inner panel located in the middle of the wall above the left side wheel well. The compartment shall have a clear door opening of 15.00 inches wide X 40.00 inches high.

LH MID EMS COMPARTMENT INTERIOR

The cab compartment located in the middle of the wall above the left side wheel well shall include solid aluminum walls with an interior access point rear facing. This compartment shall be finished to customer specification.

LH MID EMS COMPARTMENT INTERIOR ACCESS

The left hand EMS compartment shall include access from inside the cab. The compartment shall be accessible from the inside of the cab via a cutout. The interior access provision shall feature a clear opening of 15.00 inches wide and as tall as possible in the available customer specified right EMS compartment height and access point.

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LH MID EMS COMPARTMENT INTERIOR SHELVING

The left hand mid EMS compartment located in crew area of the cab shall include one (1) aluminum shelf which shall be secured using Unistrut channel on two (2) sides of the interior walls of the compartment. The shelf shall include a 1.00 inch lip around the edges. The shelf shall be finished the same as the interior of the compartment.

LH MID EMS COMPARTMENT DOOR HARDWARE

The left side EMS compartment door shall include a locking bent D-ring slam latch installed in the lower latch side of the door. There shall be a switch to activate the open compartment warning light in the cab in the event the door is left ajar.

RH MID EMS COMPARTMENT

The cab shall include a compartment located in the middle of the wall above the right side wheel well. This compartment shall measure 17.00 inches wide X 43.00 inches high X 23.00 inches deep.

RH MID EMS EXTERIOR ACCESS

The cab shall include a hinged box pan door featuring a full length stainless steel piano style hinge and a bright aluminum tread plate inner panel located in the middle of the wall above the right side wheel well. The compartment shall have a clear door opening of 15.00 inches wide X 40.00 inches high.

RH MID EMS COMPARTMENT INTERIOR

The cab compartment located in the middle of the wall above the right side wheel well shall include solid aluminum walls with an interior access point rear facing. This compartment shall be finished to customer specification.

RH MID EMS COMPARTMENT INTERIOR ACCESS

The right hand EMS compartment shall include access from inside the cab. The compartment shall be accessible from the inside of the cab via a cutout. The interior access provision shall feature a clear opening of 15.00 inches wide and as tall as possible in the available customer specified right EMS compartment height and access point.

RH MID EMS COMPARTMENT INTERIOR SHELVING

The right hand mid EMS compartment located in crew area of the cab shall include one (1) aluminum shelf which shall be secured using Unistrut channel on two (2) sides of the interior walls of the compartment. The shelf shall include a 1.00 inch lip around the edges. The shelf shall be finished the same as the interior of the compartment.

RH MID EMS COMPARTMENT DOOR HARDWARE

The right side EMS compartment door shall include a locking bent D-ring slam latch. There shall be a switch to activate the open compartment warning light in the cab in the event the door is left ajar.

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MID EMS COMPARTMENT LIGHTING

The interior portion of each of the mid EMS compartments shall include compartment door activated LED lighting to illuminate all usable surfaces within each compartment.

MID EMS COMPARTMENT EXTERIOR FINISH

The EMS compartment exterior shall feature a medium gray Spar-Liner spray on bedliner coating.

MID EMS COMPARTMENT INTERIOR FINISH

The EMS compartment interior shall feature a medium gray Spar-Liner spray on bedliner coating.

CAB STRUCTURAL WARRANTY

Summary of Warranty Terms:

THE FOLLOWING IS SUMMARY OF WARRANTY TERMS FOR INFORMATION ONLY. THE ACTUAL LIMITED WARRANTY DOCUMENT, CAN BE FOUND IN THE CHASSIS WARRANTY DOCUMENT, CONTAINS THE COMPLETE STATEMENT OF THE SPARTAN MOTORS USA LIMITED WARRANTY. SPARTAN'S RESPONSIBILITY IS TO BE ACCORDING TO THE TERMS OF THE COMPLETE LIMITED WARRANTY DOCUMENT.

The cab structure shall be warranted for a period of ten (10) years or one hundred thousand (100,000) miles which ever may occur first. The warranty period shall commence on the date the vehicle is delivered to the first end user.

CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks, Section 5 of SAE J2422 Cab Roof Strength Evaluation Quasi –Static Loading Heavy Trucks and ECE R29 Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

WINDCREST VOL FIRE DEPARTMENT

OEM WIRING

The wiring system shall include a custom J1939 interface harness drop provided by the chassis manufacturer designed to meet the requirements provided by the OEM.

The wiring system shall also include a prewire for ECM park brake input and engine ground return circuits located behind the switch panel. The circuits shall include an extra 2 feet of wire and shall be labeled "ECM Park Brake Input".

MULTIPLEX DISPLAY

The multiplex electrical system shall include a Weldon Vista IV display which shall be located on the left side of the dash in the switch panel. The Vista IV shall feature a full color LCD display screen which includes a message bar displaying the time of day and important messages requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be eight (8) push button virtual controls, four (4) on each side of the display for the on-board diagnostics. The display screen shall be video ready for back-up cameras, thermal cameras, and DVD.

The Vista IV display shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.

MULTIPLEX DISPLAY SPECIAL LAYOUT

The Vista display and control screen shall include SMEAL display screen templates and SMEAL base system configuration layout.

LOAD MANAGEMENT SYSTEM

The apparatus load management shall be performed by the included multiplex system. The multiplex system shall also feature the priority of sequences and shall shed electrical loads based on the priority list specifically programmed.

DATA RECORDING SYSTEM

The chassis shall have a Weldon Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:

- Vehicle Speed
- Acceleration
- Deceleration
- Engine Speed
- Engine Throttle Position
- ABS Event
- Seat Occupied Status
- Seat Belt Status
- Master Optical Warning Device Switch Position
- Time
- Date

WINDCREST VOL FIRE DEPARTMENT

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system.

ACCESSORY POWER

The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud. A 225 amp master switched and fused power and ground stud shall be provided and installed on the chassis near the left hand battery box for OEM body connections.

AUXILIARY ACCESSORY POWER

An auxiliary ten (10) position blade type fuse panel shall be installed behind the officer's seat. The fuse panel shall be protected by a 40 amp fuse located at the batteries. The panel shall be capable of carrying up to a maximum 40 amp battery direct load.

ADDITIONAL ACCESSORY POWER

An additional six (6) position Blue Sea Systems 5025 blade type fuse panel shall be installed behind the switch panel. The fuse panel shall be protected by a 60 amp fuse located behind the switch panel. The panel shall be capable of carrying up to a maximum 60 amp ignition switched load.

EXTRA ACCESSORY POWER

An extra six (6) position Blue Sea Systems 5025 blade type fuse panel shall be provided and installed on the lower center rear wall of the cab. The fuse panel shall be protected by a 40 amp fuse. The panel shall be capable of carrying up to a maximum 40 amp battery direct load.

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.

ENGINE

The chassis engine shall be a Cummins X15 engine. The X15 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 600 horse power at 1800 RPM and shall be governed at 2100 RPM. The torque rating shall feature 1850 foot pounds of torque at 1200 RPM with 912 cubic inches (14.9 liter) of displacement.

The X15 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2017 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent 15W40 CK-4 low ash engine oil which shall be utilized for proper engine lubrication.

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A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade 0.19 of an inch thick aluminum alloy plate. The tunnel shall be a maximum of 46.50 inches wide X 29.00 inches high.

DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with a virtual Vista button and an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the engine is running and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the Vista display and control screen for the high idle speed control.

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

The engine shall include programming which will govern the top speed of the vehicle.

AUXILIARY ENGINE BRAKE

A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.

The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.

AUXILIARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:

- A valid gear ratio is detected.

WINDCREST VOL FIRE DEPARTMENT

- The driver has requested or enabled engine compression brake operation.
- The throttle is at a minimum engine speed position.
- The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift.

The compression brake shall be controlled via an off/low/high virtual button through the Vista display and control screen. The engine brake system shall default to be on and set to high when the vehicle is started.

FLUID FILLS

The front of the chassis shall accommodate fluid fill for the engine oil through the grille. This area shall also accommodate a check for the engine oil. The transmission, power steering, and coolant fluid fills and checks shall be under the cab. The windshield washer fill shall be accessible through the front left side mid step.

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

ENGINE WARRANTY

The Cummins engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine and transmission pump interlocks shall be supplied with the chassis. The harness shall include a connector for connection to a chassis pump panel harness supplied by the body builder and shall terminate in the left frame rail behind the cab for connection by the body builder. The harness shall include circuits deemed for a pump panel and shall contain circuits for a hand throttle, and a multiplexed gauge. Separate circuits shall also be included for a pump control switch, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, clean power, customer ignition, air horn solenoid switch, high idle switch and high idle indicator light. The harness shall contain interlocks that will prevent shifting to road or pump mode unless the transmission output speed translates to less than 1 mph and the transmission is in neutral. The shift to pump mode shall also require the park brake be set.

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 700 rpm.

ENGINE AIR INTAKE

The engine air intake system shall include an ember separator. This ember separator shall be designed to protect the downstream air filter from embers using a combination of unique flat and

WINDCREST VOL FIRE DEPARTMENT

crimped metal screens packaged in a heavy duty galvanized steel frame. This multilayered screen shall trap embers and allow them to burn out before passing through the pack.

The engine air intake system shall also include an air cleaner mounted above the radiator. This air cleaner shall utilize a replaceable dry type filter element designed to prevent dust and debris from being ingested into the engine. A service cover shall be provided on the housing, reducing the chance of contaminating the air intake system during air filter service.

The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled, Horton clutched type fan drive.

When the clutched fan is disengaged it shall facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure. The fan speed shall be electronically programmed to vary through thermostatic control to run as efficiently and quietly as required to maintain temperature.

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

The cooling system shall be comprised of a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.

The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

The cooling system shall include a one piece injected molded polymer fan with a three (3) piece fiberglass fan shroud.

The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and rearward oriented sight glass to observe coolant in the system. A cold fill and observation line shall be included within the frame mounted translucent recovery bottle to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements and allows for expansion and recovery of coolant into a separate integral expansion chamber.

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All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.

The radiator and charge air cooler shall be removable through the bottom of the chassis.

ENGINE COOLING SYSTEM PROTECTION

The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame components.

ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

ENGINE COOLANT FILTER

An engine coolant filter with a shut-off valve for the inlet and outlet shall be installed on the chassis. The location of the filter shall allow for easy maintenance.

Proposals offering engines equipped with coolant filters shall be supplied with standard non-chemical type particulate filters.

ELECTRONIC COOLANT LEVEL INDICATOR

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

COOLANT HOSES

The cooling systems hose shall be formed silicone hose and formed aluminized steel tubing and include stainless steel constant torque band clamps.

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ENGINE COOLANT OVERFLOW BOTTLE

A remote engine coolant overflow expansion bottle shall be provided in the case of over filling the coolant system. The overflow bottle shall capture the expansion fluid or overfill rather than allow the fluid to drain on the ground.

ENGINE EXHAUST SYSTEM

The exhaust system shall include an end-in end-out horizontally mounted single module after treatment device, and downpipe from the charge air cooled turbo. The single module shall include four temperature sensors, diesel particulate filter (DPF), urea dosing module (UL2), and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be mixed and injected into the system through the DPF and SCR.

The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.

The single module after treatment through the end of the tailpipe shall be connected with zero leak clamps. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.

The exhaust system after treatment module shall be mounted below the frame in the inboard position. The mounting brackets shall be mounted on the inside of the frame.

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.

The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.

The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.

ENGINE EXHAUST ACCESSORIES

An exhaust temperature mitigation device shall be shipped loose for installation by the body manufacturer on the vehicle. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.

ENGINE EXHAUST WRAP

The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.

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TRANSMISSION

The drive train shall include an Allison model EVS 4000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

The transmission shall include two (2) internal oil filters which shall offer Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

The transmission gear ratios shall be:

1st	3.51:1
2nd	1.91:1
3rd	1.43:1
4th	1.00:1
5th	0.74:1
Rev	4.80:1

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.

TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.

This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>
Inputs		
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
Outputs		
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103

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ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.

TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

LH PTO

A PTO shall be installed on the transmission by the OEM.

LH PTO MODEL

A ten (10) bolt Chelsea model 280-GSFJP-B8RK heavy duty transmission driven PTO shall be installed. The clutched shifted PTO is designed specifically for the Allison world transmission and provides an intermittent and continuous torque rating of 265 lb. ft.

PTO LOCATION

The transmission shall have two (2) power take off (PTO) mounting locations, one (1) in the 8:00 o'clock position and one (1) in the 1:00 o'clock position.

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LH PTO CONTROL

Switches for the power take off shall be wired to the V-mux node to be used by the OEM. There shall be an on/off rocker switch labeled "Aerial Master" wired to a V-mux input and output with integral light wired to the v-mux input terminal of the switch that shall illuminate when the switch is on and the v-mux output is active.

There shall be an on/off rocker switch labeled "Aerial PTO" activated by the "Aerial Master" rocker switch with an input to the V-mux node when the switch is on and an integral light activated by an independent V-mux output. The switches shall be located on dash.

DRIVELINE

All drivelines shall be heavy duty metal tube and equipped with MSI 1810 series universal joints for the main drivelines, and 1710 series for the inter-axle shaft. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat®. The drivelines shall include Meritor brand u-joints with thrust washers.

MIDSHIP PUMP / GEARBOX

A temporary jackshaft driveline shall be installed by the chassis manufacturer to accommodate the mid-ship split shaft gearbox as specified by the apparatus manufacturer.

MIDSHIP PUMP / GEARBOX MODEL

The midship pump/gearbox provisions shall be for a Waterous TC20 gearbox.

MIDSHIP PUMP GEARBOX DROP

The Waterous pump gearbox shall have a "D" (long) drop length.

MIDSHIP PUMP RATIO

The ratio for the midship pump shall be 2.27:1.

MIDSHIP PUMP LOCATION C/L SUCTION TO C/L REAR AXLE

The midship pump shall be located so the dimension from the centerline of the suction to the centerline of the rear axle is 121.00 inches.

PUMP SHIFT CONTROLS

One (1) air pump shift control panel shall be located on the left hand side of the engine tunnel, integrated with the shifter pod. The following shall be provided on the panel: a three (3) position control lever; an engraved PUMP ENGAGED identification light; and an engraved OK TO PUMP identification light. The pump shift control panel shall be black with a yellow border outline and shall include pump instructions. An instruction plate describing the transmission shift selector position used for pumping shall be provided and located so it can be read from the driver's position per NFPA 16.10.1.3. The road mode shall be selected when the control lever is in the forward position and pump mode shall be selected when the control lever is in the rearward position.

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The control lever center position shall exhaust air from both pump and road sides of the pump gear box shift cylinder.

PUMP SHIFT CONTROL PLUMBING

Air connections shall be provided from the air supply tank to the pump shift control valve and from the pump shift control valve to the frame mounted bracket. The frame mounted bracket shall include labeling identifying the pump and road connection points with threaded 0.25 inch NPT fittings on the solenoid for attaching the customer installed pump. The air supply shall be pressure protected from service brake system.

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Racor GreenMAX 6600R fuel filter/water separator as a primary filter. The fuel filter shall have a drain valve and a see-through cover to allow visual inspection of fuel and filter condition. The Racor 6600R shall meet engine requirements for particulate size, collection capacity, removal efficiency, and water removal efficiency. The filter shall be capable of handling a maximum flow rate of 150 gallons per hour.

A secondary fuel filter shall be included as approved by the engine manufacturer.

An instrument panel lamp and audible alarm which indicates when water is present in the fuel-water separator shall also be included.

FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be black textile braided lines which are reinforced with braided high tensile steel wire. The fuel lines shall be connected with reusable steel fittings.

FUEL SHUTOFF VALVE

There shall be two (2) fuel shutoff valves which shall be installed, one (1) in the fuel draw line at the primary fuel filter and one (1) in the fuel outlet line at the primary fuel filter to allow the fuel filters to be changed without loss of fuel to the fuel pump.

A third fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

FUEL COOLER

An aluminum cross flow air to fuel cooler shall be provided to lower fuel temperature allowing the vehicle to operate at higher ambient temperatures. The fuel cooler shall be located behind the rear axle.

FUEL TANK

The fuel tank shall have a capacity of sixty-eight (68) gallons and shall measure 35.00 inches in width X 17.00 inches in height X 29.00 inches in length.

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The baffled tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.

FUEL TANK MATERIAL AND FINISH

The fuel tank shall be constructed of 12 gauge aluminized steel. The exterior of the tank shall be powder coated black and then painted to match the frame components.

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 Method B, results to be 5B minimum. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794, results to be 5B minimum.

Any proposals offering painted fuel tanks with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

FUEL TANK STRAP MATERIAL

The fuel tank straps shall be constructed of ASTM A-36 steel. The fuel tank straps shall be powder coated black and then painted to match the frame components if possible.

FUEL TANK MISCELLANEOUS OPTIONS

The fuel tank shall be temporarily mounted, to be permanently relocated by the OEM. The tank and mounting straps as specified shall be included with the chassis along with components for permanent standard installation.

FUEL TANK FILL PORT

The fuel tank fill ports shall be provided with two (2) left fill ports located one (1) in the forward position and one (1) in the middle position and the right fill port located in the middle position of the fuel tank.

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines and sender wiring shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 12.00 feet of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

WINDCREST VOL FIRE DEPARTMENT

FUEL TANK DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.

FRONT AXLE

The front axle shall include an independent front suspension (IFS) offering superior ride and improved handling.

The suspension shall utilize fully independent double wishbone arms with carrier and kingpin for optimized scrub radius. Air springs are tuned for ride and help reduce suspension weight. The IFS reduces turn radius with improved wheel cut over beam axles. The hydraulic damper shall feature rebound control to ensure the maximum load stability and superior driver comfort. The IFS system shall improve handling and offer better braking because of improved ground to tire ratio. This design shall allow for independent adjustment of the vehicle's alignment settings. The IFS shall include an auxiliary transverse leaf spring.

Proposals offering independent front axles comprised of torsion bar style suspensions shall not be considered.

FRONT AXLE WARRANTY

The front axle shall be warranted by Tuthill for three (3) years or 150,000 miles, which ever comes first.

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.

FRONT SHOCK ABSORBERS

Two (2) Koni shock absorbers shall be provided and installed as part of the front suspension system. Each shock shall deliver improved road handling and durability.

FRONT SUSPENSION

The chassis shall include an independent front suspension (IFS) system. The known advantages of IFS systems can be improved handling and better braking due to the increase in tire surface to ground contact area. The suspension travel of the IFS shall be approximately 6.50 inches, providing 3.00 inches bounce and 3.50 inches rebound of the suspension. The IFS front axle shall be rated between 21,000 and 24,000 pounds.

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver's position. The steering wheel shall be covered with black polyurethane foam padding.

The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

WINDCREST VOL FIRE DEPARTMENT

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

POWER STEERING PUMP

The hydraulic power steering pump shall be a TRW PS and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type. The power steering system shall include an oil to air passive cooler.

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle of 48-degrees to the left and right.

POWER STEERING GEAR

The power steering gear shall be a TRW model TAS 85/RCS 85.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

REAR AXLE

The rear axle shall be a Meritor model RT-58-185 tandem drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 63,000 pounds.

The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.56 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.

The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for five (5) years with unlimited miles under the general service application.

WINDCREST VOL FIRE DEPARTMENT

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

REAR AXLE DIFFERENTIAL CONTROL

The tandem axle chassis shall include an inter-axle differential lock which shall allow both axles to be engaged as drive axles. The inter-axle differential lock shall be controlled by a virtual button on the Vista display and control screen. The Vista display shall indicate when positive engagement of the inter-axle differential lock has occurred.

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 60 MPH +/-2 MPH at governed engine RPM.

REAR SUSPENSION

The tandem axle shall feature a Raydan Air-Link AL-600 air suspension. The Air-Link AL-600 shall feature a unique air ride and walking beam suspension design which combines a super smooth ride with durability. The suspension has only two (2) moving parts for long wear and low maintenance cost. The rear tandem suspension shall have 56.00 inch axle centers.

Dual air height control valves shall be installed to ensure equal frame height on both sides of the vehicle regardless of the load.

The rear suspension shall be run flat capable at reduced speeds.

The rear suspension capacity shall be rated at 54,000 to 62,000 pounds.

REAR SHOCK ABSORBERS

Shock absorbers shall be supplied by the suspension manufacturer and installed on the rear axle suspension.

SUSPENSION CONTROLS

The front suspension shall incorporate an air retention system which shall activate when the park brake is engaged. The air retention system shall retain air in the front suspension air bags when the chassis is raised off the ground by the aerial outriggers. There shall be an air retention system low pressure indicator within the driver's instrumentation panel.

The rear suspension shall incorporate a kneeling feature which, when activated, will deplete the air in the air bag to lower the chassis.

The kneeling system shall have a rocker switch temporarily mounted at the rear of the chassis with a park brake interlock and an instrument panel mounted red indicator lamp, which shall illuminate when the system is activated.

TIRE INTERMITTENT SERVICE RATING

The chassis shall be rated using Intermittent Service ratings provided to the emergency vehicle market by the tire manufacturers as the basis for determining the maximum vehicle load and speed.

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FRONT TIRE

The front tires shall be Goodyear 425/65R-22.5 20PR "L" tubeless radial G296 MSA mixed service tread.

The front tire stamped load capacity shall be 22,800 pounds per axle with a nominal speed rating of 68 miles per hour when properly inflated to 120 pounds per square inch.

The Goodyear Intermittent Service Rating maximum load capacity shall be 24,400 pounds per axle with a speed rating of 68 miles per hour when properly inflated to 120 pounds per square inch.

The Goodyear Intermittent Service Rating maximum speed capacity shall be 22,800 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Goodyear Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR TIRE

The rear tires shall be Goodyear 315/80R-22.5 20PR "L" tubeless radial G291 highway tread.

The rear tire stamped load capacity shall be 33,080 pounds per axle with a nominal speed rating of 68 miles per hour when properly inflated to 130 pounds per square inch.

The Goodyear Intermittent Service Rating maximum load capacity shall be 35,400 pounds per axle with a speed rating of 68 miles per hour when properly inflated to 130 pounds per square inch.

The Goodyear Intermittent Service Rating maximum speed capacity shall be 33,080 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 130 pounds per square inch.

The Goodyear Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR AXLE RATIO

The rear axle ratio shall be 5.38:1.

TIRE PRESSURE INDICATOR

There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.

WINDCREST VOL FIRE DEPARTMENT

FRONT WHEEL

The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch LvL One™ polished aluminum wheels. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts. The wheels shall feature one-piece forged strength and shall include Alcoa's Dura-Bright® finish with XBR technology as an integral part of the wheel surface. Alcoa Dura-Bright® wheels keep their shine without polishing. Brake dust, grime and road debris are easily removed by simply cleaning the wheels with soap and water.

REAR WHEEL

The rear wheels shall be Alcoa hub piloted, heavy duty, 22.50 inch X 9.00 inch LvL One™ polished aluminum wheels with Alcoa Dura-Bright® wheel treatment with XBR® technology as an integral part of the wheel. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

BALANCE WHEELS AND TIRES

All of the wheels and tires, including any spare wheels and tire assemblies, shall include Counteract brand balancing beads.

WHEEL TRIM

The front wheels shall include stainless steel lug nut covers and stainless steel baby moons shipped loose with the chassis for installation by the apparatus builder. The baby moons shall have cutouts for oil seal viewing when applicable.

The rear wheels shall include stainless steel lug nut covers and band mounted spring clip stainless steel high hats shipped loose with the chassis for installation by the apparatus builder.

The lug nut covers, baby moons, and high hats shall be RealWheels® brand constructed of 304L grade, non-corrosive stainless steel with a mirror finish. Each wheel trim component shall meet D.O.T. certification.

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include, at a minimum, a three (3) air tank, four (4) reservoir system with a total of 6236 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

The tandem rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

A six (6) sensor, six (6) modulator Anti-lock Braking System (ABS) shall be installed on the front and tandem rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS

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lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the tandem rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

A virtual style switch shall be provided and properly labeled "mud/snow". When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.

The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle's motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle's lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

FRONT BRAKES

The front brakes shall be Knorr/Bremse SN7 disc brakes with 17.00 inch vented rotors.

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 8.63 inch S-cam drum type. The brakes shall feature a cast iron shoe.

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

SUPPLEMENTAL BRAKE

A supplemental brake engagement shall be supplied that can only be engaged while the rear spring brakes are engaged. In addition to the mechanical rear brake engagement, the front service brakes shall also be engaged via air pressure, providing additional braking capability. Front service brake activation shall be accomplished with activation of the rear mechanical park brake valve.

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.

The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver. The control shall include a protective guard which shall prevent accidental activation of the parking brake and still allow proper actuation of the control.

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REAR BRAKE SLACK ADJUSTERS

Gunite rear brake automatic slack adjusters shall be installed on the axle.

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer with an integral 100 watt heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be located on the right hand frame rail forward of the front wheel behind the right hand cab step.

FRONT BRAKE CHAMBERS

The front brakes shall be provided with type 24 brake chambers as supplied with the independent front suspension axle.

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/36 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.

AIR COMPRESSOR

The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket on the left frame rail behind the battery box.

AUXILIARY AIR RESERVOIR

One (1) auxiliary air reservoir with a 2084 cubic inch capacity shall be installed on the chassis to act as an additional reserve supply to the air system for air horn, air tool, or other non-service brake use. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

MOISTURE EJECTORS

Heated, automatic moisture ejectors with a manual drain provision shall be installed on all reservoirs of the air supply system. The manual drain provision shall include an actuation pull

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cable coiled and tied at each drain valve. The supplied cables when extended shall be sufficient in length to allow each drain to be activated from the side of the apparatus.

AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Brass compression type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

AIR INLET CONNECTION

A Kussmaul air automatic eject connection for the shoreline air inlet shall be supplied.

AIR INLET/ AUTO EJECT CONNECTION COVER

The air auto eject connection shall be red in color.

AIR INLET LOCATION

The air inlet shall be installed in the left hand side lower front step in the forward position.

AIR INLET/ OUTLET FITTING TYPE

The air connector supplied shall be a 0.25 inch size Tru-Flate Interchange style manual connection which is compatible with Milton 'T' style, Myers 0.25 inch Automotive style and Parker 0.25 inch 10 Series connectors.

REAR AIR TANK MOUNTING

If a combination of wheel base, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted perpendicular to frame.

WHEELBASE

The chassis wheelbase shall be 250.00 inches.

REAR OVERHANG

The chassis rear overhang shall be 68.50 inches.

FRAME

The frame shall consist of triple side rails and cross members forming a ladder style frame. The side rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep X 0.38 inches thick, with an inner channel 9.44 inches high X 3.13 inches deep X 0.38 inches thick, and a second inner channel, 8.55 inches high X 2.75 inches deep X 0.25 inches thick which shall be provided extending from the rear of the cab to the forward rear suspension cross member. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. The triple rail section shall be rated by a

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Resistance Bending Moment (RBM) minimum of 3,921,500 inch pounds and have a minimum section modulus of 35.65 cubic inches. The frame shall measure 35.00 inches in width.

Proposals calculating the frame strength using the "box method" shall not be considered.

Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.

A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The bolt heads shall be flanged type, held in place by distorted thread flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.

Any proposals not including additional reinforcement for each cross member shall not be considered.

All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.

The frame and cross members shall carry a lifetime warranty to the original purchaser. A copy of the frame warranty shall be made available upon request.

Proposals offering warranties for frames not including cross members shall not be considered.

FRAME WARRANTY

Summary of Warranty Terms:

THE FOLLOWING IS SUMMARY OF WARRANTY TERMS FOR INFORMATION ONLY. THE ACTUAL LIMITED WARRANTY DOCUMENT, CAN BE FOUND IN THE CHASSIS WARRANTY DOCUMENT, CONTAINS THE COMPLETE STATEMENT OF THE SPARTAN MOTORS USA LIMITED WARRANTY. SPARTAN'S RESPONSIBILITY IS TO BE ACCORDING TO THE TERMS OF THE COMPLETE LIMITED WARRANTY DOCUMENT.

The frame and cross members shall carry a limited lifetime warranty to the original purchaser. The warranty period shall commence on the date the vehicle is delivered to the first end user.

MISCELLANEOUS FRAME OPTIONS

The frame shall include drillings which shall be specific to mounting a Smeal 105RM, 100RM, 125RM, or 100MM substructure.

FRAME CLEAR AREA

The chassis frame shall be left clear of chassis mounted components inside or outside the frame rails within the first 30.00 inches behind the cab to allow space for OEM installed components. Cross members may be installed in the clear area if required for proper frame or driveline configuration.

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FRAME PAINT

The frame rails shall be hot dip galvanized prior to assembly and attachment of any components. The components that shall be galvanized shall include:

- Main frame "C" channel or channels

The frame parts which are not galvanized shall be powder coated prior to any attachment of components. Parts which shall be powder coated shall include but are not limited to:

- Steering gear bracket
- Front splayed rails and fish plates
- Bumper extensions
- Cross members
- Cross member gussets
- Fuel tank mounting brackets
- Fuel tank straps (unless material/finish is specified in 3130 subcat)
- Air tanks (unless color coded tanks are specified in 3205 subcat)
- Air tank mounting brackets
- Exhaust mounting brackets
- Air cleaner skid plate
- Radiator skid plate
- Battery supports, battery trays and battery covers

Other non-galvanized under carriage components which are received from the suppliers with coatings already applied shall include but are not limited to:

- Suspension components
- Front and rear axles

All powder coatings, primers and paint used on the non-galvanized components shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.

FRONT BUMPER

The chassis shall be equipped with a severe duty front bumper constructed from structural steel channel. The bumper material shall be 0.38 thick ASTM A36 steel which shall measure 12.00 inches high with a 3.05 inch flange and shall be 104.50 inches wide with angled front corners.

The bumper shall be primed and painted as specified.

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended approximately 6.00 inches ahead of the cab.

FRONT BUMPER PAINT

The front bumper shall be painted the same as the lower cab color.

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FRONT BUMPER APRON

The 6.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.

The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.

MECHANICAL SIREN

The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include mounting hardware designed to recess or flush mount.

MECHANICAL SIREN LOCATION

The siren shall be recess mounted in the center on the front fascia of the bumper between the frame rails.

AIR HORN

The chassis shall include two (2) Grover brand Stutter Tone air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish.

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face, one (1) on the right side of the bumper in the inboard position relative to the right hand frame rail and one (1) on the left side of the bumper in the inboard position relative to the left hand frame rail.

AIR HORN RESERVOIR

One (1) air reservoir, with a 2084 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

ELECTRONIC SIREN SPEAKER

There shall be two (2) Whelen Engineering Inc. model SA314A, 100 watt speakers provided. Each speaker shall measure 6.40 inches tall X 6.17 inches wide X 3.14 inches deep. Each speaker shall have a natural cast aluminum finish and shall be installed using a polished custom Spartan grille.

ELECTRONIC SIREN SPEAKER LOCATION

The two (2) electronic siren speakers shall be located on the front bumper face outboard of the frame rails with one (1) on the right side and one (1) on the left side in the outboard positions.

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FIRE BELL

A chromed cast formed fireman's bell shall be installed on the front bumper. The bell shall include an eagle perched at the top and feature a polished chrome finish. The bell shall measure approximately 17.50 inches in height from the top of the eagle to the base of the bell.

FIRE BELL LOCATION

The fire bell shall be pedestal mounted on the right side cab corner on a polished stainless steel bracket.

TOW FORK PROVISION

Two (2) heavy duty steel towing forks shall be bolt-on to the underside of the frame flange and butted to the bottom frame with a fish plate joint. Each shall be shaped like an upside down "U" to act as a designated hookup point to accept a tow bar from a service vehicle without having to reach the front axle. The robust design shall allow a disabled vehicle to be lifted and towed without doing damage to the bumper or bumper mounted options. The provisions shall be mounted directly behind the cab tilt cross member to provide optimal vehicle stability while maintaining access for most heavy duty tow stingers.

CAB TILT SYSTEM

The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.

The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.

Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.

Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.

A steel safety channel assembly, painted safety yellow shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.

CAB TILT AUXILIARY PUMP

A manual cab tilt pump module shall be attached to the cab tilt pump housing.

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CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.

CAB TILT CONTROL RECEPTACLE

The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.

The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.

CAB TILT LOCK DOWN INDICATOR

The cab dash shall include a message located within the dual air pressure gauge which shall alert the driver when the cab is unlocked and ajar. The alert message shall cease to be displayed when the cab is in the fully lowered position and the hold down hooks are secured and locked to the cab mounts.

In addition to the alert message an audible alarm shall sound when the cab is unlocked and ajar and the parking brake is released.

CAB WINDSHIELD

The cab windshield shall have a surface area of 2969.88 square inches and be of a two (2) piece wraparound design for maximum visibility.

The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Each windshield shall be installed using black self locking window rubber.

GLASS FRONT DOOR

The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as "cozy glass" ahead of the front door roll down windows.

The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.

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GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS REAR DOOR RH

The rear right hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

GLASS TINT REAR DOOR RIGHT HAND

The window located in the right hand side rear window shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS REAR DOOR LH

The rear left hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

GLASS TINT REAR DOOR LEFT HAND

The window located in the left hand side rear door shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

CLIMATE CONTROL

A ceiling mounted combination defroster and cabin heating and air conditioning system shall be located above the engine tunnel area. The system covers and plenums shall be of severe duty design made of aluminum which shall be coated with a customer specified interior paint. The design of the system's covers shall provide quick access to washable air intake filters as well as easy access to other serviceable items.

The air delivery plenums provide targeted airflow directly to the vehicle occupants. Six (6) adjustable louvers will provide comfort for the front seat occupants and ten (10) adjustable louvers will provide comfort for the rear crew occupants.

The system shall be capable of producing up to 12 FPM of air velocity at all occupant seating positions. Separate front and rear blower motors shall be of brushless design and shall be controlled independently. It shall be capable of reducing the interior cabin air temperature from 122° F (+/- 3° F) to 80° F in thirty minutes with 50% relative humidity and full solar load as described in SAE J2646.

The system shall also provide heater pull up performance which meets or exceeds the performance requirements of SAE J1612 as well as defrost performance that meets or exceeds the performance requirements of SAE J381.

WINDCREST VOL FIRE DEPARTMENT

A gravity drain system shall be provided that is capable of evacuating condensate from the vehicle while on a slope of up to a 13% grade in any direction.

The air conditioning system plumbing shall be a mixture of custom bent zinc coated steel fittings and Aeroquip flexible hose with Aeroquip EZ-Clip fittings.

The overhead heater/defroster plumbing shall include an electronic flow control valve that re-directs hot coolant away from the evaporator, via a bypass loop, as the temperature control is moved toward the cold position.

Any component which needs to be accessed to perform system troubleshooting shall be accessible by one person using basic hand tools. Regularly serviced items shall be replaceable by one person using basic hand tools.

***Spartan Motors Inc. recommends that the overall climate system performance be based off third-party testing in accordance to Society of Automotive Engineering standards as a complete system.*

Individual component level BTU ratings is not an accurate indicator of the performance capability of the completed system. System individual component BTU ratings:

- Air conditioning evaporator total BTU/HR: 82,000
- Air conditioning condenser total BTU/HR: 59,000
- Heater coil total BTU/HR: 98,000

Performance data specified is based on testing performed by an independent third-party test facility using a medium four-door 10" Raised roof Gladiator chassis equipped with an ISL engine.

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

CLIMATE CONTROL ACTIVATION

The heating, defrosting and air conditioning controls shall be in the center dash center switch panel, in a position which is easily accessible to the driver. The climate control shall be activated by a rotary switch.

HVAC OVERHEAD COVER PAINT

The overhead HVAC cover shall be painted with a multi-tone silver gray texture finish.

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed on the center of the cab, mid-roof.

A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted compressor. The compressor shall be compatible with R134-a refrigerant.

WINDCREST VOL FIRE DEPARTMENT

***Spartan Motors Inc. recommends that the overall climate system performance be based off third-party testing in accordance to Society of Automotive Engineering standards as a complete system.*

Individual component level ratings are not an accurate indicator of the performance capability of the completed system.

Refrigerant Compressor displacement: 19.1 cubic inches per revolution.

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

The engine tunnel insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The cab floor insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by acrylic pressure sensitive adhesive.

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.

INTERIOR TRIM

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with vinyl.

HEADER TRIM

The cab interior shall feature header trim over the driver and officer dash constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum.

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TRIM CENTER DASH

The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation. The center dash electrical access cover shall include a gas cylinder stay which shall hold the cover open during maintenance.

TRIM LH DASH

The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.

TRIM RH DASH

The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.

POWER POINT DASH MOUNT

The cab interior shall include three (3) 12 volt cigarette lighter type receptacles in the cab dash switch panel to provide a power source for 12 volt electrical equipment. The receptacles shall be wired battery direct.

STEP TRIM

Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of SAE 304 stainless steel with embossed perforations and diamond shaped cutout. The perforations and cutouts shall allow water and other debris to flow through rather than becoming trapped within the stepping surface. The step shall feature a splash guard to reduce water and debris from splashing in to the step. The splash guard shall have drainage holes beneath the back of the step to allow debris and water to flow through rather than becoming trapped within the stepping surface. The stainless steel material shall have a number 8 mirror finish. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength. The middle step shall be integral with the cab construction and shall be trimmed in 0.08 inch thick 3003-H22 embossed aluminum tread plate.

STEP TRIM KICKPLATE

The cab steps shall include a kick plate in the rise of each step. The risers shall be trimmed in 3003-H22 bright aluminum tread-plate which is 0.07 inch thick.

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UNDER CAB ACCESS DOOR

The cab shall include an access door in the left crew step riser constructed of aluminum tread plate with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.

INTERIOR DOOR TRIM

The interior trim on the doors of the cab shall consist of a two (2) piece panel constructed of SAE 304 stainless steel. The stainless steel shall have a brushed finish.

DOOR TRIM SCUFF PLATE

The trim along the door shall include a stainless steel scuff plate along the door jamb to prevent the chipping of paint should the seat belt buckle come in contact with the door jamb.

DOOR TRIM CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.

CAB DOOR TRIM REFLECTIVE

In accordance with the current standards of NFPA, the body builder shall provide 96.00 square inches of reflective material on the interior of each cab door.

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each "A" post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish to assist personnel entering and exiting the cab.

INTERIOR GRAB HANDLE REAR DOOR

A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. The handle shall assist personnel in exiting and entering the cab.

INTERIOR SOFT TRIM COLOR

The cab interior soft trim surfaces shall be gray in color.

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INTERIOR TRIM SUN VISOR

The header shall include two (2) 7.00 inches high X 18.00 inches wide impact resistant, transparent acrylic polycarbonate sun visors with a smoke gray tint shall be provided and installed on the header above the driver and officer.

The see thru visors are designed for maximum flexibility of positioning utilizing an arm with virtually unlimited adjustability with 13.50 inch long lateral travel of the tinted visor at the end of the arm which can be locked in place by a thumbscrew.

The visors are easily adjusted and can be placed into a chosen position with one hand. The sun visors will help protect vehicle occupants from solar glare without obscuring their vision.

INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be gray in color.

HEADER TRIM INTERIOR PAINT

The metal surfaces in the header area shall feature a medium gray Spar-Liner spray on bedliner coating.

TRIM CENTER DASH INTERIOR PAINT

The entire center dash and any accessory pods attached to the dash shall feature a medium gray Spar-Liner spray on bedliner coating.

TRIM LEFT HAND DASH INTERIOR PAINT

The left hand dash shall feature a medium gray Spar-Liner spray on bedliner coating.

TRIM RIGHT HAND DASH INTERIOR PAINT

The right hand dash shall feature a medium gray Spar-Liner spray on bedliner coating.

DASH PANEL GROUP

The main center dash area shall include three (3) aluminum removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The panels shall be coated with a black texture finish. The center panel shall be within comfortable reach of both the driver and officer.

SWITCHES CENTER PANEL

The center dash panel shall include no rocker switches or legends.

SWITCHES LEFT PANEL

The left dash panel shall include three (3) switches. Two (2) of the switches shall be rocker type and the left one (1) shall be the windshield wiper/washer control switch.

A rocker switch with a blank legend installed directly above shall be provided for any position not designated by a specific option. The non-designated switches shall be two-position, black

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switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SWITCHES RIGHT PANEL

The right dash panel shall include six (6) rocker switch positions in a three (3) over three (3) switch configuration.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SEAT BELT WARNING

A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s), an indicator light in the instrument panel, and an audible alarm.

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and audible alarm shall remain active until all occupied seats have the seat belts fastened.

SEAT MATERIAL

The Bostrom Firefighter seats shall include a covering of extra high strength, wear resistant fabric made of durable Durawear Plus™ ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Durawear Plus™ meets or exceeds specification of the common trade name Imperial 1800. The material meets FMVSS 302 flammability requirements.

SEAT COLOR

All seats supplied with the chassis shall be gray in color. All seats shall include red seat belts.

SEAT BACK LOGO

The seat back shall include the "Spartan" logo. The logo shall be centered on the standard headrest of the seat back and on the left side of a split headrest.

SEAT DRIVER

The driver's seat shall be an H.O. Bostrom 400 Series Sierra model seat with air suspension. The four-way seat shall feature 3.00 inch vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat position shall include a three-point shoulder harness with lap belt and an automatic retractor attached to the cab. The buckle portion of the seat belt shall be mounted on a semi-rigid stalk extending from the seat base within easy reach of the occupant.

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The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 37.00 inches measured with the seat suspension height adjusted to the upper limit of its travel.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK DRIVER

The driver's seat shall feature a two (2) way adjustable lumbar support and offer an infinite fully reclining adjustable titling seat back. The seat back shall also feature a contoured head rest.

SEAT MOUNTING DRIVER

The driver's seat shall be installed in an ergonomic position in relation to the cab dash.

OCCUPANT PROTECTION DRIVER

The driver's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The driver's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the driver, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the driver's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the driver in a qualifying event by covering the window and the upper portion of the door.
- Dual knee airbags (patent pending) with energy management mounting (patent pending) - protects the driver's lower body from dangerous surface contact injuries, acceleration injuries, and from intrusion as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.
- Steering wheel airbag - protects the driver's head, neck, and upper torso from contact injuries, acceleration injuries, and contact points with intrusive surfaces as a result of a collision.

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SEAT OFFICER

The officer's seat shall be an H.O. Bostrom 400 Series Sierra model seat with air suspension. The four-way seat shall feature 3.00 inch vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat position shall include a three-point shoulder harness with lap belt and an automatic retractor attached to the cab. The buckle portion of the seat belt shall be mounted on a semi-rigid stalk extending from the seat base within easy reach of the occupant.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 37.00 inches measured with the seat suspension height adjusted to the upper limit of its travel.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK OFFICER

The officer's seat shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING OFFICER

The officer's seat shall offer a special mounting position which is 2.00 inches rearward of the standard location offering increased leg room for the occupant.

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OCCUPANT PROTECTION OFFICER

The officer's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The officer's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the officer, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the officer's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the officer in a qualifying event by covering the window and the upper portion of the door.
- Knee airbags - protects the officer's lower body from dangerous surface contact injuries, acceleration injuries, and from contact points with intrusive surfaces as a result of a collision as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.

SEAT BELT ORIENTATION CREW

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

SEAT FORWARD FACING OUTER LOCATION

The crew area shall include one (1) forward facing outboard seat located directly behind the engine tunnel on the left side of the cab.

SEAT CREW FORWARD FACING OUTER

The crew area shall include a seat in the forward facing outer position which shall be a theatre style series. The seat shall feature a padded seat cushion which shall be hinged and attached to the wall providing optimum space savings. The seat shall remain in the stored position until occupied.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.

The buckle portion of the seat belt shall be mounted on a rigid or semi-rigid stalk such that the buckle remains positioned in an accessible location. The seat belt assembly anchorages shall conform to the Federal Safety Standard (FMVSS) No. 210, "Seat belt assembly anchorages".

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect

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the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK FORWARD FACING OUTER

The crew area theatre style seating shall include a seat back pad in the forward facing outboard position which shall be attached to the rear wall. The seat back pad shall be 30.00 inches in height X 18.00 inches in width X 1.50 inches thick. The seat back pad shall be the same material and color as the seats.

SEAT MOUNTING FORWARD FACING OUTER

The forward facing outer seat shall be mounted in the furthest outboard position facing the front of the cab.

OCCUPANT PROTECTION FFO

The forward facing outer seat position(s) shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

Each forward facing outer seating position APS shall include:

- APS advanced seatbelt system - retractor pre-tensioners tighten the seat belts around each occupant, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Side curtain airbag - protects each occupant's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to each occupant in a qualifying event by covering the windows and walls adjacent to each seating position with an airbag custom designed for each cab configuration.

SEAT FORWARD FACING CENTER LOCATION

The crew area shall include two (2) forward facing center crew seats with both located at the center of the rear wall.

SEAT CREW FORWARD FACING CENTER

The forward facing center seat shall be a H.O. Bostrom 500 Series Firefighter model seat. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position. The seat and cushion shall be hinged and compact in design for additional room. The seat shall include a "Fold and Hold" feature so that the cushion shall remain in the seated position and simply touched to flip up.

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The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK FORWARD FACING CENTER

The forward facing center seat shall feature a SecureAll™ self contained breathing apparatus (SCBA) locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

OCCUPANT PROTECTION FFC

The forward facing center seat position(s) shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

Each forward facing center seating position APS shall include:

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- APS advanced seatbelt system - retractor pre-tensioners tighten the seat belts around each occupant, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Side curtain airbag - provides ejection mitigation protection to each occupant in a qualifying event by covering the windows and walls adjacent to crew seating with an airbag custom designed for each cab configuration.

SEAT FRAME FORWARD FACING

The forward facing center seating positions shall include an enclosed seat frame located and installed on the rear wall. The seat frame shall measure 42.38 inches wide X 12.38 inches high X 22.00 inches deep. The seat frame shall be constructed of Marine Grade 5052-H32 0.19 inch thick aluminum plate. The seat box shall be painted with the same color as the remaining interior.

SEAT FRAME FORWARD FACING STORAGE ACCESS

There shall be one (1) access point to the storage area centered on the front of the seat frame. This access point shall be covered by a hinged door to allow access for storage in the seat box.

SEAT MOUNTING FORWARD FACING CENTER

The forward facing center seats shall offer a special mounting. The seats shall be installed 6.00 inches apart offering additional room for each occupant.

CAB FRONT UNDERSEAT STORAGE ACCESS

The left and right under seat storage areas shall have a solid aluminum hinged door with non-locking latch.

SEAT COMPARTMENT DOOR FINISH

All underseat storage compartment access doors shall feature a medium gray Spar-Liner spray on bedliner coating.

WINDSHIELD WIPER SYSTEM

The cab shall include a triple arm linkage wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers; each shall be affixed to a radial arm. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position. The windshield wipers shall be interlocked with the park brake allowing activation only when the park brake is released.

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a "Check Washer Fluid Level" message.

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CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of aluminum with a chrome plated finish.

The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

DOOR LOCKS

Each cab entry door shall include a manually operated door lock. Each door lock may be actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door or by using a TriMark key from the exterior. The door locks are designed to prevent accidental lock out.

DOOR LOCK LH EMS COMPARTMENT

The left hand side EMS compartment shall feature a manual door lock.

DOOR LOCK RH EMS COMPARTMENT

The right hand side EMS compartment shall feature a manual door lock.

GRAB HANDLES

The cab shall include one (1) 18.00 inch three-piece knurled aluminum anti-slip exterior grab handle behind each cab door. The Hansen Lit Anti-Slip Rails shall be mounted in bright anodized aluminum 4000 Series II stanchions, complete with weep holes to prevent the buildup of moisture.

The grab rails shall include a 12 volt, 17.00 inch long blue LED light to provide an increased margin of safety for night time cab entry and egress. The lights shall only be activated when the parking brake is set and the ignition is on.

REARVIEW MIRRORS

Retrac Aerodynamic West Coast style dual vision mirror heads model 613305 shall be provided and installed on each of the front cab doors.

The mirrors shall be mounted via 1.00 inch diameter tubular stainless steel arms to provide a rigid mounting to reduce mirror vibration.

The mirrors shall measure 8.00 inches wide X 19.00 inches high and shall include an integral convex mirrors installed in the mirror head below the flat glass to provide a wider field of vision. The flat and convex mirrors shall be motorized with remote horizontal and vertical adjustment. The control switches shall be mounted within easy reach of the driver. The flat and convex mirrors shall be heated for defrosting in severe cold weather conditions.

The mirrors shall be constructed of a vacuum formed chrome plated ABS plastic housing that is corrosion resistant and shall include the finest quality non-glare glass.

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REARVIEW MIRROR HEAT SWITCH

The heat for the rearview mirrors shall be controlled through a virtual button on the Vista display and control screen.

TRIM REAR WALL EXTERIOR

The exterior rear wall of the cab shall include an overlay of 3003-H22 aluminum tread plate which shall be 0.07 inches thick. This overlay shall cover the entire rear wall of the cab.

CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 3.50 inches wide made of rubber.

MUD FLAPS FRONT

The front wheel wells shall have mud flaps installed on them.

CAB EXTERIOR FRONT & SIDE EMBLEMS

The cab shall include three (3) Spartan emblems. There shall be one (1) installed on the front air intake grille and two (2) for the exterior sides of the cab shipped loose with the chassis for installation by the body manufacturer. The cab shall also include one (1) Advanced Protection System shield emblem on each front door.

IGNITION

A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a one-quarter turn Cole Hersee switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches.

Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position.

The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.

BATTERY

The single start electrical system shall include six (6) Harris BCI 31 925 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.

BATTERY TRAY

The batteries shall be installed within two (2) steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.

The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of

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the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

BATTERY BOX COVER

Each battery box shall include a steel cover which protects the top of the batteries. Each cover shall be coated the same as the frame and shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.

BATTERY CABLE

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed at the ends with heat shrink and sealant.

BATTERY JUMPER STUD

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step, 8.00 inches apart. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

ALTERNATOR

The charging system shall include a 430 amp Delco Remy 55SI 12 volt alternator. The alternator shall include a self-exciting integral regulator.

STARTER MOTOR

The single start electrical system shall include a Delco brand starter motor.

BATTERY CONDITIONER

A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab behind the driver's seat on the AC hose cover. The rear face of the battery conditioner shall be flush with the rear face of the AC hose cover. The electrical junction box shall be located on the forward face of the AC hose cover.

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the left side of the cab above the wheel well in the forward location. The display shall be above any electrical inlet receptacle in the LH mid forward location.

AUXILIARY AIR COMPRESSOR

A Kussmaul Pump 12V air compressor shall be supplied. The air compressor shall be installed under the dashboard on the right-hand side, forward of the officer's seating position. The air compressor shall be plumbed to the air brake system to maintain air pressure.

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ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab over the wheel well in the forward position rear of the grab handle and above the door entry key pad if applicable.

ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to.

Amp Draw Reference List:

Kussmaul 40 LPC Charger - 5 Amps

Kussmaul 40/20 Charger - 8.5 Amps

Kussmaul 80 LPC Charger - 13 Amps

Kussmaul EV-40 - 6.2 Amps

Blue Sea P12 7532 - 7.5 Amps

Iota DLS-45/IQ4 - 11 Amps

1000W Engine Heater - 8.33 Amps

1500W Engine Heater - 12.5 Amps

120V Air Compressor - 4.2 Amps

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner.

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a blue cover.

HEADLIGHTS

The cab front shall include two (2) FireTech rectangular LED headlamps with high/low beam in the same housing and two (2) separate FireTech LED high beam only headlamps mounted in bright chrome bezels.

FRONT TURN SIGNALS

The front fascia shall include two (2) Whelen model M6 4.00 inch X 6.00 inch amber LED with clear lens turn signals which shall be installed in a chrome radius mount housing above and outboard of the front warning and head lamps.

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly below the front warning lights.

SIDE TURN/MARKER LIGHTS

The sides of the cab shall include two (2) Weldon 9186-8589-24 LED round side marker lights which shall be provided just behind the front cab radius corners.

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MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) marker lamps on the front of the vehicle designating identification and clearance. There shall be five (5) face mounted lights integrated into the scene light.

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled via a virtual button on the Vista display. The headlights shall turn on in the low beam setting when the park brake is disengaged. The headlights shall turn off when the park brake is engaged. The marker lights shall turn on when the ignition switch is in the "On" position. There shall be a virtual dimmer control on the Vista display to adjust the brightness of the dash lights.

GROUND LIGHTS

Each door shall include a Tecniq T44 LED ground light mounted to the underside of the cab step below each door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

GROUND LIGHTS

The ground lighting shall be activated when the parking brake is set, by the opening of the door on the respective cab side, and through a virtual button on the Vista display and control screen.

LOWER CAB STEP LIGHTS

The middle step located at each door shall include a recess mounted 4.00 inch round LED light which shall activate with the opening of the respective door.

INTERMEDIATE STEP LIGHTS

The intermediate step well area at each door shall include a TecNiq D06 LED light within a chrome housing. The Egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with Entry step lighting.

LIGHTBAR PROVISION

There shall be one (1) light bar installed on the cab roof. The light bar shall be provided and installed by Spartan Chassis. The light bar installation shall include a lowered mounting that shall place the light bar just above the junction box and wiring to a control switch on the cab dash.

CAB FRONT LIGHTBAR

The lightbar provisions shall be for one (1) Whelen brand Freedom IV LED lightbar mounted centered on the front of the cab roof. The lightbar shall be 72.00 inches in length. The lightbar shall feature fourteen (14) red LED light modules and two (2) clear LED light modules. The entire lightbar shall feature a clear lens. The clear lights shall be disabled with park brake engaged. The cable shall exit the lightbar on the right side of the cab.

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LIGHTBAR SWITCH

The light bar shall be controlled through a virtual button on the Vista display and control screen. There shall be an additional button located on the Vista display and control screen to control the clear lights.

FRONT SCENE LIGHTS

The front of the cab shall include one (1) HiViz model FireTech FT-B-72-ML-W LED scene light installed on the brow of the cab. The light shall feature (5) five integrated marker lights.

The housing shall be powder coated white.

FRONT SCENE LIGHT LOCATION

There shall be one (1) scene light mounted center on the front brow of the cab.

FRONT SCENE LIGHTS ACTIVATION

The front scene lighting shall be activated by a virtual button on the Vista display and control screen and a lighted momentary rocker switch on the dash.

SIDE SCENE LIGHTS

The cab shall include two (2) HiViz model FireTech FT-MB-27-FT LED scene lights installed one (1) on each side of the cab.

The housing shall be powder coated white.

SIDE SCENE LIGHT LOCATION

The scene lighting located on the left and right sides of the cab shall be mounted on the upper side radius of the cab centered above the rear crew doors.

SIDE SCENE ACTIVATION

The scene lights shall be activated by two (2) lighted momentary rocker switches located in the switch panel, one (1) for each light, by two (2) virtual buttons on the Vista display and control screen(s), one (1) for each light, and by opening the respective side cab doors.

INTERIOR OVERHEAD LIGHTS

The cab shall include a red/clear Whelen LED dome lamp located over each door. The dome lamps shall be rectangular in shape and shall measure approximately 7.00 inches in length X 3.00 inches in width with a black colored bezel. The clear function of each lamp shall be activated by opening the respective door. While the door is closed the individual red or clear function of each lamp can be activated dependently by switches on each lamp.

An additional incandescent three (3) light module with dual map lights shall be located over the engine tunnel which can be activated by individual switches on the lamp.

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ENGINE COMPARTMENT LIGHT

There shall be a LED NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.

DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red Whelen Ion LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be located centered left to right for greatest visibility.

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed or an apparatus compartment door is not closed, and the parking brake is released.

MASTER WARNING SWITCH

A master switch shall be included, as a virtual button on the Vista display and control screen which shall be labeled "E Master" for identification. The button shall feature control over all devices wired through it. Any warning device switches left in the "ON" position when the master switch is activated shall automatically power up.

HEADLIGHT FLASHER

An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied.

HEADLIGHT FLASHER SWITCH

The flashing headlights shall be activated through a virtual button on the Vista display and control screen.

INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen M6 Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the front fascia of the cab within a chrome bezel. The lights shall be programmed to emit the "PinWheel Variable" non-flashing pattern.

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be blue on the left and green on the right, both with clear lenses.

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OUTBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen M6 Super LED front warning lights in the left and right outboard positions. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the front fascia of the cab within a chrome bezel. The lights shall be programmed to emit the "PinWheel Variable" non-flashing pattern.

OUTBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the outboard position shall be red with a clear lens.

FRONT WARNING SWITCH

The front warning lights shall be controlled through a virtual control on the Vista display and control screen. This switch shall be clearly labeled for identification.

INTERSECTION WARNING LIGHTS

The chassis shall include two (2) Whelen M6 series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn. The lights shall be set to flash "DoubleFlash 150" in/out flash pattern.

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red with a clear lens.

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted on the side of the cab rearward from the front cab corner radius ahead of the cab doors.

SIDE WARNING LIGHTS

The cab sides shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the cab within a chrome bezel. The light shall be programmed to emit the "DoubleFlash 150" in/out flash pattern.

SIDE WARNING LIGHTS COLOR

The warning lights located on the side of the cab shall be blue with a clear lens.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the cab shall be mounted behind the rear crew door in the lowest available position.

SIDE AND INTERSECTION WARNING SWITCH

The side warning lights shall be controlled through a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.

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TANK LEVEL LIGHTS

There shall be four (4) Whelen 500 Series Linear LED light heads, intended for use as water level lights. Each light shall be surface mounted horizontally in a vertical stack within a chrome bezel.

The lights shall be provided in four (4) colors. The colors from top to bottom shall be green, blue, amber, and red with clear lenses.

TANK LEVEL LIGHTS ACTIVATION

An FRC remote large light driver shall be installed under the dash with the signal wire for the primary display routed to the rear of cab on the chassis.

The light activation shall be active with the park brake set and ignition on.

TANK LEVEL LIGHTS LOCATION

There shall be water level lights mounted on each side of the cab, centered between the rear cab doors and the rear corners of the cab.

REAR WARNING LIGHTS

The cab shall be prewired and contain a cutout for a Whelen TACTL5 Traffic Advisor control head to be installed by the body builder. The prewire shall be coiled under the center dash panel.

Wiring provisions shall be provided routed to the rear of the frame for OEM installation of up to eight (8) individual traffic advisor warning lights rated at no more than one (1) amp each.

The power to the control head shall be ignition switched and activation dependent upon the state of the controllers switched position upon ignition.

ROTO-RAYS WARNING LIGHT

The cab shall be prewired for a customer installed Roto-Rays® warning light which is to be located on the front of the cab on the grille. The wiring provided shall automatically deactivate the Roto-Rays light when the park brake is engaged.

ROTO-RAYS WARNING LIGHT SWITCH

The Roto-Rays® front warning light(s) shall be separately controlled through a virtual button on the Vista display and control screen. When the parking brake is engaged the light shall stop rotating.

SIREN CONTROL HEAD

A Whelen 295SLSC1 electronic siren control head with removable microphone shall be mounted in the left hand overhead position. The siren shall offer a selectable 100 or 200-watt output, radio broadcast, public address, and seventeen (17) Scan-Lock siren tones and hands free operation which shall allow the operator to turn the siren on and off from the steering wheel horn ring if a horn/siren selector switch option is also selected. The siren circuitry shall be placed behind the rocker switch panels under the electrical cover with a 30.00 inch loop for the OEM to route as desired.

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STEERING WHEEL HORN BUTTON SELECTOR SWITCH

A virtual button on the Vista display and control screen shall be provided to allow control of either the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements.

AIR HORN AUXILIARY ACTIVATION

The air horn activation shall be accomplished by a momentary rocker switch on the switch panel.

MECHANICAL SIREN BRAKE/AUXILIARY ACTIVATION

The mechanical siren shall be actuated by a momentary rocker switch in the switch panel on the dash. A red momentary siren brake rocker switch shall be provided in the switch panel on the dash. A virtual button for the siren brake shall be provided on the Vista display.

MECHANICAL SIREN INTERLOCK

The siren shall only be active when master warning switch is on to prevent accidental engagement.

BACK-UP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

FIRE BELL ACTIVATION

There shall be a black push button located on the switch panel which shall actuate the fire bell. The button shall be clearly labeled for identification.

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.

A twenty eight (28) icon lightbar message center with integral LCD odometer/trip odometer shall be included. The odometer shall display up to 999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD message center screen shall be capable of custom configuration by the users for displaying certain vehicle status and diagnostic functions.

The instrument panel shall contain the following gauges:

One (1) three-movement gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.

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One (1) three-movement gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.

One (1) four-movement gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 100 pounds PSI with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (°F) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 100 to 300 degrees °F with a red line zone indicating critical temperatures. A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.

The light bar portion of the message center shall include twenty-eight (28) LED backlit indicators. The lightbar shall be split with fourteen (14) indicators on each side of the LCD message screen. The lightbar shall contain the following indicators and produce the following audible alarms when supplied in conjunction with applicable configurations:

RED INDICATORS

Stop Engine - indicates critical engine fault
Air Filter Restricted - indicates excessive engine air intake restriction
Park Brake - indicates parking brake is set
Seat Belt - indicates a seat is occupied and corresponding seat belt remains unfastened
Low Coolant - indicates critically low engine coolant
Cab Tilt Lock - indicates the cab tilt system locks are not engaged.

AMBER INDICATORS

Malfunction Indicator Lamp (MIL) - indicates an engine emission control system fault
Check Engine - indicates engine fault
Check Transmission - indicates transmission fault
Anti-Lock Brake System (ABS) - indicates anti-lock brake system fault
High exhaust system temperature – indicates elevated exhaust temperatures
Water in Fuel - indicates presence of water in fuel filter
Wait to Start - indicates active engine air preheat cycle
Windshield Washer Fluid – indicates washer fluid is low
DPF restriction - indicates a restriction of the diesel particulate filter
Regen Inhibit-indicates regeneration of the DPF has been inhibited by the operator
Range Inhibit - indicates a transmission operation is prevented and requested shift request may not occur.
SRS - indicates a problem in the supplemental restraint system
Check Message - indicates a vehicle status or diagnostic message on the LCD display requiring attention.

GREEN INDICATORS

Left and Right turn signal indicators

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ATC - indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system

High Idle - indicates engine high idle is active.

Cruise Control - indicates cruise control is enabled

OK to Pump - indicates the pump is engaged and conditions have been met for pump operations

Pump Engaged - indicates the pump transmission is currently in pump gear

Auxiliary Brake - indicates secondary braking device is active

BLUE INDICATORS

High Beam indicator

AUDIBLE ALARMS

Air Filter Restriction

Cab Tilt Lock

Check Engine

Check Transmission

Open Door/Compartment

High Coolant Temperature

High or Low System Voltage

High Transmission Temperature

Low Air Pressure

Low Coolant Level

Low DEF Level

Low Engine Oil Pressure

Low Fuel

Seatbelt Indicator

Stop Engine

Water in Fuel

Extended Left/Right Turn Signal On

ABS System Fault

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using white LED backlighting.

HOURLY METER

Within the instrument panel, a Honeywell brand hour meter shall be installed which shall measure the amount of hours the PTO has been operated. The hour meter shall be prewired to the transmission location for final installation by the OEM and labeled "AERIAL HOURS".

AIR RESTRICTION GAUGE

The instrument panel shall include an Engineered Products air cleaner restriction gauge.

CAMERA REAR

One (1) Audiovox Voyager heavy duty box shaped HD camera shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle.

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The camera system shall include a one-way communication device that shall be an integral part of the rear camera for the use of voice commands directly to the driver. The rear camera display shall activate when the vehicle's transmission is placed in reverse.

CAMERA DISPLAY

The camera system shall be wired to a single Weldon Vista display located on the driver's side dash. The camera system display can be activated through the Vista display panel.

CAMERA SPEAKER

The rear camera shall be wired to speaker(s) in the cab and shall audible to the driver and officer. There shall be a virtual button provided on the Vista display and control panel to deactivate the speaker(s).

COMMUNICATION ANTENNA

An antenna base, for use with an NMO type antenna, shall be mounted on the right hand front corner of the cab roof so not to interfere with light bars or other roof mounted equipment installed by Spartan Chassis. The antenna base shall be an Antenex model MABVT8 made for either a 0.38 inch or 0.75 inch receiving hole in the antenna and shall include 17.00 foot of RG58 A/U cable with no connector at the radio end of the cable. The antenna base design provides the most corrosion resistance and best power transfer available from a high temper all brass construction and gold plated contact design. The antenna base shall be provided by Spartan.

COMMUNICATION ANTENNA CABLE ROUTING

The antenna cable shall be routed from the antenna base mounted on the roof to the area behind and underneath the right hand front seat.

AUXILIARY COMMUNICATION ANTENNA

An auxiliary antenna base, for use with and NMO type antenna, shall be installed on the cab. The antenna base shall be an Antenex model MABVT8 and shall include 17.00 foot of RG58 A/U cable with no connector at the radio end of the cable. The antenna base shall be mounted in the inboard position on the right hand front corner of the cab roof so not to interfere with light bars or other roof mounted equipment installed by Spartan Chassis. The antenna base shall be provided by Spartan.

AUXILIARY COMMUNICATION ANTENNA CABLE ROUTING

The auxiliary antenna cable shall be routed from the antenna base mounted on the roof to the area behind and underneath the right hand front seat.

TWO-WAY RADIOS

A radio wire conduit with a pull wire included shall be installed and routed from behind the dash to under the officer's seat for radio installation by the customer. The officer's under seat storage area shall include an access hole for the conduit cut into the rear face of the seat box. The hole shall be approximately 1.00 inch from the bottom and 1.00 from the inner wall of the seat box.

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CAB EXTERIOR PROTECTION

The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.

FIRE EXTINGUISHER

A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.

ROAD SAFETY KIT

The cab and chassis shall include one (1) emergency road safety triangle kit.

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys for the manual door locks.

DIAGNOSTIC SOFTWARE OCCUPANT PROTECTION

Diagnostic software for the Spartan Advanced Protection System shall be available for free download from the Spartan Chassis website to Spartan authorized OEMs, dealers and service centers, as well as the vehicle owner.

The software has been validated to be compatible with the following RP1210 interface adapters:

- Dearborn Group DPA4 Plus
- Noregon Systems JPRO® DLA+
- Cummins INLINE5
- Cummins INLINE6
- NexIQ™ USB-Link™

The software and adapter utilize the SAE J1939-13 heavy duty nine (9) pin connector which is located below the driver's side dash to the left of the steering column.

WARRANTY

Summary of Warranty Terms:

THE FOLLOWING IS SUMMARY OF WARRANTY TERMS FOR INFORMATION ONLY. THE ACTUAL LIMITED WARRANTY DOCUMENT, WHICH IS ATTACHED TO THIS OPTION, CONTAINS THE COMPLETE STATEMENT OF THE SPARTAN MOTORS USA LIMITED WARRANTY. SPARTAN'S RESPONSIBILITY IS TO BE ACCORDING TO THE TERMS OF THE COMPLETE LIMITED WARRANTY DOCUMENT.

The chassis manufacturer shall provide a limited parts and labor warranty to the original purchaser of the custom built cab and chassis for a period of twenty-four (24) months, or the first 36,000 miles, whichever occurs first. The warranty period shall commence on the date the vehicle is delivered to the first end user.

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CHASSIS OPERATION MANUAL

There shall be two (2) digital copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.

ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

- (1) Hard copy of the Engine Operation and Maintenance manual with digital copy
- (1) Digital copy of the Transmission Operator's manual
- (1) Digital copy of the Engine Owner's manual

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis shall include two (2) digital copies of wiring schematics and option wiring diagrams.

MUD FLAPS

In addition to the chassis supplied front mud flaps, two (2) mud flaps shall be provided rearward of the rear axles on the apparatus.

EXTEND AIR TANK DRAINS

The chassis air tank drains shall be extended to the outside of the body and terminate with key rings. The manual pull air tank drains are to be routed to a manifold.

The chassis supplied and installed heat exchanger shall be attached to the pump by the OEM manufacturer.

KNEELING FEATURE

The OEM shall connect the kneeling system to the stabilizer plant sensors. The air bags will be depleted when the aerial master is activated and any one of the stabilizers are planted.

The air bags will refill once the last stabilizer is raised or the aerial master switch is turned off. In the event the aerial master is not turned off, the aerial master is interlocked to the park brake and will be turned off once the park brake is depressed refilling the air bags.

120V RECEPTACLE

One (1) NEMA 5-20R, 120-volt, duplex, 3-wire, straight blade (household type) receptacle shall be installed on the apparatus and wired to the shoreline. The receptacle shall have a 20-amp rating and include a spring loaded weather resistant cover if mounted in an exterior location.

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The outlet shall be located inside the EMS compartment.

The exact location will be determined by the apparatus manufacturer, unless a specific location is clarified in the shop note.

120V RECEPTACLE

One (1) NEMA 5-20R, 120-volt, duplex, 3-wire, straight blade (household type) receptacle shall be installed on the apparatus and wired to the shoreline. The receptacle shall have a 20-amp rating and include a spring loaded weather resistant cover if mounted in an exterior location.

The outlet shall be located inside the EMS compartment.

The exact location will be determined by the apparatus manufacturer, unless a specific location is clarified in the shop note.

WATER TANK

The apparatus shall be equipped with a United Plastic Fabricating (UPF) 275 U.S. gallon water tank. Certification of the tank capacity shall be recorded on the manufacturer's record of construction and shall be provided to the purchaser upon delivery of the apparatus. The water tank shall be constructed of 1/2" thick PT2E polypropylene sheet stock, a non-corrosive stress relieved thermoplastic material, black in color, and UV-stabilized for maximum protection. The tank shall be of a specific configuration and shall be designed to be completely independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity. The top of the tank shall be fitted with removable lifting eyes designed with a 3:1 safety factor to facilitate easy removal.

TANK BAFFLES

The swash partitions shall be manufactured of natural color 3/8" PT2E polypropylene, with the transverse partitions extending from approximately 4" off the floor to just under the cover and the longitudinal partitions extending to the floor of the tank through the cover to allow for positive welding and maximum integrity. 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, interlock with one another, and be welded to each other and the walls of the tank.

TANK SUMP

One (1) sump shall be provided in the bottom of the water tank, constructed of 1/2" polypropylene, and located in the driver's side front quarter of the tank. Tanks requiring a front suction shall incorporate a 4" schedule 40 polypropylene pipe with a dip tube from the front of the tank to the sump location. The sump shall be used as a combination clean-out and drain. An anti-swirl plate shall be located approximately 2" above the sump.

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TANK FILL CONNECTION

All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and shall be capable of withstanding sustained fill rates of up to 1,000 GPM.

TANK LID

The tank lid shall be constructed of 1/2" thick PT2E polypropylene and incorporate a three-piece locking design allowing for individual removal and inspection if necessary. The tank lid shall be recessed 3/8" from the top of the tank and welded to the sides and the longitudinal partitions for maximum integrity. The lid shall have hold downs consisting of 2" polypropylene dowels spaced a maximum of 30" apart. These dowels shall extend through the covers, ensuring the covers remain rigid under fast filling conditions. A minimum of two lifting dowels shall be drilled and tapped 1/2" x 13" to accommodate the lifting eyes.

WATER TANK MOUNTING

The water tank carrier shall be designed specifically for this apparatus. The carrier structure shall be supported by and welded directly to the top plate of the torque-box.

WATER TANK DRAIN

A 1-1/2" drain valve shall be provided in the pump compartment to drain the water tank. The valve shall include a locking lever to prevent accidental draining of the water tank.

WATER TANK FILL TOWER

The tank shall have a combination vent and manual fill tower, marked "Water Fill", located at the driver's side front corner of the tank. The fill tower shall be constructed of blue 1/2" PT2E polypropylene and be a minimum dimension of 4" x 12" at the outer perimeter. The tower shall have a 1/4" thick removable polypropylene screen and a PT2E polypropylene hinged-type cover.

WATER TANK LEVEL GAUGE

One (1) Class1 "ITL-40M" tank level gauge for indicating water level shall be provided on the pump operator's control panel. 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.

The 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 multi-color 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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The system shall include the ability to display "text messages." The system shall include built-in diagnostic capabilities.

WATER TANK LEVEL DISPLAYS

Two (2) sets of 4-light LED water level displays shall be provided, one (1) mounted on the driver's side of the chassis cab and one (1) mounted on the officer's sides of the chassis cab.

A Class 1 driver module shall be provided to power the four (4) light displays. The module shall receive data from the master water tank level gauge and mimic the master display.

The color of the LED lights shall be green, blue, amber and red.

4" WATER TANK OVERFLOW

The tank shall be equipped with a minimum of a 4" schedule 40 polypropylene overflow/air vent pipe installed in the fill tower extending through the tank and dumping behind the rear axle.

FOAM CELL

One (1) United Plastic Fabricating (UPF) 25 U.S. gallon foam cell shall be incorporated into the water tank. One (1) pressure/vacuum vent shall be installed and one (1) drain hose shall be connected to the foam cell. The drain shall have a quarter-turn valve installed inside the pump compartment and it shall drain below the frame rail of the chassis.

The foam cell shall be designed for use with Class "A" foam.

The foam cell shall have a manual fill tower constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. The foam fill tower shall be green in color, indicating the type of foam to be utilized and located on the officer's side front corner of the water tank. The capacity of the cell shall be engraved on the top of the fill tower lid. 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 cell. A pressure vacuum vent shall be provided in the lid of the fill tower.

FOAM CELL LEVEL GAUGE

One (1) Class1, model ITLF-40M, foam tank level gauge, for indicating Class "A" foam level, shall be provided on the pump operator's control panel. 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.

Each tank level gauge system shall include:

- A pressure transducer that is mounted on the outside of the tank in an easily

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accessible area. - Sealed foam tanks will require zero pressure vacuum vents.

- A super-bright multi-color LED display viewable from 180 degrees with a visual indication of nine (9) accurate levels.
- A set of weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power.

The system shall include the ability to display "text messages." The system shall include built-in diagnostic capabilities.

HOSE BED

The hose bed shall be located towards the rear of the truck, behind the water tank and have a minimum capacity of 30 cubic feet in accordance with NFPA 1901, current edition. The inside of the hose bed shall be constructed of smooth aluminum. Hose shall be accessible from the rear, and the opening shall be free of obstructions that might interfere with the deployment and loading of hose. A 1" stainless steel body trim piece shall be at the rear-bottom of the hose bed, to protect the chevron striping when deploying hose.

The interior walls of the hose bed shall have an abraded aluminum finish.

The floor of the hose bed shall be constructed of Dura-Dek fiber reinforced plastic material to prevent the accumulation of water and to allow ventilation to aid in drying hose. The flooring shall be fabricated of "T" beam pultrusions in parallel connected with cross slats that are first mechanically bonded and then epoxied, forming a large sheet. The top portion of each "T" cross section shall measure 1-1/4" wide and 3/16" thick with beaded ends. The vertical portion shall be 3/8" thick, beading out at the bottom to a thickness of 1/2" and tall enough to result in an overall height of 1". The "T" sections shall be spaced 3/4" apart to allow for drainage and ventilation.

Each "T" beam shall be constructed utilizing a core of 250,000 continuous glass fiber strands that are high in resistance to tension, compression and bending. An outer sheath consisting of a continuous strand mat to prevent linear splitting and slipping shall surround the core. The sheath shall also serve to draw the protective resin to the bar surface. Both reinforcements shall be pulled through an isophthalic polyester resin, treated with antimony trioxide for fire resistance, to form a solid length.

The flooring shall then be protected with a polyurethane coating to screen out ultraviolet rays. The bright white coating shall be baked on.

The hose bed area shall be adequately lit to meet requirements.

The hose bed shall contain the following hose load:

600' of 5" double jacket hose

The hosebed cover will be supplied and installed by the dealer.

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HOSE BED LOADING LIGHT

One (1) On Scene Night Access 8" LED with housing hose bed loading light shall be provided in the top of the bulkhead at the front of the hose bed. The light shall provide illumination of the hose bed area. The hose bed loading light shall be controlled by a switch located above the tail light bezel on the left side. The hose bed lighting circuit shall be deactivated when the park brake is disengaged.

ALUMINUM BODY CONSTRUCTION

The apparatus body shall be fabricated from 1/8" 5052-H32, smooth aluminum sheet. The total outside width of the apparatus body shall not exceed 100 inches. The width measurement of the sidewalls shall be made from the outside wall of the two opposite sides of the body.

The complete apparatus body shall be fabricated utilizing the break and bend techniques in order to form a strong, yet flexible, uni-body structure. The body shall be constructed with holding fixtures to ensure proper dimensioning. Each apparatus body is specific in design in order to meet the unique requirements of the purchasing fire department.

The main body compartments on each side, as well as the rear center compartment if applicable, shall contain a sweep out floor design. Each compartment shall be made to the most practical dimensions in order to provide maximum storage capacity for the fire department's equipment. The door opening threshold shall be positioned lower than the compartment floor permitting easy cleaning of the compartments.

Continuous, solid welded seams shall be located at the upper front and upper rear corners of the apparatus body. The flooring of all lower, main body compartmentation shall also have solid weld seams. All door jams, on both the top and the bottom, shall be solid welded as well. Each main door jam shall consist of a double jam design; this is comparable to a double struck frame design, which provides superior strength and durability. All double door jams are to be welded together utilizing the plug weld technique. All remaining compartment walls shall be stitch welded.

The compartment floors, specifically L1 and R1, shall have a minimum of two (2) 2" x 2" square tubes welded to the entire width of the compartment floor. The two (2) rear side compartments as well as the rear center compartment, if applicable, shall be welded to the rear deck support structure. This rear deck support structure is specially designed for the galvanized apparatus body substructure. Each lower, rear compartment shall be adequately stitch welded to the cross tubes providing strength and durability to the entire apparatus body.

The body design shall include a "false wall" design in the lower portion of each lower, rear compartment. This "false wall" is required in order to allow for easy accessibility to the rear electrical components found in the rear tail light cluster area.

On the upper area of the apparatus body, directly above the side compartment door openings, a header is to be fabricated from smooth, aluminum sheet. This area shall be

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free of any body seams and shall be painted the same color as the apparatus body. The height of the header may vary depending on the following factors: apparatus design, lettering requirements, scene lights and warning light requirements as well as various other options. A "J" channel shall be incorporated into the body design in order to provide a rain gutter to further assist in preventing excessive moisture from getting into the compartments.

SIDE COMPARTMENT DOORS

ROM roll-up doors shall be installed on each side body compartment, nine (9) total. Each door shall be a shutter type with slats that roll onto a spool at the top of the compartment. Each slat shall be equipped with nylon end shoes to assure operation without the need for constant lubrication. The door slats and tracks shall be wet painted by the door manufacturer to match the apparatus body.

Each ROM roll-up door shall be supplied with a full-width lift bar and finger pull handle integrated into the bottom rail for easy one hand operation.

DOOR HANDLES

The door handles on the side body compartments of the apparatus shall be non-locking style.

Door protectors shall be provided in the upper section of the body compartments with roll-up doors. Each door protector shall mitigate the damage to the roll-up.

PULL DOWN STRAP

There shall be a nylon pull down strap installed on each roll-up door. The straps shall be installed as followed: There shall be a nylon strap with loops sewn into each end. The strap shall be long enough to be installed at the midpoint of the compartment and the bottom of the door, and shall be long enough to completely open the door but not so long that it will hang out of the door when it is in the closed position. There shall be a footman loop installed on the bottom of the door just inside the jam. The footman loop shall be threaded through the loop in the strap and secured to the door with nut zerts. The other end of the strap shall be installed vertically at the mid point of the compartment opening just inside the door track. The footman loop shall be threaded through the nylon strap and secured to the compartment opening with nut Zerts.

There shall be two (2) vertically hinged lap type compartment doors installed on the compartment face. The lap doors shall be a single panel construction and fabricated from aluminum and be painted job color. The edges of the door shall be formed to an inward angle for added rigidity. There shall be rubber molding installed in the overlap area of the door to insure a weatherproof seal and prevent water from collecting in the door sill. The compartment doors shall have a polished stainless steel continuous hinge with a rubber seal installed between the hinge and the aluminum door to separate the dissimilar metals. The hinge pin shall be stainless steel with a minimum diameter of 1/4".

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The compartment door shall utilize a D-ring handle w/ latch.

BODY COMPARTMENT LIGHTING

A total of eighteen (18) On-Scene Access Series LED compartment lights shall be installed in the body compartments. Each light shall be enclosed within a tough waterproof Lexan tube enclosure and offer 400 lumens per 18" of light and an adjustable beam angle. The lights shall have a five (5) year replacement warranty.

COMPARTMENT COATING

The interior of the body compartments shall be coated with gray Line-X unless otherwise specified. The coating shall be durable enough to withstand the everyday wear and tear of equipment removal and shifting.

COMPARTMENT AIR RELEASE

Each compartment shall be vented to help remove trapped air when closing the compartment door. The vent shall be a rubber gasket in the area of the outboard corners of the compartment. Wiring may also be run through these areas.

COMPARTMENT DRAIN HOLES

Each body compartment shall be equipped with drain holes to allow standing water to exit underneath the apparatus.

SILL PROTECTORS

An anodized aluminum angle sill protector shall be installed on the bottom sill area of the compartment with lap style doors to aid in reducing paint damage from equipment. The sill protectors shall be attached using permanent-bonding double-sided tape.

FUEL FILL

A fuel fill pocket shall be located in the rear wheel well area on the driver's side. The fuel fill shall utilize a stainless steel OEM door that is painted primary body color. The hinge and frame shall all be constructed out of stainless steel material.

WHEEL WELL "SMART STORAGE"

The wheel wells shall be designed to accept "Smart Storage" modules for maximum compartment efficiency.

DRIVER'S (LEFT) SIDE BODY COMPARTMENTS

COMPARTMENT L1

A standard height compartment shall be located above the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L1 within these specifications and any ensuing paperwork or drawings after contract execution.

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The dimensions of the compartment shall be:

- Height: 23"
- Width: 46"
- Depth: 14" Upper and 14" Lower
- Intermediate Divide Height: "

COMPARTMENT L2

A standard height compartment shall be located above the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L2 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 14"
- Width: 48"
- Depth: 14" Upper and 14" Lower
- Intermediate Divide Height: "

COMPARTMENT L3

A full height compartment shall be located behind the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L3 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 51"
- Width: 17"
- Depth: 14" Upper and 26" Lower
- Intermediate Divide Height: 43"

COMPARTMENT L4

A full height compartment shall be located behind the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L4 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 31"
- Width: 41"
- Depth: 22" Upper and 22" Lower
- Intermediate Divide Height: "

COMPARTMENT COMPONENTS

L1 Components

ADJUSTABLE ROLL OUT TRAY

One (1) roll out equipment tray shall be installed in the compartment. The tray shall be equipped with an Austin Hardware drawer slide. The roller assembly shall have a rated capacity of 300 lbs. distributed load and shall have 100% extension capability. The roller assembly shall be bolted to two (2) sets of vertical struts to allow for height adjustment

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of the tray. The tray shall be constructed of 3/16" aluminum sheet with 3" lips. The tray shall be coated with Line-X and shall be equipped with a locking slide in order to hold the tray in either a fully extended or closed position. The tray shall be equipped with the Austin Hardware front drawer release system which allows for one handed operation of the system. There shall be one (1) roll out equipment tray installed on the floor of the compartment. The tray shall be equipped with a Series 86OnScene drawer slide. The roller assembly shall have a rated capacity of 600 lbs. distributed load and shall have 100% extension capability. The tray shall be constructed of 3/16" aluminum sheet with 3" lips to prevent items from being shifted during transportation. The tray shall be coated with Line-X®, a thermoplastic polyurethane coating.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

L2 Components

ADJUSTABLE SHELF

One (1) aluminum adjustable shallow-depth shelf shall be installed in the compartment. The shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelf shall be coated with Line-X and shall be designed in such a manner that will allow liquids to readily drain.

ADJUSTABLE TILT-DOWN TRAY

One (1) tilt-down roll out tray shall be installed in the compartment. The tray shall be provided with an On-Scene Cargo Slide roller type assembly. The out and down roller assembly shall have a rated capacity of 250 lb. distributed load up to 47" wide, 90% extension capability, and a 30-degree tilt down capability. Roller assemblies wider than 47" shall be rated for 150 lb. distributed load. The roller assembly shall be bolted to vertical struts to allow for height adjustment of the tray. A mechanical lock assembly shall be provided to lock the tray in the extended position and the retracted position. The tray shall be constructed of 3/16" aluminum sheet with 3" lips and shall be coated with Line-X. The roller assembly shall be constructed of anodized aluminum and stainless steel fasteners.

TOOL BOARD

One (1) swing-out aluminum tool board shall be located in the standard height compartment. The tool board shall be constructed of 3/16" aluminum. The tool board shall be mounted to horizontal struts to allow the board to be relocated for depth in the compartment. There shall be a positive latching mechanism that shall secure the board in the compartment. The tool board shall utilize friction washers to hold it in both the opened and closed position. The tool board shall have a maintenance-free abraded finish and be of a pegboard pattern design.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any

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shallow depth portion. One (1) bolt-in vertical partition shall be installed in the standard height compartment. The partition shall match the compartment interior. The compartment layout shall be detailed at the pre-construction meeting.

L3 Components

ADJUSTABLE SHELF

One (1) aluminum adjustable full-depth shelf shall be installed in the compartment. The shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelf shall be coated with Line-X and shall be designed in such a manner that will allow liquids to readily drain.

ADJUSTABLE TILT-DOWN TRAY

One (1) tilt-down roll out tray shall be installed in the compartment. The tray shall be provided with an On-Scene Cargo Slide roller type assembly. The out and down roller assembly shall have a rated capacity of 250 lb. distributed load up to 47" wide, 90% extension capability, and a 30-degree tilt down capability. Roller assemblies wider than 47" shall be rated for 150 lb. distributed load. The roller assembly shall be bolted to vertical struts to allow for height adjustment of the tray. A mechanical lock assembly shall be provided to lock the tray in the extended position and the retracted position. The tray shall be constructed of 3/16" aluminum sheet with 3" lips and shall be coated with Line-X. The roller assembly shall be constructed of anodized aluminum and stainless steel fasteners.

FLOOR MOUNTED ROLL OUT TRAY

One (1) roll out tray shall be installed on the floor of the compartment. The tray shall be provided with an On-Scene Cargo Slide roller type assembly. The roller assembly shall have a rated capacity of 1,000 lb. distributed load and shall have 100% extension capabilities. A mechanical lock assembly shall be provided to lock the tray in the extended or retracted position. The tray shall be constructed of 3/16" aluminum sheet with 3" lips and shall be coated with Line-X. The roller assembly is constructed of anodized aluminum and stainless steel fasteners.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

DRIVER'S SIDE SMART STORAGE - WL1

A three (3) air bottle Smart Storage compartment shall be installed in the forward portion of the rear wheel well area, on the driver's side of the apparatus. The compartment shall be a triangle design. The compartment door and hinge shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal against an aluminum flange to protect the interior of the compartment. The door shall be painted primary body color.

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DRIVER'S SIDE SMART STORAGE - WL2

A Smart Storage open storage compartment shall be installed in the rear wheel well area between the tandem axles on the driver's side of the apparatus. The compartment door and hinge shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal against an aluminum flange to protect the interior of the compartment. The door shall be painted primary body color.

DRIVER'S SIDE SMART STORAGE - WL3

A Smart Storage compartment shall be installed in the rearward portion of the rear wheel well area, on the driver's side of the apparatus. The compartment shall be designed to store one (1) 2.5 gallon water can and one (1) 20 lbs. fire extinguisher. The compartment door and hinge shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal against an aluminum flange to protect the interior of the compartment. The door shall be painted primary body color.

OFFICER'S (RIGHT) SIDE BODY COMPARTMENTS

COMPARTMENT PR1

A full height compartment shall be located ahead of the rear wheels on the officer's side of the forward body module. This compartment shall be designated as PR1 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 33"
- Width: 23"
- Depth: 20" Upper and 20" Lower
- Intermediate Divide Height: "

COMPARTMENT R1

A standard height compartment shall be located above the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R1 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 23"
- Width: 48"
- Depth: 14" Upper and 14" Lower
- Intermediate Divide Height: "

COMPARTMENT R2

A standard height compartment shall be located above the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R2 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 23"
- Width: 48"

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- Depth: 14" Upper and 14" Lower
- Intermediate Divide Height: "

COMPARTMENT R3

A full height compartment shall be located behind the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R3 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 51"
- Width: 42"
- Depth: 14" Upper and 26" Lower
- Intermediate Divide Height: 43"

COMPARTMENT R4

A full height compartment shall be located behind the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R4 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 31"
- Width: 41"
- Depth: 22" Upper and 22" Lower
- Intermediate Divide Height: "

COMPARTMENT COMPONENTS

PR1 Components

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

R1 Components

ADJUSTABLE ROLL OUT TRAY

One (1) roll out equipment tray shall be installed in the compartment. The tray shall be equipped with an Austin Hardware drawer slide. The roller assembly shall have a rated capacity of 300 lbs. distributed load and shall have 100% extension capability. The roller assembly shall be bolted to two (2) sets of vertical struts to allow for height adjustment of the tray. The tray shall be constructed of 3/16" aluminum sheet with 3" lips. The tray shall be coated with Line-X and shall be equipped with a locking slide in order to hold the tray in either a fully extended or closed position. The tray shall be equipped with the Austin Hardware front drawer release system which allows for one handed operation of the system. There shall be one (1) roll out equipment tray installed on the floor of the compartment. The tray shall be equipped with a Series 86OnScene drawer slide. The roller assembly shall have a rated capacity of 600 lbs. distributed load and shall have

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100% extension capability. The tray shall be constructed of 3/16" aluminum sheet with 3" lips to prevent items from being shifted during transportation. The tray shall be coated with Line-X®, a thermoplastic polyurethane coating.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

R2 Components

ADJUSTABLE TILT-DOWN TRAY

One (1) tilt-down roll out tray shall be installed in the compartment. The tray shall be provided with an On-Scene Cargo Slide roller type assembly. The out and down roller assembly shall have a rated capacity of 250 lb. distributed load up to 47" wide, 90% extension capability, and a 30-degree tilt down capability. Roller assemblies wider than 47" shall be rated for 150 lb. distributed load. The roller assembly shall be bolted to vertical struts to allow for height adjustment of the tray. A mechanical lock assembly shall be provided to lock the tray in the extended position and the retracted position. The tray shall be constructed of 3/16" aluminum sheet with 3" lips and shall be coated with Line-X. The roller assembly shall be constructed of anodized aluminum and stainless steel fasteners.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

R3 Components

ADJUSTABLE SHELF

One (1) aluminum adjustable full-depth shelf shall be installed in the compartment. The shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelf shall be coated with Line-X and shall be designed in such a manner that will allow liquids to readily drain.

ADJUSTABLE TILT-DOWN TRAY

One (1) tilt-down roll out tray shall be installed in the compartment. The tray shall be provided with an On-Scene Cargo Slide roller type assembly. The out and down roller assembly shall have a rated capacity of 250 lb. distributed load up to 47" wide, 90% extension capability, and a 30-degree tilt down capability. Roller assemblies wider than 47" shall be rated for 150 lb. distributed load. The roller assembly shall be bolted to vertical struts to allow for height adjustment of the tray. A mechanical lock assembly shall be provided to lock the tray in the extended position and the retracted position. The tray shall be constructed of 3/16" aluminum sheet with 3" lips and shall be coated with Line-X. The roller assembly shall be constructed of anodized aluminum and stainless steel fasteners.

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FLOOR MOUNTED ROLL OUT TRAY

One (1) roll out tray shall be installed on the floor of the compartment. The tray shall be provided with an On-Scene Cargo Slide roller type assembly. The roller assembly shall have a rated capacity of 1,000 lb. distributed load and shall have 100% extension capabilities. A mechanical lock assembly shall be provided to lock the tray in the extended or retracted position. The tray shall be constructed of 3/16" aluminum sheet with 3" lips and shall be coated with Line-X. The roller assembly is constructed of anodized aluminum and stainless steel fasteners.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

R4 Components

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion. The compartment layout shall be detailed at the pre-construction meeting.

OFFICER'S SIDE SMART STORAGE - WR1

A three (3) air bottle Smart Storage compartment shall be installed in the forward portion of the rear wheel well area, on the officer's side of the apparatus. The compartment shall be a triangle design. The compartment door and hinge shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal against an aluminum flange to protect the interior of the compartment. The door shall be painted primary body color.

OFFICER'S SIDE SMART STORAGE - WR2

A three (3) air bottle Smart Storage compartment shall be installed in the rear wheel well area between the tandem axles on the officer's side of the apparatus. The compartment door and hinge shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal against an aluminum flange to protect the interior of the compartment. The door shall be painted primary body color.

OFFICER'S SIDE SMART STORAGE - WR3

A Smart Storage compartment shall be installed in the rearward portion of the rear wheel well area, on the officer's side of the apparatus. The compartment shall be designed to store one (1) 2.5 gallon water can and one (1) 20 lbs. fire extinguisher. The compartment door and hinge shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal against an aluminum flange to protect the interior of the compartment. The door shall be painted primary body color.

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REAR BODY COMPARTMENT

A compartment shall be located at the rear of the apparatus that extends into the apparatus torque box.

BODY MOUNT SUB FRAME

The main body mount sub frame shall be constructed from formed steel channel bolted and welded to the torque box. The sub frame shall be located at the front and rear of each body section as well as in front and rear of the wheel well opening.

The compartment area behind the rear axle shall be supported by a drop frame fabricated of steel tube and angles. All drop frame structures shall be welded directly to the torque box to allow the body to be a completely separate structure from the chassis.

FRONT STABILIZER COMPARTMENTS

An upper compartment shall be located above the front stabilizers on both sides of the apparatus. The compartments shall be designated as SL1 (driver's side) and SR1 (officer's side) within these specifications and any ensuing paperwork or drawings after contract execution. Each compartment shall be equipped with a single pan lap door with compression latches.

The compartments above the front stabilizers shall be transverse.

COMPARTMENT LIGHTING

One (1) On-Scene Access Series LED light shall be installed in each compartment. Each light shall be enclosed within a tough waterproof Lexan tube enclosure. Each light shall offer 400 lumens per 18" of light and an adjustable beam angle.

REAR STABILIZER COMPARTMENTS

An upper compartment shall be located above the rear stabilizers on both sides of the apparatus. The compartments shall be designated as SL2 (driver's side) and SR2 (officers side) within these specifications and any ensuing paperwork or drawings after contract execution. Each compartment shall be complete with a non locking ROM roll up door.

Each compartment shall have one (1) 18" On-Scene Access Series LED installed horizontally on the compartment ceiling. Each light shall be enclosed within a tough waterproof Lexan tube enclosure. Each light shall offer 400 lumens per 18" of light and an adjustable beam angle.

BODY RUB RAILS WITH RUBBER INSERTS

Rub rails shall be installed beneath the compartment doors to protect them from damage should the body be brushed or rubbed against another object. The rub rails shall be 3/16" aluminum channel, 2-1/2" x 1". The rub rails shall be highly polished and

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then bright dip anodized.

The rub rails shall be installed on the body utilizing non-corrosive nylon spacers and secured with stainless steel bolts. The outside edge of the rub rails shall be even with the fenderettes and bolt-on steps to prevent snagging.

Rubber bumper inserts shall be installed inside the aluminum channel to provide added protection from body damage.

TWO REAR TOW EYES

Two (2) chrome plated tow eyes shall be installed at the rear of the apparatus above the rear step area. The tow eyes shall be bolted to a heavy-duty assembly that is welded to the torque box. The tow eyes shall have a 2-1/2" ID hole.

REAR WHEEL WELLS

Wheel wells shall have semicircular black polymer composite inner liners that are bolted to the wheel well panel and supported inboard by brackets that are connected to the body framework. Each wheel well shall be a continuous piece with no breaks or ledges where road grime or debris may accumulate. This liner shall be removable for access to suspension assembly for repairs. There shall be no exception to the bolted wheel well inner liner requirement.

REAR RUBBER FENDERETTES

Four (4) rubber fenderettes shall be installed at the outboard edge of the rear wheel well area, two (2) on each side. The fenderettes shall be bolted to the apparatus body using nylon washers to space them slightly away from the body to reduce build-up of road grime.

They shall be black in color.

EXHAUST HEAT DEFLECTOR SHIELD

A 5" heat deflector shield shall be installed over the exhaust to aid in dissipating the heat to prevent exhaust heat from adversely affecting contents stored in the body.

FUEL TANK GAUGE ACCESS PANEL

Access shall be provided in the torque box for service of the fuel tank gauge without removing the fuel tank.

LICENSE PLATE BRACKET

A license plate bracket shall be mounted on the rear of the apparatus. A clear LED light shall be incorporated into the bracket.

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TRIMRITE STAINLESS STEEL FASTENERS

TrimRite stainless steel fasteners shall be provided for all exposed and unpainted fasteners throughout the body in locations such as overlays, pump panels, and other numerous hardware mounting locations. TrimRite stainless is a hardenable martensitic stainless steel that provides a high level of corrosion resistance, hardness up to Rockwell C 51, good cold formability and ease of heat treatment, all of which combine to provide an alloy which has been used for many applications. TrimRite stainless is tested to salt spray standard ASTM B117, which is a 200-hour salt spray test. The OEM shall use TrimRite stainless with an added blue patch which provides improved vibration resistance for the fasteners.

ADDITIONAL HARDWARE

A bag of stainless steel nuts, bolts, and washers shall be supplied with the apparatus for mounting of equipment.

WALKWAYS AND OVERLAYS

All exterior surfaces designated by the manufacturer as stepping, standing, or walking areas shall be overlaid with 3003 H22 bright tread plate to provide a slip resistant surface, even when the surface is wet. All interior surfaces designated by the manufacturer as stepping, standing, or walking areas shall be slip resistant when the surface is dry. The degree of slip resistance shall be in accordance with NFPA 1901, current edition.

Horizontal walkways shall have .080" aluminum tread plate overlays installed and vertical surfaces shall have .125" aluminum tread plate overlays. Overlays shall be installed that are totally insulated from the apparatus with nylon shoulder washers that extend into holes in the body. Stainless steel cap nuts shall be employed where bolt ends may damage equipment or cause injury. After the apparatus is painted and the overlays are reinstalled, they shall be additionally sealed at the edges with a caulking compound. The exterior top tread plate overlay shall be mounted flush with the outer edges of the apparatus body.

Any designated horizontal standing or walking surface higher than 48" from the ground and not guarded by a railing, or structure at least 12" high shall have a "safety yellow line" marking the outside perimeter of the designated standing or walking surface area. Yellow reflective SCENE dots shall be used to create the line along the outside edges of standing and walking surfaces. Steps and ladders shall not be required to have the yellow line.

STEPPING SURFACES

All steps shall have a surface area of at least 35 square inches and shall be able to withstand a load of at least 500 pounds. Steps shall be provided at any area that personnel may need to climb and shall be adequately lit.

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TURNTABLE ACCESS LADDER - DRIVER'S SIDE

For access to the turntable, an aluminum turntable access ladder shall be furnished on the driver's side of the apparatus near the front area of the turntable. The ladder assembly shall be a pull-out-and-down design with a slight angle to allow for better access to the turntable. The ladder shall lock in the stored position with a "T" handle type locking device. The top step of the access ladder shall be a fold down tread plate platform to allow for an easy transition from the ladder rungs to the turntable. When the ladder is in the down position the maximum height from the ground to the first step shall not exceed 24".

The access ladder shall be connected to the door open warning circuit to warn the driver if it is not in the stored position. The steps shall be illuminated for night time operation with On-Scene Night Access 10" LED lighting. The lighting shall be enclosed within a tough waterproof Lexan tube enclosure and covered with an aluminum bezel for protection from impact and environmental elements; and shall be activated by the parking brake. To aid in ascending and descending the access steps, knurled aluminum handrails shall be provided on each side of the steps. The handrails shall utilize blue colored LED backlighting. The lower bracket on the vertical handrails shall have a drain hole drilled in it at the lowest point.

TURNTABLE ACCESS LADDER - OFFICER'S SIDE

For access to the turntable, an aluminum turntable access ladder shall be furnished on the officer's side of the apparatus near the front area of the turntable. The ladder assembly shall be a pull-out-and-down design with a slight angle to allow for better access to the turntable. The ladder shall lock in the stored position with a "T" handle type locking device. The top step of the access ladder shall be a fold down tread plate platform to allow for an easy transition from the ladder rungs to the turntable. When the ladder is in the down position the maximum height from the ground to the first step shall not exceed 24".

The access ladder shall be connected to the door open warning circuit to warn the driver if it is not in the stored position. The steps shall be illuminated for night time operation with On-Scene Night Access 10" LED lighting. The lighting shall be enclosed within a tough waterproof Lexan tube enclosure and covered with an aluminum bezel for protection from impact and environmental elements; and shall be activated by the parking brake. To aid in ascending and descending the access steps, knurled aluminum handrails shall be provided on each side of the steps. The handrails shall utilize blue colored LED backlighting. The lower bracket on the vertical handrails shall have a drain hole drilled in it at the lowest point.

PLATFORM ACCESS STEPS - DRIVER'S SIDE

For access to the platform, one set of steps shall be furnished on the driver's side of the apparatus at the rearward portion of the body. The steps shall be constructed of aluminum grip-strut.

The bottom step shall be a swing-down type that shall allow ease of access to the top of

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the body, which shall allow easy access to the platform. The step surface shall be constructed of grip-strut material. This step shall be connected to the door open warning circuit to warn the driver if left down.

The remaining steps shall have a maximum stepping height, which shall not exceed 18", with the exception of the ground to the first step. Steps shall be illuminated for nighttime operation with On Scene LED lighting, actuated by the parking brake. To aid in ascending and descending the access steps, knurled aluminum handrails shall be provided on each side of the steps and one (1) on the body above the steps. The handrails shall utilize blue colored LED backlighting. The lower bracket on the vertical handrails shall have a drain hole drilled in it at the lowest point.

FRONT TREAD PLATE OVERLAYS

A tread plate overlay shall be located on the front vertical areas of each side of the apparatus body. The overlays shall be located on the front of the body compartments.

BACKLIT HANDRAILS

All handrails, unless otherwise stated, shall be constructed of knurled aluminum with blue colored LED backlighting. All railing shields and brackets shall be chrome plated and shall be bolted to the body with stainless steel bolts. The lower bracket on all vertical handrails shall have a drain hole drilled in it at the lowest point.

The following handrails shall be provided on the apparatus:

GROUND LADDER STORAGE

The ground ladders shall be stored within the torque box and shall be removable from the rear of the apparatus. The ladders shall be fully enclosed so road dirt and debris cannot foul or damage the ladders. The ladders shall be stored in individual full length aluminum slides so they can be removed individually. The slides shall be lined with nylon to aid in moving the ladders.

The following ground ladders shall be supplied with the apparatus:

One (1) Duo-Safety, model 585-A, 12' aluminum folding ladder shall be provided.

One (1) Duo-Safety, model 875-DR, 16' aluminum roof ladder with folding roof hooks shall be provided.

One (1) Duo-Safety, model 875-DR, 20' aluminum roof ladder with folding roof hooks shall be provided.

Two (2) Duo-Safety, model 1200-A, 28' aluminum two-section extension ladder shall be provided.

One (1) Duo-Safety, model 1200-A, 35' aluminum two-section extension ladder shall be provided.

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LITTLE GIANT LADDER STORAGE

Brackets shall be located on top of the chassis cab to provide storage for the Little Giant ladder. The Little Giant ladder shall be secured in place with a tread plate end cap on the forward end and adjustable straps on the rear end.

One (1) Wing Enterprises, model 15197, 17' aluminum Little Giant Overhaul NFPA compliant ladder shall be provided.

PIKE POLE STORAGE

Eight (8) aluminum tubes for the storage of pike poles shall be installed inside the upper portion of the torque box. Each tube shall be notched for NY Roof Hook.

The following pike poles shall be supplied with this location on the apparatus:

Pike Pole (1), Fire Hooks Unlimited, 6' Steel, New York Roof Hook, Chisel End, RH-6

Pike Pole (1), Fire Hooks Unlimited, 8' Steel, New York Roof Hook, Chisel End, RH-8

One (1) Duo Safety, model FP12, 12' fiberglass pike pole with a standard hook and a butt-style handle shall be provided.

One (1) Duo Safety, model FP12, 12' fiberglass pike pole with a standard hook and a butt-style handle shall be provided.

PIKE POLE STORAGE

One (1) aluminum tray for the storage of a pike pole shall be installed inside the upper portion of the torque box.

The following pike pole shall be supplied with this location on the apparatus:

One (1) Fire Hooks Unlimited, model THR-10 w/D, 6' fiberglass pike pole with an Arson-Trash Hook and an aluminum "D" handle shall be provided.

WHEEL CHOCK STORAGE

The wheel chocks shall be stored in locations that are easily accessible under the front of the body on the driver's side of the apparatus.

One (1) pair of Zico, model SAC-44, wheel chocks shall be provided with the apparatus. The wheel chocks shall be mounted in Zico model, SQCH-44-H, mounting brackets.

WHEEL CHOCK STORAGE

The wheel chocks shall be stored in locations that are easily accessible under the front of the body on the officer's side of the apparatus.

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One (1) pair of Zico, model SAC-44, wheel chocks shall be provided with the apparatus. The wheel chocks shall be mounted in Zico model, SQCH-44-H, mounting brackets.

INDEPENDENT ALUMINUM PUMP MODULE

The pump module shall be fabricated from 1/8" 5052-H32 smooth aluminum sheet. The module shall be fabricated as an individual unit independent from the body. The module shall be fabricated utilizing the break and bend technique in order to form a strong yet flexible structure. The pump module shall be fabricated using precision holding fixtures to ensure proper dimensions and all attachment points shall be heavily reinforced.

PUMP COMPARTMENT LIGHTS

Two (2) 8" On-Scene Access LED lights shall be installed in the pump compartment. The lights shall be waterproof and have a 5 year replacement warranty. The lights shall be enclosed in tough 5/8" Lexan tube.

The lights shall be activated by a prox switch at the pump operator swing out gauge panel and the officers side pump access door

DRIVER'S SIDE RUNNING BOARD

An integral running board shall be installed on the driver's side of the pump module. The running board shall be constructed of aluminum and overlaid with anti-slip tread plate. The outside edge of the running board shall be covered by a rub rail and shall be flush with the rub rail that is installed on the body to maintain a uniform appearance.

OFFICER'S SIDE RUNNING BOARD

An integral running board shall be installed on the officer's side of the pump module. The running board shall be constructed of aluminum and overlaid with anti-slip tread plate. The outside edge of the running board shall be covered by a rub rail and shall be flush with the rub rail that is installed on the body to maintain a uniform appearance.

PULL-OUT PLATFORM

One (1) Innovative Industries pull-out platform shall be located on the driver's side of the pump module. The top surface of the platform shall be constructed of aluminum serrated bar grating for ease of maintenance and to provide a slip resistant surface for the operator. The platform shall lock in both the retracted and the extended position. The pull-out platform shall be capable of supporting a maximum of 500 pounds and shall be wired to the door ajar circuit.

The pull-out platform's roller assembly shall have a powder coat finish for added corrosion protection.

TOP PUMP ACCESS PANELS

A tread plate access panel, split in the center, shall be provided on the top of the pump

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compartment. The panel shall be of the single pan design and shall be positively latched in the closed position utilizing (8) compression latches. The panel shall be split in the center allowing access from either side of the pump compartment. This area is above the pump compartment, behind the turntable, allowing service of the pump and components.

CONTROL PANEL

The driver's side of the pump enclosure shall be divided into two sections. The lower section shall be where all valve controls, the primer control, the discharge relief valve controls (pilot valve), and other mechanical controls are located. This surface shall be referred to as the "control panel".

All valve controls shall be the self-locking type, activated by either direct control or with a direct linkage utilizing friction locking bell cranks and universal ball swivels. The primary valve handles shall have color coded tags installed in a recessed area to clearly denote the purpose of each control.

INSTRUMENT PANEL

The surface up above the control panel shall contain all instruments, gauges, test fittings, and optional controls. This surface shall be referred to as the "instrument panel". The instrument panel shall be independent and hinged and latched so that it may be opened. All instruments, gauges, and other equipment shall be installed with sufficient slack in any cabling, tubing, or plumbing to allow the panel to swivel to the fully open position.

The instrument and gauge panel shall be horizontally hinged "swing down" to provide access for service.

OFFICER'S SIDE PUMP PANEL

A single panel shall be installed on the officer's side of the pump enclosure. This shall be the area where any officer's side discharges, inlets, steamers, and other pump-associated equipment are located. This panel shall be easily removable and held in place with quick release push latches. It shall be fully removable for pump and plumbing access without the need to use hand tools. Any electrical equipment that may be installed shall be equipped with connectors so they may be easily separated from the opening created when the below described front access panel is removed.

PANEL SURFACES

The control panel, instrument panel, and officer's side pump panel shall be coated with black Line-X for maximum resistance to abrasion and to minimize glare. The material shall be capable of withstanding the effects of extreme temperatures and weather.

GARNISH RING BEZEL ASSEMBLIES

Innovative Controls intake and/or discharge garnish rings shall be installed to the

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apparatus with mounting bolts. These bezel assemblies shall be used to identify intake and/or discharge ports with color and verbiage. The garnish rings shall be designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The specified assemblies shall feature a chrome-plated panel-mount bezel with durable UV resistant polycarbonate inserts. These UV resistant polycarbonate graphic inserts shall be subsurface screen printed to eliminate the possibility of wear and protect the inks from fading. All insert labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

VERBIAGE TAG BEZEL ASSEMBLIES

Innovative Controls verbiage tag bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These tags shall be designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The verbiage tag bezel assemblies shall include a chrome-plated panel-mount bezel with durable easy-to-read UV resistant polycarbonate inserts featuring the specified verbiage and color coding. These UV resistant polycarbonate verbiage and color inserts shall be subsurface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive, which meets UL969 and NFPA standards.

SAFETY MESSAGE BEZEL ASSEMBLIES

Innovative Controls safety message bezels shall be installed. The bezel assemblies will be used to identify, instruct, or warn the operators. These tags shall be designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The safety message bezel assemblies shall include a chrome-plated panel-mount bezel with durable easy-to-read UV resistant polycarbonate inserts featuring ANSI safety standard graphics or custom graphics. These UV resistant polycarbonate graphic inserts shall be subsurface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the graphic insert labels and bezel shall be backed with 3M permanent adhesive, which meets UL969 and NFPA standards.

PUMP PANEL LIGHTING

The pump operator's control panel and the officer's side pump panel shall each be illuminated by On-Scene LED Access Series lighting. The pump panel lights shall become energized upon the pump being engaged. The lights shall be installed in the horizontal steps above the pump panels

PUMP PANEL LIGHT ACTIVATION

The light at the operator's panel shall be illuminated at the time the pump is ready to pump and it is "OK TO PUMP". The Pump shift has been completed and the chassis automatic transmission is engaged.

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The remaining lights shall be controlled by a switch located on the side operator's panel.

MIDSHIP MOUNT FIRE PUMP

The pump shall be a Waterous CSUD 2000 U.S. GPM fire pump. The pump shall be a single stage centrifugal class "A" rated fire pump, designed specifically for the fire service.

The pump body shall be cast as two (2) horizontally split pieces. The body shall be made of high tensile, close-grained gray iron with a minimum tensile strength of 40,000 PSI.

FLAME PLATED IMPELLER HUBS

The pump impellers shall be bronze, specifically designed for the fire service and accurately balanced for vibration free running. The stripping edges shall be located on opposite sides of the impellers to reduce shaft deflection.

The impeller shaft shall be stainless steel, accurately ground to size and supported at each end by oil or grease lubricated anti-friction ball bearings for rigid, precise support. The bearings used on the impeller shaft shall be automotive type bearings, easily cross-referenced and readily available at normal parts or bearing stores.

The impeller hubs shall be flame plated with tungsten carbide to hardness approximately twice that of tool steel to assure maximum pump life and efficiency. During the flame plating process, the base metal shall not be allowed to exceed a temperature of 300 degrees Fahrenheit to prevent altering the metallurgical properties of the impeller material.

IMPELLER WEAR RINGS

The pump shall be equipped with replaceable bronze wear rings for increased pump life and minimum maintenance cost. The wear rings shall be designed to fit into a groove in the face of the impeller hubs forming a labyrinth that, as the clearance increases with age, directs water from the discharge side in several directions eventually exiting outward, away from the eye of the impeller hub.

LUBRICATION SYSTEM

An internal lubrication system shall deliver lubricant directly to the drive chain. This unique design shall eliminate the need for an external lubrication pump and auxiliary cooling. Oil shall be supplied with the lubrication system.

REMOTE PUMP TRANSMISSION

The pump shall have a Waterous TC20 series transmission. The TC20 pump transmission shall be of the latest design, incorporating a high strength Morse Hy-Vo chain capable of operating at high speeds while providing smooth and quiet transmission of power. Drive and driven sprockets shall be made of hardened steel and

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have ground bores. Drive line shafts shall be made from alloy steel forgings, hardened and ground to size. Deep groove, anti-friction ball bearings shall be used throughout the pump transmission. The pump shift shall be a constant mesh, two (2) position sliding collar that engages all teeth simultaneously and shall be self-locking. Air power allows the operator to shift to ROAD or PUMP position by actuating a simple valve. LED signals shall show the completion of shifting from ROAD to PUMP. An internal lubrication system delivers lubricant directly to the drive chain. This unique design eliminates the need for an external lubrication pump and auxiliary cooling. All driveline components shall have a torque rating equal to or greater than the final net engine torque. A pan on the bottom of the case shall be removable to allow for inspection of internal driveline components.

MECHANICAL SEALS

The pump shall be equipped with self-adjusting, maintenance free mechanical shaft seals that shall not require manual adjustment. These seals shall be designed in a manner such that they shall remain functional enough to permit continued use of the pump in the unlikely event of a seal failure.

ZINC ANODES

Four (4) Waterous zinc anodes shall be provided with the fire pump. The anodes shall aid in preventing galvanic corrosion within the water pump and be easily replaceable. The anodes shall be installed as follows:

- Two (2) on the intake side of the pump
- Two (2) in the discharge manifold of the fire pump.

The pump shall be rated at 2000 gallons per minute.

FIRE PUMP MOUNTING

The fire pump shall be mounted within a separate body module that is not directly connected to the apparatus body.

The pump shall be frame mounted; therefore minimizing the likelihood of the pump casing cracking should the apparatus be involved in a collision.

The pump module shall be mounted to the frame in a minimum of four (4) locations and shall be reinforced appropriately in order to carry the expected load for the life of the apparatus.

PUMP SHIFT

The pump shift shall be supplied and installed by the chassis manufacturer.

The pump system shift indicator lights in the chassis cab shall be supplied and installed by the chassis manufacturer.

The pump system shift indicator lights on the operator's panel shall be incorporated with

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the pump pressure governor.

PRESSURE GOVERNOR

A Fire Research InControl series TGA400 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus or engine specific wiring.

The following continuous displays shall be provided:

- Pump discharge; shown with four daylight bright LED digits more than 1/2" high
- Pump Intake; shown with four daylight bright LED digits more than 1/2" high
- Pressure/RPM setting; shown on a dot matrix message display
- Pressure and RPM operating mode LEDs
- Throttle ready LED
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. The kit shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High battery voltage
- Low battery voltage (engine off)
- Low battery voltage (engine running)
- High transmission temperature
- Low engine oil pressure
- High engine coolant temperature
- Out of water (visual alarm only)
- No engine response (visual alarm only)

The program features shall be accessed via push buttons and a control knob located on

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the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 PSI. The intake pressure display shall show pressures from -30 in. Hg to 600 PSI.

The governor shall operate in two control modes: pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode, the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode, the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 PSI. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

An interlock system shall be provided to prevent advancement of the engine speed at the pump operator's panel unless the apparatus has "Throttle Ready" indication.

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

INTAKE RELIEF VALVE

A Trident AirMax intake relief valve shall be installed on the suction side of the pump. The valve shall be the preset-type, adjustable from 50 to 350 PSI, and shall be designed to prevent vibration from altering the setting. The relief outlet shall be directed below the pump with the discharge terminating in a 2-1/2" male VIC connection. A Trident panel mounting kit, complete with nameplate panel instruction enhanced placard and direct reading "SET" pressure gauge, shall be provided with the intake relief valve.

TRIDENT PRIMING PUMP

The priming pump shall be a Trident Emergency Products three-barrel, compressed air powered, high efficiency, multi-stage, venturi based AirPrime System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A pressure protection valve shall be installed with the priming pump. A single panel mounted control shall activate the priming pump and open the priming valve to the pump.

MASTER DRAIN VALVE

A Trident manifold drain valve assembly shall be supplied. This drain shall provide the capability to drain the entire pump by turning a single control. The valve assembly shall consist of a stainless steel plate and shaft in a bronze body with multiple ports. The drain valve control shall be mounted on the driver's side pump panel and labeled "Master Drain".

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WATEROUS OVERHEAT PROTECTION MANAGER WITH INDICATOR LIGHTS AND BUZZER

A Waterous Overheat Protection Manager (OPM) shall be installed on the pump. The relief valve shall automatically relieve water from the pump when the temperature of the pump water exceeds 140°F. In addition, a warning light on the pump panel shall be triggered by a thermal switch when the water in the pump reaches 180°F. The warning light and a buzzer act as additional protection devices if the temperature inside the pump keeps rising although the valve is open. The valve shall automatically reset after activation.

PAINT PUMP GRAY/PAINT INTAKES PRIMARY BODY COLOR

The pump body shall be painted with PPG polyurethane enamel paint. The paint color shall be a neutral gray. The pump enclosure shall be painted the same color as the apparatus body.

The main intake(s) and auxiliary intake valves shall be painted with a PPG polyurethane enamel paint. The paint color shall be the same as the apparatus body.

PUMP MANUALS

Two (2) Pump Operation and Maintenance manuals shall be provided in digital format with the apparatus.

PUMP AND ENGINE COOLING SYSTEM

A pump and engine cooling system shall be provided on the apparatus. The cooling system shall keep the engine cool when running for long periods of time and the pump cool during long periods of pumping when water is not being discharged. The cooling system shall also be set up in a way that the cooling system lines can be easily drained through the master pump drain.

The cooling system lines shall consist of high-temperature 3/8" (inside diameter) hose. The engine cooling lines shall be installed with one (1) line going from the discharge side of the water pump through an Innovative Controls model 3004204-2-2, 3/8" in-line quarter turn ball valve assembly and continuing on to the chassis heat exchanger. The return line from the heat exchanger shall then run into the suction side of the pump. The pump cooling lines shall be installed with one (1) line going from the discharge side of the water pump through an Innovative Controls model 3004204-2-2, 3/8" in-line quarter-turn ball valve assembly up to the water tank. At the water tank, the pump cooling line shall be plumbed into a 3/8" check valve on the "Tank Fill" valve. The check valve shall prevent tank water from back flowing into the pump when the cooling system is not in use. A return line from the water tank shall be plumbed into the water pump.

The engine cooling system valve shall be controlled on the operator's panel, and shall be clearly labeled, "Engine Cooler".

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The pump cooling system valve shall be controlled on operator's panel, and shall be clearly labeled, "Pump Cooler".

FOAM SYSTEM

A FoamPro 1600 single foam system shall be installed on the apparatus. The system shall be an electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system. The system shall be capable of handling, and shall be set up to utilize Class A foam concentrate. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. The system shall be equipped with a control module, suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flow meter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump.

The control module shall enable the pump operator to activate the foam proportioning system and select proportioning rates from 0.1% to 1.0%.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity shall be 1.7 GPM at 200 PSI with a max operating pressure up to 400 PSI. The motor shall be controlled by a microprocessor (mounted to the base of the pump). It shall receive signals from the control module, and power the 1/3 hp electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

System capacity shall be as follows:

0.2% Foam Concentrate / 850 Maximum GPM

0.5% Foam Concentrate / 340 Maximum GPM

1.0% Foam Concentrate / 170 Maximum GPM

A full flow check valve shall be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank. Components of the complete proportioning system as described above shall include:

Operator control and display.

Paddlewheel flow meter.

Pump and electric motor/motor driven.

Wiring harnesses.

Low-level tank switch.

Foam injection check valve.

An installation and operation manual shall be provided for the unit, along with a one (1) year limited warranty. A system schematic placard and a system rating placard shall be supplied and installed in accordance with NFPA 1901, current edition.

The foam system shall be installed behind the L1 compartment with an access panel located in the rear wall of the L1 compartment.

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FLUSH SYSTEM

A single foam flush system shall be installed to provide a clean water flush of the foam concentrate pump preventing foam concentrates from mixing and possible jelling. Clean water from the booster tank shall be plumbed to a 1/4 turn valve located on the pump panel. The valve shall be capable of operating pressures to 500 PSI.

FOAM REFILL SYSTEM

The apparatus shall be equipped with a FoamPro single foam, electronic, automatic concentrate refill system. It shall be separate from the proportioning system to allow for simultaneous operations. The system shall be capable of handling Class A or Class B foam concentrate. The apparatus shall be plumbed from the externally accessed intake/flush port to the foam cell. The external intake/flush connection shall be quick connect, cam-lock type and incorporated a check valve to prevent backflow. The refill line shall be positioned in the lower portion of the foam cell to minimize agitation. The refill operation shall be based on direct measurement of the concentrate level in the cell and the refill pump intake performance. The system must be capable of automatically stopping when the foam cell is full and warn the operator when the concentrate source is empty or any other conditions preventing flow occurs. The system shall be equipped and electronic control suitable for installation on the pump panel. Incorporated within the control shall be a microprocessor that receives input from the system while also monitoring foam concentrate pump output. An all bronze three-way valve shall be included to allow that operator to flush the system after use.

A 12-volt electric motor driven positive concentrate pump, with a minimum of 10 U.S. GPM @ 20 PSI rating, with concentrate viscosity exceeding 5500 CPS, shall be installed per manufacturer recommendations. A pump motor electronic driver shall receive signals from the computer control display and power the electric motor directly coupled to the concentrate pump. The system shall receive readings when the concentrate tank is full and stop operation to prevent overfill. The system shall terminate operations when flow is not detected on the intake side for twelve (12) seconds.

FOAM PROPORTIONING SYSTEM TESTING

The foam proportioning system shall be tested and certified after final installation in accordance with NFPA 1901, current edition.

PLUMBING MANIFOLD

The plumbing manifold shall consist of the inlet side manifold and the discharge side manifold. Galvanized Victaulic couplings shall be used wherever possible for ease of maintenance and superior corrosion protection.

The inlet side of the plumbing manifold shall utilize schedule 10, 304-grade stainless steel tubing and preformed elbows for inlets that are larger than 3". Side auxiliary inlets that are 3" or smaller shall utilize schedule 10, 304-grade stainless steel threaded tubing and preformed elbows. The inlet manifold shall thread into the pump auxiliary inlet ports and each inlet valve shall thread onto the inlet manifold.

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The discharge side of the plumbing manifold shall utilize schedule 10, 304-grade stainless steel tubing and preformed elbows to ensure the quality of the manifold where welds are required. The discharge manifold shall connect to the pump discharge ports using 1/2" stainless steel flanges that shall be machined to seat an O-ring to ensure a leak proof seal. Each discharge shall derive from a port on the manifold assembly connected to a discharge valve with 1/2" 304-grade stainless steel flanges. Discharges that terminate in a location other than the pump module (i.e. rear discharges) that do not require welding shall utilize a combination of high-pressure flex hose and schedule 10, 304-grade stainless steel tubing to allow flexibility between the body and the pump module.

A 3/4" quarter turn drain valve shall be included. A chrome plated rectangular handle shall be provided on the drain valve to facilitate use with a gloved hand. The drain valve shall be located just above the running board and below the pump panel to reduce clutter in the pump panel area. The drain valve shall be connected to the valve with a flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

INNOVATIVE CONTROLS DISCHARGE GAUGES - 2-1/2" - 0-400 PSI

The discharge gauges on the apparatus shall be 2-1/2" diameter Innovative Controls pressure gauges. The gauges shall have a one-piece die-cast brass case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. Clear scratch resistant molded lenses shall be used to ensure distortion-free viewing and they shall be sealed to the gauge by being trapped together with a profile gasket by a crimped stainless steel bezel. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40°F to +160°F.

The gauges shall exceed ASME B40.100 Grade B requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

Highly-polished stainless steel bezels shall be provided to prevent corrosion and protect lenses and gauge cases. The gauges shall be installed into decorative chrome-plated mounting bezels that incorporate valve identifying verbiage and/or color labels.

The gauges shall display a range from 0 to 400 PSI and shall have an orange tip on the pointer.

MASTER PRESSURE CENTER ASSEMBLY

The master gauges shall be installed on the pump panel no more than 6 inches apart in an integrated master pressure assembly that includes the two (2) master gauges and the test port manifold.

The master intake and master discharge gauges shall be 4" diameter Innovative Controls pressure gauges. Each gauge shall have a one-piece die-cast brass case that

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integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. A clear scratch resistant molded lens shall be used to ensure distortion-free viewing and it shall be sealed to the gauge by being trapped together with a profile gasket by a crimped stainless steel bezel. The gauge shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40°F to +160°F.

Each gauge shall exceed ASME B40.100 Grade B requirements with an accuracy of +/- 1% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy. A highly-polished stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The two (2) master gauges shall be installed into a decorative chrome-plated zinc mounting bezel that also incorporates a test port manifold and a graphic overlay that identifies the master intake and discharge gauges, the vacuum test port, and the pressure test port. The test port manifold is solid cast brass with chrome-plated plugs.

The gauge on the left shall be the master pump intake gauge and display a range from -30 to 400 PSI with black graphics on a white background. The gauge on the right shall be the master pump discharge gauge and display a range from 0 to 400 PSI with burgundy graphics on a white background.

HARDWARE BRAND

The non-Storz discharge and intake fittings provided on this apparatus shall be South Park Corp. Brand. The adapter/cap/plug fittings shall be manufactured from high-quality brass that shall be polished to remove manufacturing irregularities with a chrome finish applied to the polished surface.

The Storz discharge and intake fittings provided on this apparatus shall be Task Force Tips Brand. For corrosion resistance, the adapter shall be constructed of hard coat anodized aluminum alloy and include a polymer bearing ring for prevention of galvanic corrosion.

The auxiliary intake(s) shall terminate with NH swivels, and the discharges shall terminate with male NH threads.

DISCHARGE, PRE-CONNECT, AND INTAKE DRAINS

An Innovative Controls 3/4" quarter turn drain valve shall be included on each discharge, gated intake, and steamer valve (if applicable). A side stem, long stroke chrome plated lift handle shall be provided on the drain valve to facilitate use with a gloved hand. The drain valve shall have a verbiage tag that angles upward so that it can easily be seen and read by the operator before opening. The drain valve shall be located just above the running board and below the pump panel to reduce clutter in the pump panel area. The drain valve shall be connected to the valve with a flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus.

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A matching color coded bezel shall be included.

AUTOMATIC DRAINS

A Class 1 automatic drain shall be installed on the deluge valve (if applicable). The drains shall also be located in low laying areas (i.e., front discharge) The Drains will open whenever the pressure in the line drops below 6 PSI.

PLUMBING LABELS

Innovative Controls brand labels shall be used to identify any pump valve controller, gauge, or drain on the apparatus. The labels shall be color coded in accordance with NFPA 1901, current edition compliance. The colors and verbiage of the labels shall be the OEM standard label package. The label package shall comply with the following:

- Each Pump-to-Tank Fill shall be labeled "Tank Fill" and shall have a light blue label color.
- Each Tank-to-Pump shall be labeled "Tank to Pump" and shall have a navy blue label color.
- Each intake label shall be burgundy in color and shall have verbiage to identify it.
- Each discharge label shall have a unique color and shall have verbiage to identify it.

For easy identification of each component, the verbiage of each label shall be size 22 pt font: Helvetica Neue Condensed Bold"

The tank valves shall have OEM Standard label packages unless stated otherwise. The Pump-to-Tank Fill shall be labeled TANK FILL and have a light blue color. The Tank-To-Pump shall be labeled TANK TO PUMP and have a navy blue color.

2" TANK FILL

A 2" tank fill shall be plumbed from the pump to the tank. Installation shall be completed with 2" Class 1 rubber hose and stainless steel hose couplings.

An Akron Brass, model 8620, 2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed directly on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

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The electric actuator shall be controlled by an Akron Brass, model 9323 Navigator Pro electric valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Two (2) additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller shall have up to three (3) preset locations that can be user set and easily recalled upon each use. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall provide position indication through a full-color backlit LCD display. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. The unit shall carry a five (5) year warranty.

3" TANK-TO-PUMP

A 3" tank-to-pump shall be plumbed with a Class 1 flexible hose from the tank to the suction side of the pump. An Akron Brass, model 8630, 3" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9323 Navigator Pro electric valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Two (2) additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller shall have up to three (3) preset locations that can be user set and easily recalled upon each use. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall provide position indication through a full-color backlit LCD display. The display shall be a full-color LCD display with a backlight. It shall have a manual adjustment of the brightness as well as an auto-dimming option. The unit shall carry a five (5) year warranty.

A check valve shall be between the pump suction and the booster tank valve. The check valve shall eliminate back flow into the water tank when the pump is connected to a pressurized source.

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6" DRIVER SIDE MAIN INTAKE

A 6" main intake shall be located on the driver's side of the pump module. The suction fittings shall include a removable die-cast screen to provide cathodic protection for the pump thus reducing corrosion. A short steamer barrel shall be installed to accommodate an intake valve without exceeding the legal overall body width. The intake shall terminate male NH threads.

One (1) 6" NH thread long handle chrome plated vented steamer cap shall be provided.

2-1/2" DRIVER'S SIDE AUXILIARY INTAKE

A 2-1/2" gated auxiliary intake with 2-1/2" plumbing shall be provided on the driver's side of the pump module. The auxiliary intake shall be fully recessed behind the panel in order to keep the valve protected from the elements.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass, model TSC manual actuator installed directly on the valve. The handle shall allow the valve to be controlled directly at the valve.

One (1) 2-1/2" NH thread rocker lug chrome plated vented plug, complete with cable or chain, shall be provided.

6" OFFICER SIDE MAIN INTAKE

A 6" main intake shall be located on the officer's side of the pump module. The suction fittings shall include a removable die-cast screen to provide cathodic protection for the pump thus reducing corrosion. A short steamer barrel shall be installed to accommodate an intake valve without exceeding the legal overall body width. The intake shall terminate male NH threads.

One (1) 6" NH thread long handle chrome plated vented steamer cap shall be provided.

All intakes shall have the OEM Standard label package unless stated otherwise. All intake labels shall be burgundy in color. Specific verbiage on each intake label tag shall be determined at the pre-construction meeting.

2-1/2" DRIVER'S SIDE DISCHARGE

A 2-1/2" discharge with 2-1/2" plumbing shall be located on the driver's side of the pump

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compartment. The discharge shall terminate with male NH thread.

An Akron Brass, model 8625, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to both Flow Sensor and Pressure Sensor, and provide an LCD display showing pressure and/or flow as well as valve position indication. Valve position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be programmed to GPM or LPM for flow as well as Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. Unit shall carry a five (5) year warranty.

One (1) 2-1/2" female NH thread swivel rocker lug x 2-1/2" male NH thread 30-degree chrome plated elbow adapter shall be provided.

One (1) 2-1/2" NH thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

2-1/2" DRIVER'S SIDE DISCHARGE

A 2-1/2" discharge with 2-1/2" plumbing shall be located on the driver's side of the pump compartment. The discharge shall terminate with male NH thread.

An Akron Brass, model 8625, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially

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designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to both Flow Sensor and Pressure Sensor, and provide an LCD display showing pressure and/or flow as well as valve position indication. Valve position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be programmed to GPM or LPM for flow as well as Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. Unit shall carry a five (5) year warranty.

One (1) 2-1/2" female NH thread swivel rocker lug x 2-1/2" male NH thread 30-degree chrome plated elbow adapter shall be provided.

One (1) 2-1/2" NH thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

2-1/2" OFFICER'S SIDE DISCHARGE

A 2-1/2" discharge with 2-1/2" plumbing shall be located on the officer's side of the pump compartment. The discharge shall terminate with male NH thread.

An Akron Brass, model 8625, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

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The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to both Flow Sensor and Pressure Sensor, and provide an LCD display showing pressure and/or flow as well as valve position indication. Valve position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be programmed to GPM or LPM for flow as well as Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. Unit shall carry a five (5) year warranty.

One (1) 2-1/2" female NH thread swivel rocker lug x 2-1/2" male NH thread 30-degree chrome plated elbow adapter shall be provided.

One (1) 2-1/2" NH thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

4" OFFICER'S SIDE DISCHARGE

A 4" large diameter discharge, with 4" plumbing, shall be located on the officer's side of the pump compartment. The discharge shall terminate with male NH thread.

One (1) Akron Brass, model 8840, 4" Swing-Out valve shall be provided. The valve shall have an all cast brass valve body with a 4" full flow waterway ideal for flows up to 2000 GPM and a maximum body length of 4". The valve shall utilize a bronze flat ball design with a single urethane seat and be structurally rated to 500 PSI with a 250 PSI operating pressure. The valve shall not require the lubrication of seats or any other internal waterway parts and shall be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 25:1 gear ratio, which actuates from fully open to fully closed in eight (8) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

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The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to both Flow Sensor and Pressure Sensor, and provide an LCD display showing pressure and/or flow as well as valve position indication. Valve position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be programmed to GPM or LPM for flow as well as Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. Unit shall carry a five (5) year warranty.

One (1) 5" swivel Storz x 4" female NH thread swivel rocker lug 30-degree elbow adapter shall be provided. The elbow shall be constructed of hard coat anodized aluminum alloy and have a silver powder coat finish inside and out.

One (1) 5" Storz blind cap, complete with lanyard, shall be provided.

CROSSLAY CONFIGURATION

One (1) 1-1/2" crosslay pre-connect and one (1) 2-1/2" crosslay pre-connect shall be located above the front of body. High-pressure flex hose with stainless steel couplings shall be used in the plumbing.

A 90-degree swivel elbow shall be utilized to keep the hose from kinking when pulled from either side of the apparatus. The swivel for each crosslay shall be located outboard for ease of making connections while changing hose.

The pre-connect hose beds shall be sized to accommodate the following hose load:

The interior of the pre-connect hose bed shall have a maintenance free abraded finish.

FLOORING

The floor of the pre-connect area shall be covered with Dura-Dek fiber reinforced material. The Dura-Dek shall have "T" beams in parallel connected with cross slats that are first mechanically bonded and then epoxied. The "T" sections shall be spaced 3/4" apart to allow for drainage and ventilation.

ROLLERS

Stainless steel rollers shall be provided at each end of the crosslay hose bed to facilitate

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deployment of hose. Vertical rollers shall be installed on each side of the hose bed opening and a horizontal roller shall be installed under the opening.

DIVIDER

One (1) divider shall be in the crosslay area. The divider shall be fabricated of 3/16" aluminum and shall be mounted in a channel on each end for adjustability. The divider shall have a maintenance free abraded finish.

CROSSLAY COVER

The top cover over the crosslays will be dealer supplied and installed.

END COVERS

The crosslay end covers will be dealer supplied and installed.

1-1/2" PRE-CONNECT

A 1-1/2" pre-connect with 2" plumbing shall be provided. The pre-connect shall terminate out a swivel male NST threads.

The 1-1/2" crosslay pre-connect shall have a capacity of 250' of 1-3/4" double jacket fire hose stored in a double stack.

The discharge shall be foam capable.

An Akron Brass, model 8620, 2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed directly on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to both Flow Sensor and Pressure Sensor, and provide an LCD display showing pressure and/or flow as well as valve position indication. Valve

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position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be programmed to GPM or LPM for flow as well as Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto- dimming option. Unit shall carry a five (5) year warranty.

The discharge shall be designated as a pre-connect so no cap and chain shall be required.

2-1/2" PRE-CONNECT

A 2-1/2" pre-connect with 2-1/2" plumbing shall be provided. The pre-connect shall terminate out a swivel NST.

The 2-1/2" crosslay pre-connect shall have a capacity of 250' of 2-1/2" double jacket fire hose stored in a double stack.

The discharge shall be foam capable.

An Akron Brass, model 8625, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 16:1 gear ratio, which actuates from fully open to fully closed in five (5) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to both Flow Sensor and Pressure Sensor, and provide an LCD display showing pressure and/or flow as well as valve position indication. Valve position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be

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programmed to GPM or LPM for flow as well as Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. Unit shall carry a five (5) year warranty.

The discharge shall be designated as a pre-connect so no cap and chain shall be required.

AERIAL WATERWAY DISCHARGE

A 4" discharge shall be plumbed to the aerial waterway with 5" plumbing. The plumbing shall be constructed from schedule 10 stainless steel components.

An Akron Brass, model 8940, 4" Swing-Out™ valve shall be provided. The valve shall have an all brass body with flow optimizing Fusion CF™ composite ball with Hydromax™ technology. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of four bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 25:1 gear ratio, which actuates from fully open to fully close in eight (8) seconds, a clutchless motor, and utilize an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9325, Navigator™ Pro valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Three (3) additional buttons shall be available to be used for preset selection, preset activation, CAFS activation and menu navigation. The unit shall be capable of being connected to a Pressure Sensor and provide an LCD display showing pressure as well as valve position indication. Valve position indication shall be determined from true position feedback and indicate the exact position of the valve. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall be able to be programmed to Bar, PSI or kPa for pressure. The unit shall have programmed pipe sizes and be capable of custom calibration to high and low flow ranges. The unit shall also be capable of turning on and off a solenoid used in a CAFS system. The only calibration required is to set the unit to the valve during initial set up. No other calibration shall be required. The display shall be a full color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. Unit shall carry a five (5) year warranty.

All discharges shall have OEM Standard label packages unless stated otherwise. Each discharge label shall be a unique color. Specific verbiage and colors on discharge label tags shall be determined at the pre-construction meeting.

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ELECTRICAL SYSTEM

Wiring harnesses shall be the automotive type, engineered specifically for the builder's apparatus, and shall meet the following criteria. Under no circumstances shall diodes, resistors, or fusible links be located within the wiring harness. All such components shall be located in an easy to access wiring junction box or the main circuit breaker area. All wire shall meet white book, baseline advanced design transit coach specification and Society of Automotive Engineers recommended practices. It shall be stranded copper wire core with cross-linked polyethylene insulation complying with SAE specification J1128. Each wire shall be hot stamp function coded every three inches starting one inch from the end and continuing throughout the entire harness. In addition to function coding, each wire shall be numbered, colored, and gauge coded.

Wire harnesses shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

Harnesses shall be modular in design; main harness system subdivided into several smaller sub-harnesses. The harness subsections shall be connected using Deutsch branded, heavy duty, environmentally sealed, connectors with silicone seals and a rear insertion/removal contact system. For isolation of electrical "zones" the harness subsections shall consist of a main harness, a pump harness with a separate pump gauge panel harness, a left body harness with a separate left compartment harness, a right body harness with a separate right compartment harness, and a rear body harness with two separate rear compartment harnesses.

The main harness and three body harnesses shall interconnect at a central, easy to reach location and their connectors shall not be obstructed by other harnesses or fuel/air lines. In addition, the main and body harness connectors shall be color-coded for ease of identification with their respective colors noted on the accompanying electrical diagrams.

Where connectors are not provided by the electrical component manufacturer, all 12-volt lights and other electrical components (excluding rocker and toggle switches) shall connect to the harnesses using Deutsch brand connectors; butt connectors are considered unacceptable.

All Deutsch connectors shall meet the following criteria:

- All connectors shall be rated for three feet submersion in water.
- Temperature range from -67°F to 257°F continuous at rated current.
- All contacts shall be soldered unless a crimping tool or machine is used that gives an even and precise pressure for the terminal being used.
- All contacts shall be pull-tested to ensure their integrity.

WEATHERPROOF DOOR SWITCHES

Because of the harsh environment and susceptibility to moisture on the fire ground, the fire apparatus compartment doors shall utilize weatherproof switches. No Exceptions.

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The switches shall be used for activation of the compartment lights and to provide a signal to the door open circuit in the cab.

V-MUX ELECTRICAL MANAGEMENT SYSTEM

The apparatus shall be equipped with a V-MUX Multiplex System. There are several key benefits to multiplexing, one is to reduce the number of connections in a vehicle's electrical system, because of this it is important to limit the amount of modules that control certain functions of the vehicle.

Outputs:

The outputs shall perform all the following items without added modules to perform any of the tasks:

- **Load Shedding:** The System shall have the capability to Load Shed with 8 levels any output. This means you can specify which outputs (barring NFPA restrictions) you would like Load Shed. Level 1 12.9v, Level 2 12.5V, Level 3 - 12.1V, Level 4 - 11.7V, Level 5 11.3V, Level 6 10.9V, Level 7 10.5, Level 8 10.1. Unlike conventional load shedding devices you can assign a level to any or all outputs. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Load Sequencing:** The System shall be able to sequence from 0 8 levels any output. With 0 being no delay and 1 being a 1-second delay, 2 being a 2-second delay and so on. Sequencing reduces the amount of voltage spikes and drops on your vehicle and can help limit damage to your charging system. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Output Device:** The System shall have solid-state output devices. Each solid-state output shall be a MOS-FET (Metal Oxide Semiconductor - Field Effect Transistors); MOS-FETs are solid-state devices with no moving parts to wear out. A typical relay, when loaded to spec, has a life of 100,000 cycles. The life of a FET is more than 100 times that of a relay. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Flashing Outputs:** The System shall be able to flash any output in either A or B phase, and logic is used to shut down needed outputs in park or any one of several combined interlocks. The flash rate can be selected at either 80, or 160 FPM. This means any light can be specified with a multiplex truck with no need to add flashers. Flashing outputs can also be used to warn of problems. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **PWM:** The modules shall have the ability to PWM at some outputs so that a Headlight PWM module is not needed. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Diagnostics:** An output shall be able to detect either a short or open circuit.

Inputs:

The inputs shall have the ability to be switched by a ground or battery signal.

The inputs shall be filtered for noise suppression via hardware and software so that RF or dirty power will not trick an input into changing its status.

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System Network:

The Multiplex system shall contain a Peer-to-Peer network. A Master-Slave Type network is not suitable for the Fire/Rescue industry. A Peer-to-Peer network means that all the modules are equal on the network; a Master is not needed to tell other nodes when to talk.

System Reliability:

The Multiplex system shall be able to perform in extreme temperature conditions, from -40° to +85° C (-40° to +185° F.) The system shall be sealed against the environment, moisture, humidity, salt or fluids such as diesel fuel, motor oil or brake fluid. The enclosures shall be rugged to withstand being mounted in various locations or compartments around the vehicle. The modules shall be protected from over voltage and reverse polarity.

12-VOLT SYSTEMS TEST

After completion of the unit, the 12-volt electrical system shall undergo a battery of tests as listed in NFPA 1901. These tests shall include, but not be limited to:

- Reserve capacity test
- Alternator performance test at idle
- Alternator performance test at full load
- Low voltage alarm test

Certification of the results shall be supplied with the apparatus at the time of delivery.

TAIL LIGHTS

A Whelen M6 series LED tail light assembly shall be installed on each side of the rear of the apparatus. Each assembly shall include the following:

- One (1) red LED stop/tail combination light
- One (1) amber LED turn light with arrow
- One (1) clear LED backup light

Each light shall be mounted in an individual chrome flange.

REAR WORK LIGHT SWITCH

A switch shall be installed above the tail light bezel on the left side of the rear of the apparatus. The switch shall be wired to the backup lights to provide additional work lighting. The rear work light circuit shall be deactivated when the park brake is disengaged. In addition to the lights being activated by the above switch, the lights shall also come on when the transmission is placed in reverse.

MIDSHIP TURN SIGNALS

Two (2) Truck-Lite model 21 LED midship auxiliary/turn signal lights shall be installed in the rub rail, one (1) on each side of the body.

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The mid turn signals are to be set to steady burn and will only flash when activated.

PERIMETER GROUND LIGHTING

Tecniq, model T44-WD0B-1, 4" round LED lights shall be installed beneath the apparatus in areas where personnel may be expected to climb on and off the apparatus. The lights shall illuminate the ground within 30" of the apparatus to provide visibility of any obstructions or hazards. These areas shall include, but not be limited to, side running boards and the rear step area.

The light activation shall match the chassis ground lighting

CLEARANCE LIGHTS

Grote red LED clearance lights shall be installed in the outside corners of the rear bumper and a Truck-Lite bar cluster located in the lower middle portion of the rear of the apparatus. Clearance reflectors shall be placed on the apparatus to be in full compliance with applicable ICC and DOT codes and regulations.

Two (2) extension marker lights (rubber arm style) shall be installed at the rear portion of the body. The lights shall be attached to the back wall of the rear flex joint area. These lights shall aid the driver as to the location of the rear of the body during driving operations. The lights shall have forward facing amber bulbs and rearward-facing red bulbs.

CLEARANCE LIGHTS

Two (2) in the outboard corners and a Truck-Lite bar cluster located in the lower middle portion of the rear of the apparatus.

Two (2) additional lights shall be located as high and wide as possible on the upper rear corners of the apparatus.

On the sides of the apparatus there shall be four (4) lights installed in the rub rails. One (1) light shall be installed rearward under both the L3 and L3 compartments. One (1) light shall be installed rearward under both the R4 and R4 compartments as well.

The lights shall be Weldon brand 9186-1500 series LED red markers.

Two (2) extension marker lights (rubber arm style) shall be installed at the rear portion of the body. The lights shall be attached to the back wall of the rear flex joint area. These lights shall aid the driver as to the location of the rear of the body during driving operations. The lights shall have forward facing amber bulbs and rearward-facing red bulbs.

Clearance reflectors shall be placed on the apparatus to be in full compliance with applicable ICC and DOT codes and regulations.

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CHASSIS SUPPLIED BACK UP CAMERA SYSTEM

A backup camera system shall be installed in the cab with the chassis. The camera shall be installed on the rear center upper portion of the apparatus.

DOOR OPEN AUDIBLE ALARM

An audible alarm shall be provided and connected to the door open circuitry.

UPPER ZONE A

The upper zone A warning lights shall be supplied and installed by the chassis manufacturer.

UPPER ZONE C

Two (2) Whelen L31 series Super-LED beacons shall be installed in Upper Zone C. The high profile 12v beacons shall incorporate thirty-two (32) Super-LEDs installed in sets of eight (8) on four (4) PC boards. The four (4) PC boards will be installed on a LED ballast. The beacons shall have an optic hard coated polycarbonate lens and a metalized reflector with clear optic collimators. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The four (4) conformal coated PC boards shall provide additional protection against environmental elements. The beacons shall include 28 Scan-Lock patterns including four (4) simulated rotating patterns and synchronized features. The beacons shall also contain cruise mode and low power mode. The beacon dome lenses shall be sealed to a black powder coated die- cast aluminum base with an "O" ring gasket assembly. The solid state beacon light shall be vibration resistant.

The driver's and officer's side rotating beacons will have red LEDs and a clear dome on the driver's side, and have blue LEDs and a clear dome on the officer's side.

UPPER ZONE B/D SIDE WARNING LIGHTS

Four (4) Whelen ION Series Super-LED lights with black housing shall be installed, two (2) each in Upper Zone B and Upper Zone D. The wide angle warning lights shall incorporate six Super-LEDs, a clear optic hard coated polycarbonate lens, and utilize a TIR reflector for maximum output. The lights shall be compliant with NFPA KKK1822F requirements. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The conformal coated PC board and liquid injection molded lens/gasket assembly shall provide additional protection against environmental elements. The solid state warning lights shall be vibration resistant.

The upper zone B/D warning lights will have red LEDs and clear lenses.

LOWER ZONE WARNING LIGHT PACKAGE

There shall be two (2) Whelen M6 Series Linear Super-LED® lights with chrome flange

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and clear lenses installed in the lower zone of the apparatus to meet NFPA compliance. The warning lights shall incorporate Linear Super-LED® and Smart LED® technology.

The M6 configuration shall consist of eighteen (18) clear Super-LED's and a clear optic polycarbonate lens. The warning lights, with the aid of two screws, shall have the ability to be installed as a surface mount warning lights. The M6 shall utilize optic collimators and a metalized reflector for maximum illumination. The warning lights shall include an internal flasher with 164 Scan-Lock™ flash patterns including a variety of CA Title 13 compliant patterns, left/right, top/bottom, in/out, and steady burn. The lights shall also provide synchronize and low power features. The M6 shall meet KKK 1822F, NFPA 1901, SAE and EC65 specifications.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The light engine shall be installed at the rear of the unit and be vacuum tested to ensure proper sealing. The PC board shall be conformal coated for additional protection.

There shall be four (4) Whelen WIONSMCR lights installed two (2) each side of the apparatus in the lower warning zone, (1) located ahead of the rear wheel well and one (1) located behind the rear wheel well each side. Two (2) Whelen M6 series lights shall be installed on the rear of the apparatus, one (1) each side.

The lower zone C warning lights will have blue LEDs and a clear lens on the driver's side, and red LEDs and a clear lens on the officer's side. The lower zone B/D warning lights will have red LEDs and clear lenses for the forward WION lights. The rearward WION lights will have blue LEDs and clear lenses.

UPPER ZONE C - ADD. WARNING LIGHTS

Two (2) Whelen M6 Series Linear Super-LED lights with chrome flanges shall be installed in Upper Zone C. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The M6 configuration shall consist of eighteen (18) clear Super-LED's and a clear optic polycarbonate lens. The warning lights, with the aid of two screws, shall have the ability to be installed as a surface mount warning lights.

The M6 shall utilize optic collimators and a metalized reflector for maximum illumination. The warning lights shall include an internal flasher with 164 Scan-Lock flash patterns including a variety of CA Title 13 compliant patterns, left/right, top/bottom, in/out, and steady burn. The lights shall also provide synchronize and low power features.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The light engine shall be installed at the rear of the unit and be vacuum tested to ensure proper sealing. The PC board shall be conformal-coated for additional protection.

The additional upper zone C warning lights will both have green LEDs and clear lenses.

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TRAFFIC ADVISOR

There shall be six (6) individual rear directional lights provided and installed on the rear of the apparatus body to act as a traffic directional light.

The lights shall be Whelen model #WIONSMCA LED ION amber lights with clear lenses and chrome bezels. Each light shall be surface mounted and equally spaced, spanning horizontally across the rear of the apparatus.

The lights shall be controlled by a Whelen #TACTL5 control head.

The traffic directional light shall be mounted in a tread plate box located above the rear of the body.

AIR HORN ACTIVATION

One (1) air horn button shall be provided on the driver's side pump panel. The button shall be red in color and include a label reading "AIR HORN".

LED SIDE BROW LIGHTS

Two (2) HiViz LEDs ""FireTech"" Combination Spot/Flood Scene lights, model FT-MB-27-FT-W shall be provided. The lights shall be low in profile with a "L" mounting bracket. The housing shall be made of a extruded 6061 aluminum; 34.89" wide and less than 3"" tall. Each scene light shall have 27LEDs.

The circuitry shall feature a PWM LED driver with an onboard electronic thermal manager. Additionally, the bar shall meet CISPR25 EMI requirements. The lights shall operate on 12v DC.

The housing color shall be white in color.

The two (2) lights shall be located rearward on top of the body, one (1) on each side.

The driver's side and officer's side scene light(s) shall be controlled by a switch located on the V-Mux display in the chassis cab. One (1) rocker switch shall be located on the pump panel for each side of scene lights, for a total of two (2). The switch at the pump panel shall have an indicator that shall illuminate when the switch is in the "ON" position.

The activation for the driver's side scene lights on the V-Mux display and the pump panel switch shall be labeled "LEFT SCENE" and the officer's side shall be labeled "RIGHT SCENE."

HI-VIZ LED 12V RECESSED SCENE LIGHTS

There shall be two (2) Hi-Viz Double Stacked Mini-brow, model FT-MB-2.15-F-W-CPREC, recessed lights installed on the apparatus. Each lamp head shall be fully recessed in housing flange. Wiring shall extend from the bottom of the housing.

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Each lamp head shall have two rows of fifteen (15) ultra-bright white LEDs. They shall each operate at 12 volts DC, draw 12.5 amps, and generate 15,840 raw lumens. Each lamp head shall have a 60 degree flood pattern. The lamp heads and housings shall be powder coated white. The floodlights shall be for fire service use.

The two (2) lights shall be installed on the rear face of the body, one (1) on each side.

The rear scene light(s) shall be controlled by a switch located on the V-Mux display in the chassis cab and one (1) switch located at the pump panel. The switch at the pump panel shall have an indicator that shall illuminate when the switch is in the "ON" position. The activation on the V-Mux display and the pump panel switch shall be labeled "REAR SCENE."

In addition to the switch located on the V-Mux, the rear scene light(s) shall be activated by the rear work light switch and when the apparatus is placed in reverse.

120V RECEPTACLE

One (1) NEMA 5-20R, 120-volt, duplex, 3-wire, straight blade (household type) receptacle shall be installed on the apparatus and wired to the shoreline. The receptacle shall have a 20-amp rating and include a spring loaded weather resistant cover if mounted in an exterior location.

The receptacle shall be located in the L3 compartment.

The exact location will be determined by the apparatus manufacturer, unless a specific location is clarified in the shop note.

120V RECEPTACLE

One (1) NEMA 5-20R, 120-volt, duplex, 3-wire, straight blade (household type) receptacle shall be installed on the apparatus and wired to the shoreline. The receptacle shall have a 20-amp rating and include a spring loaded weather resistant cover if mounted in an exterior location.

The receptacle shall be located in the R3 compartment.

The exact location will be determined by the apparatus manufacturer, unless a specific location is clarified in the shop note.

85' MID MOUNT PLATFORM CONSTRUCTION STANDARDS

The aerial platform shall be of mid mount design, with the turntable located directly and immediately behind the chassis cab. While in the stowed position, the aerial ladder sections shall extend backward to the rear of the apparatus. The aerial ladder shall be comprised of five sections and shall extend to a nominal height of 85' at 72 degrees, measured in a vertical plane from the platform handrail to the ground. To maintain a maximum level of safety, units exceeding a 76-degree angle of inclination, in accordance with NFPA 1931/1932, current edition, shall not be acceptable.

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OPERATIONAL ENVELOPE/REACH

The aerial ladder shall have an operations range of -12 degrees elevation to +72 degrees elevation.

While on a flat surface a minimum vertical reach of 85' shall be measured from the ground to the top of the handrail of the platform while at maximum extension and elevation.

A minimum horizontal reach of 81' shall be measured from the turntable centerline to the leading edge of the platform with the aerial at 0 degrees elevation.

Reach and height shall be measured in accordance with NFPA 1901, current edition.

STRUCTURAL MATERIAL

The primary load support members of the ladder shall be constructed of certified 70,000 PSI yield strength (minimum) steel tubing. Each section shall be trussed diagonally, vertically, and horizontally using welded steel tubing. All critical points shall be reinforced for extra rigidity and to provide a high strength to weight ratio.

All ladder rungs shall be constructed of A606 Type 4 certified steel tested per ASTM A370 standards. A606 Type 4 exhibits superior corrosion resistance over regular carbon steel as a result of the development of a protective oxide film on the on the surface. A606 Type 4 shall meet a minimum 6.0 Atmospheric Corrosion Factor. The ladder rungs shall be round and welded to each section utilizing "K" bracing for torsional rigidity.

All welding of structural components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes. Materials used to manufacture the structural components are to be certified by the mill that manufactured the materials. Certifications or re-certifications of structural materials by vendors other than the mill they were manufactured at will not be acceptable. Any material testing that is performed after the mill test will be for verification only and not completed with the intent of changing the classification. Any welded structural component for the ladder will be traceable to their mill lots.

PRIMARY DIMENSIONS

The inside dimensions of the ladder shall be as follows:

- Base Section 49.000"
- First Fly Section 41.250"
- Second Fly Section 34.375"
- Third Fly Section 27.500"
- Last Fly Section 21.750"

The minimum height of the handrails above the center line of the rungs shall be as

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follows:

- Base Section 34.875"
- First Fly Section 30.375"
- Second Fly Section 26.375"
- Third Fly Section 22.875"
- Last Fly Section 19.375"

NFPA SAFETY FACTOR AND RATED CAPACITIES

The methodology, definitions, testing, and criteria used by the aerial manufacturer to determine the preceding and following Safety Factor and Rated Capacity of the aerial device shall be in strict compliance with the definitions of such, as found in NFPA 1901 and these specifications.

AERIAL DEVICE SAFETY FACTOR AND RATED CAPACITY

The purchaser desires to purchase with these specifications, an aerial device with a minimum 2.0:1 safety factor as required and defined by NFPA 1901. Therefore, the aerial manufacturer shall hereby certify, by submitting a bid for these specifications; that the aerial device meets or exceeds the following requirements.

The design stress or primary stress within all structural load supporting members of the aerial device not exceed 50% of the minimum as welded yield strength of the material based on the combination of the dead load of the aerial + the rated capacity of 500 lbs. at the tip of the aerial; while flowing 1500 GPM, at a 90 degree angle to ladder centerline; with the structural load supporting members of the aerial device at either; an ambient temperature of 75 degrees F or an elevated temperature of 350 degrees F- thereby exhibiting a minimum 2.0:1 safety factor in all feasible operational conditions. These capabilities shall be valid and true when the apparatus is deployed in the unsupported configuration, based upon 360 degree rotation, up to full extension, and at any degree of elevation (-12 to +72) that the aerial can achieve.

AERIAL DEVICE SAFETY FACTOR SERVICE LIFE

The purchaser desires to purchase with these specifications, an aerial device with a safety factor that remains NFPA compliant and constant throughout the life of the aerial device. The safety factor of every structural load bearing member in the aerial device shall remain above 2.0:1 for a "Safety Factor Service Life" of up to 20 years minimum.

AERIAL SPECIAL LABELS

Legible, permanent signs shall be installed in positions readily visible to the operator to provide operational directions, warnings, and cautions. The signs shall describe the function of each control and provide operating instructions.

Warning and caution signs shall indicate hazards inherent in the operation of the aerial device. These hazards shall include, but shall not be limited to:

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- Electrical hazards involved where the aerial device does not provide protection to the personnel from contact with, or near proximity to, an electrically charged conductor.
- Electrical hazards involved where the aerial device does not provide protection to ground personnel who might contact the vehicle when in contact with energized electrically charged conductors.
- Hazards from stabilizer motion.
- Hazards that can result from failure to follow the manufacturer's operating instructions.

AERIAL DEVICE SPECIFICATION PLACARD

A permanent label shall disclose the following information relative to the aerial device:

- Make
- Model
- Insulated or non-insulated
- Serial number
- Date of manufacture
- Rated capacity (s)
- Rated vertical height
- Rated horizontal reach
- Maximum hydraulic system pressure
- Hydraulic oil type and capacity
- All other appropriate labels to ensure safe operation of the aerial device shall be permanently affixed in conspicuous locations.

THIRD PARTY NON-DESTRUCTIVE TESTING

Welds shall be tested using two (2) non-destructive methods by Underwriters Laboratories (UL) or Underwriters Laboratories of Canada (ULC). Due to their unmatched experience testing fire apparatus, UL or ULC shall be the only acceptable organizations to perform the testing of the apparatus. Steel and aluminum ladders, at a minimum, shall have all welds tested using two (2) separate NDT methods.

Aerial structures shall have 100 % of all structural welds tested using both magnetic particle method and visual testing method. Aerials that are fabricated of aluminum must have 100% of all structural welds tested using dye penetrant method and visual method.

All magnetic particle inspections shall be conducted in accordance with ASTM E709, Standard Guide for Magnetic Particle Testing. All dye penetrant inspections shall be conducted in accordance with ASTM E164, Standard Test Method for Liquid Penetrant Examinations.

Manufacturers who rely only on visual inspection (performed in-house or by any third party) as a primary method of testing shall not be considered and their bid shall be rejected.

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STRUCTURAL SAFETY FACTOR

All bids shall include copies of the certification of testing of the aerial device. The purchaser desires a device that has been tested by a third party for compliance with the 2 to 1 safety factor specified by NFPA 1901. Devices that have not been certified by an engineer that is independent of the manufacturer shall not be acceptable.

NFPA AERIAL STABILITY FACTOR AND TESTING

A one and one-half to one (1.5:1) stability factor shall be provided. This capability shall be established in an unsupported configuration. Since the device is rated while flowing water, stability testing shall account for the distributed weight of water in a full waterway and water reactionary force as required by NFPA 1901.

Following are specific descriptions of what tests are to be performed, and conditions they shall be performed under. The aerial manufacturer shall strictly adhere to these tests and conditions as set forth in these specifications and NFPA 1901.

For both of the following tests, the only obstructions to a full 360-degree rotation with the aerial at 0 degrees elevation and full extension shall be presented by the apparatus itself, and NOT external obstructions at the manufacturer's test location(s). This means that the aerial device manufacturer shall ensure that the testing grounds present no obstruction (trees, buildings, etc.) to the full 360-degree rotation at 0 degrees elevation and full extension, which may cause the need to raise the aerial to clear the obstruction.

Additionally, the apparatus shall be tested for stability only after the entire apparatus is complete. Manufacturers using a third-party to manufacture the aerial device must provide certified documentation the unit was UL or ULC tested by the manufacturer of the aerial and the final OEM manufacturer. This requirement is specified in NFPA 1901 as the apparatus being in "service-ready condition". There shall be no exception to this requirement due to the fact that it would be unlikely that actual weight distribution could be accurately simulated for the stability testing.

TEST 1

After the above conditions have been satisfied, the aerial shall be subjected to the following test in the presence of the third party testing company that is in compliance with these specifications. Specifically, the aerial device shall be placed on level ground with the stabilizers deployed per manufacturer recommendations. The aerial device then shall have 1.5 times the rated capacity placed at the tip of the aerial, with the device at full extension and at 0 degrees elevation; which is the most stringent configuration. The device shall be rotated 360 degrees, raising and lowering the aerial as needed to clear the cab of the apparatus. The aerial shall prove to be stable during the entire test and no component of the aerial shall permanently deform.

TEST 2

After the above conditions have been satisfied, the aerial shall be subjected to the following test in the presence of the third party testing company that is in compliance with these specifications. Specifically, the aerial device shall be placed on a 5-degree downward slope with the stabilizers deployed per manufacturer recommendations. The

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aerial device then shall have 1.33 times the rated capacity placed at the tip of the aerial, with the device at full extension and at 0 degrees elevation; which is the most stringent configuration. The device shall be rotated 360 degrees, raising and lowering the aerial as needed to clear the cab of the apparatus. The aerial shall prove to be stable during the entire test and no component of the aerial permanently deform.

RUNG COVERS

Each rung shall be covered with secure, heavy duty, deeply serrated rubber sheathing. The rung cover shall be installed on a minimum of sixty percent (60%) of each ladder rung. Attachment of the sheathing to the rung shall be by mechanical means and an adhesive application. Under no circumstance shall the rung covers turn when a rung is at ambient temperature (75 degrees F) or at an elevated temperature (350 degrees F); there shall be no exception to this requirement for the safety of persons climbing the ladder sections.

The sheathing shall be easily replaceable if the rubber becomes worn, however, the rung covers shall be designed, constructed, and installed with lifetime service as the objective. To ensure ease of maintenance if damaged, manufacturers using embossed metal in place of the rubber rung covers are not acceptable.

To prevent corrosion of the rungs by introducing air to the inside, under no circumstances will rung covers attached with screws or rivets be acceptable.

HEAVY DUTY LADDER TRAVEL SUPPORT

A heavy duty ladder rest shall be provided for support of the ladder in the travel position. The travel support shall be fabricated from heavy duty steel tubing and painted to match the primary body color. If the body is a two-tone design, the travel support shall be painted to match the top body color. The travel support shall be designed to be easily removable to allow for ease of maintenance and repair when necessary.

The base section of the ladder shall contain stainless steel scuff plates where the ladder comes into contact with the ladder support.

An indicator light shall be provided on the turntable to indicate when the ladder is aligned with the travel support and may be lowered into it. The ladder rest shall be attached to the torque box for added stability.

The ladder rest shall be illuminated for night time operation. The illumination light shall automatically turn on with the aerial master switch.

A hold-down mechanism shall be installed on each side of the ladder travel support that keep the aerial structure from bouncing due to road hammer. The system shall be designed in such a manner to automatically unlatch the hold-downs when the aerial hydraulic system is activated. The hold-downs shall automatically lock in the road position when the hydraulic system is shut down.

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CRADLE INTERLOCK SYSTEM

A cradle interlock system shall be provided to prevent the lifting of the ladder from the nested position until the operator has positioned all of the stabilizers in a load supporting configuration. A switch shall be installed at the cradle to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

There shall be nylatron installed on the sides of the ladder support to protect the ladder from contacting metal to metal when bedding the aerial.

ELEVATION SYSTEM

Two (2) double acting lift cylinders shall be utilized to provide smooth precise elevation from -12 degrees below horizontal to 72 degrees above horizontal. The lift cylinders shall have a 7" internal diameter (bore) and a 4" solid cylinder rod. The lift cylinders shall be equipped with integral holding valves located on the cylinder to prevent the unit from lowering should the charged lines be severed at any point within the hydraulic system.

The lowering of the ladder shall be controlled by a pressure limiting valve, to limit the downward pull of the ladder when it is bedded. Both raising and lowering functions shall be influenced by flow compensation, which shall maintain ladder tip speed within the design speed regardless of load, angle, or extension. Ladder tip speed shall be decelerated above 65 degrees in order to reduce "tip-lash". Ladder lowering shall be controlled on the down motion to prevent the cylinders from completely retracting, thus allowing a cushion of oil for continuous ladder load readout.

The elevation cylinder upper and lower pivot pins shall be installed with a secondary tensioning system to secure the pins and prevent them from slipping out over time. The design shall not inhibit the pins from being removed for future servicing purposes.

EXTENSION/RETRACTION SYSTEM

A fully hydraulic powered extension and retraction system shall be provided using two (2) sets of Siamese hydraulic cylinders and cables. Each set shall be capable of operating the ladder in the event of a failure of the other. The extension cylinders shall each have a 4" internal diameter (bore) and a 2" diameter solid rod with a 41" stroke. Extension and retraction of the telescopic sections shall be internally limited within the cylinders, eliminating excess strain on the cables, sheaves, and ladder structure. Each of the cylinder, cable, and sheave assemblies shall be completely independent of the other, to provide a safety factor wherein a failure of one assembly will not affect the function and operation of the other. The extension cylinders shall be equipped with counter balance holding valves to synchronize the cylinders for smoother operation and prevent the unit from retracting should the charged lines be severed at any point within the hydraulic system.

The reeling of the cable shall be such to provide synchronized, simultaneous movement of all sections from full extension to full retraction. All pulleys and sheaves shall be enclosed as an added safety feature as well as to prevent personnel on the ladder from

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becoming entangled in them.

HIGH DUTY CYCLE SHEAVE BEARINGS

For maximum performance in high duty cycle environments, the aerial sheaves shall be provided with bearings made from type 660 bearing bronze. This bronze alloy shall be hard, strong and resistant to wear and galling.

A grease zerk shall be provided for each sheave bearing for reliable, long-term performance.

AERIAL CABLES

To ensure a maximum level of safety the following standards shall be used on the extension and retraction cable system with no exception:

- Cables shall have a 5:1 safety factor based on ultimate strength under all safe operating conditions.
- The factor of safety shall remain above 2:1 during any extension or retraction system stall
- The minimum ratio of the diameter of cable to the diameter of sheave shall be 1:12

The cables used between the base and second section shall be 5/8" diameter. The cables between the second and third ladder section shall be 1/2" diameter. Due to the amount of stress applied to these sets of cables, they shall be 6x26, Flex-X design for maximum durability, stability, and service life. This design provides greater surface area resulting in less sheave and drum wear. For these reasons, any other cable design on the first set of cables shall not be considered acceptable.

The cables between the third and fourth ladder sections shall be 7/16" diameter. The cables between the fourth and fly sections shall be 3/8" diameter. These cables shall be 7x19, galvanized aircraft cable for extended corrosion resistance and flexibility.

All cables shall be pre-stressed, proof-loaded, and certified by the cable manufacturer to minimize changes to the cable lengths and performance.

CERTIFIED CABLE SWAGED SHACKLES

All swaged shackle ends shall have a certification test from the manufacturer of the assembly.

IGUS ENERGY CHAIN

The electrical cable, hydraulic hose and/or air hose shall be routed through the interior of the structural tubing of the ladder sections as well as utilizing Igus energy chain. The energy chain shall be routed through the inside section of the vertical side walls of the aerial ladder device. The cable and/or hose routing shall use one or both bottom cord rectangular tube(s) on the base section of the ladder and also the bottom cord

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rectangular tube(s) on the last ladder fly section. The ladder sections between the base and last fly shall utilize the energy chain in order to route all electrical cables and hose lines.

The energy chain shall travel within a carrier shield, which is fabricated out of 16 gauge anodized aluminum material. Each model of energy chain used shall be adequately sized to fit the application.

Rollers, which are located in the lower portion of the ladder section(s), shall be constructed out of a nylon plastic material that is specifically designed for these types of applications. Spacer pads, made from the same material as the rollers, shall be installed and evenly spaced in order to hold the Igus energy chain within the specifically designed carrier shield(s).

The electrical cables used to transfer power up to the ladder tip shall be Igus Chain Flex cables. These cables are specially designed for the Igus energy chain system and custom fit for each aerial apparatus. If applicable, the hydraulic hose(s) and air hose(s) shall be Parker Hannifin with a rating of 2,500 PSI.

Igus Energy chain enables travel of up to 130 feet, is virtually wear-free and offers extremely quiet operation. Igus energy chain is very well suited to resist the harsh environmental conditions by being able to withstand extreme temperatures and is also UV resistant.

WEAR PADS/BEARING SURFACES

Nylon wear pads impregnated with molybdenum disulfide and high in molecular weight shall be used between the telescoping sections for maximum weight distribution, strength, and smoothness of operation. This impregnation shall provide a lubricating function.

Stainless steel adjustment screws shall be provided on the wear pads to permit proper side tension. Plates shall be installed on the sides of the slide pads where adjustment screws come into contact with them. No exceptions shall be allowed to this requirement to prohibit the adjustment screws from embedding themselves into the pads, which may cause the pad to crack and fail.

To prevent additional maintenance and pressure points from the limited surface area, roller systems in place of wear pads will not be considered acceptable.

ROTATION BEARING

A 44-inch diameter internal tooth, swing circle bearing shall be used for the rotation system. The bearing shall provide 360 degrees continuous rotation. The bearing shall be designed specifically for the aerial device in lieu of the aerial device being designed to accommodate a particular bearing.

The turntable shall be bolted to the bearing using thirty (30) 7/8" SAE grade 8 bolts. The bearing shall be bolted to the base support structure with forty (40) 7/8" SAE grade 8

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bolts. Welding on the bearing in any manner shall not be acceptable.

The turntable base and the torque box bearing plate shall be machined to match, providing an even distribution of forces and reducing the chance of fracturing the bearing.

The turntable base and the torque box bearing plate surfaces that contact the bearing shall be machined to prevent loading the bearing when the attaching bolts are brought to full torque. Machining of the surfaces shall be done after all welding to assure no further distortion of the material.

Shims shall not be acceptable as they reduce the surface contact area significantly thereby causing a concentration of forces at the shims.

BOLT TORQUING FROM TOP SIDE

All rotation bearing bolts shall be torqued from the top side of the turntable without the bolt or nut being held under the turntable by a person. Units requiring removal of equipment to access the torque bolts shall be considered unacceptable.

This design shall prevent the bolt from "spinning" while torque is being applied to the fastener. Application of Loctite or a similar compound alone, without any other means provided to hold the fastener shall not be acceptable. Additionally, this design feature shall not incorporate drilling, bending, welding on, or in any way modifying the structural fastener, nut, or washers.

ROTATION GEAR REDUCTION BOX

A hydraulically driven planetary gearbox with a drive speed reducer shall be used to provide infinite and minute rotation control throughout the entire rotational travel. The rotation gear reduction box shall be installed on the top side of the turntable so that it is easily accessible, yet it shall be installed so that it does not provide an obstruction or tripping hazard to persons on the turntable. Specifically, it shall be installed toward the front of the turntable, under the aerial ladder base section. Under no circumstance shall the gear box present any interference with the aerial device, even at low elevations.

Due to the additional maintenance required to keep two (2) rotation motors functioning properly without binding, units requiring more than one (1) rotation motor are not considered acceptable.

A spring applied, hydraulically released disc type swing brake shall be furnished to provide positive braking of the turntable assembly.

Provisions shall be made for manual operation of the rotation system should complete loss of hydraulic power occur. These provisions shall include a manual rotation drive tool supplied with the unit.

The hydraulic system shall be equipped with pressure relief valves, which shall limit the rotational torque to a nondestructive power. All moving parts of the rotation gear

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reduction box shall be enclosed or under the turntable decking so that no safety hazards are present.

ROTATION INTERLOCK SYSTEM

The aerial device shall be equipped with a rotation interlock system to prevent the ladder from being rotated to any side where the stabilizers are not sufficiently extended to provide for the full tip load rating.

The system shall monitor the stabilizers for extension. When a stabilizer is not sufficiently extended (short-jacked) to provide full tip load rating, the system shall prevent the aerial from being rotated more than 12 degrees past the front or rear center line into the short-jacked side of the apparatus.

A slowdown feature shall be built into the rotation interlock system. When the aerial is operating in a short-jacked mode, the rotational speed shall be automatically reduced, by approximately 50%, when the aerial is rotated to within approximately 10 degrees of the front or rear center line of the apparatus. The rotational speed shall remain reduced throughout an arc of approximately 20-degrees over the front or rear of the apparatus, regardless of the direction of the rotation movement.

The rotation function shall automatically stop when the aerial approaches the front or rear corner area of the short-jacked side of the apparatus.

The rotation interlock system shall allow for normal operation on the side of the apparatus where the stabilizers are sufficiently extended for full tip load rating.

An override system, activated by pull knobs within the main turntable control pedestal, shall be provided that allows the operator to rotate the aerial into the non-recommended (short-jacked) side of the apparatus, should the situation absolutely demand it.

To ensure the maximum amount of safety, units allowing aerial rotation to the short-jacked side of the apparatus or systems which only include a visual and audio warning without automatically stopping rotation shall not be acceptable.

AERIAL STOW OPERATION INTERLOCK SYSTEM

A safety feature shall be included in the aerial operational system that limits the possibility of damage to the apparatus when stowing the aerial.

When a rear mounted aerial is positioned over the cab area of the apparatus, the interlock system shall not allow the downward movement of the aerial below a preset angle of elevation, unless the aerial is rotated into the bed-zone envelope. The bed-zone shall be approximately 2 degrees of rotation to the left and right side of the center of the aerial bed support. Once this bed-zone envelope is attained, downward movement of the aerial shall be allowed for proper positioning into the bed support.

An indicator light shall be located at the turntable control station to inform the aerial operator when the bed-zone envelope is attained.

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COLLISION PROTECTION INTERLOCK

The apparatus shall be equipped with a cab collision protection interlock. This interlock shall be enabled while rotating the aerial device at elevations as low as, or lower than the cab of the apparatus.

Should the operator accidentally rotate the aerial device toward the cab at an elevation low enough to cause a collision with the cab, the interlock shall automatically stop rotation of the aerial at a point that is within a few degrees of the cab.

A manual override shall be provided to override the interlock system.

APPARATUS BODY DAMAGE CONTROL INTERLOCK SYSTEM

A safety feature shall be included in the aerial operational system that minimizes the possibility of damage to the apparatus body at all angles for all standard (non-override) operational modes.

The system shall automatically stop the downward movement of the aerial at a preset angle of elevation unless the aerial has been rotated at least 80-degrees, left or right, from the center of the ladder support. Once this rotation point is reached, full range downward movement (to -8 degrees) shall be allowed.

The aerial manufacturer shall determine and set the angle of elevation where downward aerial movement is stopped. The highest point of an apparatus, in relation to the distance from the turntable, shall be used to determine the pre-set elevation angle stopping point.

The system shall also minimize the possibility of accidental damage to the apparatus body from aerial rotation whenever the aerial elevation is below the preset elevation angle stopping point.

Rotational speed shall be reduced by approximately 50% when the aerial is rotated within a minimum of 10 degrees of a body avoidance stopping point. Aerial rotation shall automatically stop before the aerial contacts the body of the apparatus.

The body damage interlock system shall have no effect on aerial operation when the aerial is raised above the preset downward movement stopping point.

The body damage interlock system shall not eliminate the possibility of damage to components such as telescopic lights that are in a raised position.

A manual override shall be provided that will override the interlock system.

POWER TAKE-OFF

The apparatus shall be equipped with a power take-off (PTO) driven by the chassis transmission and actuated by an electric shift, located inside the cab. The PTO, which drives the hydraulic pump, shall meet all the requirements for the aerial unit operations.

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"THRU-DRIVE" HYDRAULIC PUMP

The hydraulic system shall be supplied by a pressure compensated, load sensing, variable gallonage type pump. The pump shall provide adequate fluid volume to allow all ladder functions to operate simultaneously, without noticeable loss of speed. The pump shall supply oil only when the ladder is in motion, thereby preventing overheating of the hydraulic oil.

The pump shall be a "thru-drive" design. This design shall be provided for applications that require a power source for additional hydraulically operated accessories or tools.

An interlock shall be provided that allows operation of the aerial device PTO shift only after the chassis spring brake has been applied and the chassis transmission has either been placed in the neutral position or the drive position if the driveline has been disengaged from the rear axle.

HYDRAULIC SYSTEM

The tubing and hoses used in the hydraulic system shall have a high pressure rating, with the tubing having a minimum burst pressure of 9,600 to 17,400 PSI and the hoses being a minimum of 8,000 to 13,000.

The hydraulic oil tank shall have an approximate capacity of 50 gallons. A dipstick shall be provided to check the oil level. The oil fill shall be furnished with a cap that shall act as a ventilator to provide clean fresh air into the oil tank and a 40 micron filter to provide positive protection from contaminants. A magnetic drain plug shall be provided in a low point of the oil tank. An easily accessible 3 micron replaceable oil filter shall be installed on the hydraulic oil tank. The hydraulic oil tank shall be furnished with two pick-up tubes, one tube being used for normal operation and the other for emergency operation. The emergency pick-up tube shall extend further down into the oil tank to provide for reserve oil in case a hydraulic line is broken.

The hydraulic system shall be protected from possible hydraulic pump malfunctions by a relief valve, which shall route the excess oil into the oil tank when the pressure in the hydraulic system exceeds 3,500 PSI. The hydraulic control valves shall also be protected by being plumbed to a pressure relief valve to protect them from high pressure.

HYDRAULIC PRESSURE GAUGE

A 2-1/2" Innovative Controls brass case 5,000 PSI, pressure gauge shall be located at the ground level control station to monitor the hydraulic system pressure. The gauge shall be liquid filled to prevent gauge shock when the hydraulic system is energized. The liquid shall not be vulnerable to freezing in subzero temperatures.

3-MICRON HIGH-PRESSURE FILTER

A 3-micron filter shall be installed in the output line of the hydraulic system, after the hydraulic pump.

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The stabilizer hydraulic and diverter valves will be located behind the turntable access steps and will be accessible through a panel.

EMERGENCY PUMP

The apparatus shall be equipped with one (1) emergency hydraulic pump electrically driven from the chassis battery system. The emergency pump shall be capable of providing adequate ladder functions to stow the aerial and stabilizers in the case of main hydraulic pump failure.

Two (2) control switches for this emergency pump shall be provided. One switch shall be installed at the turntable control console and the stabilizer control station. The switches shall be labeled EPU.

Each control shall be a spring loaded momentary switch. A red indicator light shall be mounted adjacent to each switch to indicate activation of the emergency pump.

HYDRAULIC SWIVEL

The aerial ladder shall be equipped with a swivel at the turntable. The swivel shall connect the hydraulic lines from the hydraulic pump and reservoir to the aerial control bank at the turntable, above the point of rotation.

The swivel shall connect all the electrical circuits through the rotation point. A minimum of thirty-two (32) collector rings shall be provided. All collector rings shall be enclosed and protected with desiccant plugs to protect against condensation and corrosion. Due to the possibility of paint contamination and dirt attraction, units requiring oil or silicone to protect the collector rings shall not be acceptable.

The swivel shall allow for 360 degrees of continuous rotation of the aerial device with no loss of speed or capacity in functions.

ANGLE INDICATOR

A liquid filled angle indicator shall be mounted on the base section of the aerial ladder. The indicator shall give accurate elevation in degrees from -20 to +80 degrees in relation to level. The liquid shall be of proper viscosity and composition to remain in liquid form even when exposed to below zero temperatures. Reading of the indicator shall be accomplished by observing the position of a suspended ball in relation to the degrees of elevation as marked on the indicator housing. The indicator shall be backlit for visibility in low light conditions.

An additional angle indicator shall be on the fly section near the platform. The angle indicator shall be backlit for low light conditions.

EXTENSION INDICATORS

Numerals shall be affixed to the inside of the handrail of the base section opposite the turntable control console. The numerals shall be at appropriate intervals indicating total

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aerial extension in 5-foot increments. A band on the first fly section shall align with these marks at the appropriate extension distance. The extension indicator color shall provide a high contrast with the color of the ladder section to which it is applied. This shall make the length of aerial extension easily readable by the operator by merely glancing at the indicators. Numerals indicating the length of extension shall be placed adjacent to indicating bands.

MANUAL ROTATION DRIVE TOOL

As required by NFPA 1901, one (1) manual rotation drive tool shall be provided as a means to rotate the turntable in the unlikely event of power loss. This drive tool shall be provided as standard equipment.

TORQUE BOX

A "torsion box" subframe shall be installed on the chassis frame rails, integral with the stabilizers. The torque box shall be constructed of 1" steel plate with the exception of the turntable area, which shall consist of 5/8" steel plate. The steel plates shall have a minimum yield strength of 36,000 psi and ultimate tensile strength of 58,000 – 80,000 psi. The torque box subframe assembly shall be capable of withstanding all torsional and horizontal loads when the apparatus is supported by the stabilizers. The torque box shall be bolted in place to the chassis frame rails using two sets (total of four (4) rod bolts) of 1" double-nutted rod bolts that shall consist of two sets located directly behind the pump mount area. There shall be an additional mounting assembly that shall consist of twenty-eight (28) 5/8" SAE grade 8 bolts with nuts. This bolt assembly shall be located at the front of the rear stabilizer housing assembly.

The torque box shall have a section modulus of 673.6 In³ and a resistance to bending moment of 24,249,188 inch pounds.

The aerial torque box shall be painted with PPG polyurethane enamel paint. The color shall be PPG# MTK 9000 black.

To prevent unnecessary stress on the chassis, apparatus that use the chassis frame in place of a true torque box shall not be acceptable.

The torque Box will be adequately lit for night time operations.

FRONT AND REAR STABILIZERS

Two (2) sets of stabilizers shall be installed for stability. Each set of stabilizers shall have an 18' spread, measured from the outermost edge of the stabilizers on each side of the apparatus. Both sets shall be an extending box beam "H" style. In order to get the true stabilizer spread, apparatus using measurements other than from each outside edge of the stabilizers shall not be considered acceptable.

The front stabilizers shall be located directly behind the chassis cab, attached to the torque box, for maximum setup ability with minimal cab deflection, and to minimize the amount of loading transferred to the chassis frame. Designs that mount these stabilizers

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solely to the chassis frame shall be unacceptable due to the twisting force they impart on the chassis frame.

The rear stabilizers shall also be integral with the torque box and shall be installed behind the rear axle of the apparatus.

The stabilizers shall be double box design with jack cylinders that have a 5" internal diameter (bore) and a 2.5" diameter cylinder rod. The jack cylinders shall be equipped with integral holding valves, which shall hold the cylinder either in the stowed position or the working position, should a charged line be severed at any point within the hydraulic system.

The steel used to build the stabilizer system shall have a minimum yield strength of 36,000 psi and ultimate tensile strength of 58,000 – 80,000 psi.

Vertical jack cylinder rods shall be fully enclosed by a telescoping inner box to protect the cylinder rods, seal glands and pistons against damage from nicks, abrasion, and chrome damage. All vertical stabilizer cylinders shall be removable from the top of the box tube. The inner double box system shall be further designed to stabilize the column load imparted upon the cylinder rod, thereby also protecting against damage which may occur from lateral loading possibly caused by side slopes, shifting or sliding of the apparatus on icy or unstable surfaces, sudden sinking of one or more jack pads, or on scene collision while the aerial device is deployed. Vertical stabilizers that require cylinders to be removed from the bottom, or have the vertical stabilizer cylinders exposed, shall not be acceptable.

The stabilizers shall be connected to the hazard warning light circuit to warn the driver if they are not stowed when the chassis parking brake is released.

Each extending style stabilizer shall have a painted stainless steel stabilizer cover. The cover shall be adjustable to allow for a proper fit.

The stabilizers shall not include mechanical stabilizer pin locks, pin storage holders, or pin holes machined in the stabilizer extending beams.

STABILIZER STROKE

The stroke of the stabilizers shall be a minimum of 25". The stabilizer pad shall be maintained at a stored height of approximately 12" to 15" (dependent on required ground clearance and angle of departure) resulting in a minimum ground penetration of 10" or greater.

STABILIZER FINISH

The extending front/rear stabilizer beams, inner jack tubes, and stabilizer pads shall be wheel-o-braided to remove any mill scale or contamination. The individual components shall then be hot dip galvanized. The galvanizing process shall require that the entire assembly is completely submerged. Following the galvanizing process, the surface shall be ground smooth to remove dross. This preparation shall provide maximum protection

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for these critical components. No exceptions shall be allowed to this requirement due to stabilizers exposure to salt spray and road debris.

The outer tubes shall be finished with a water-based, high quality, single component acrylic primer. The primer color shall be flat black.

STABILIZER EXTENSION SYSTEM

Extension of the horizontal front beams shall be activated by dual extension cylinders, which shall each have a 2.50" internal diameter (bore) and a 1.5" diameter cylinder rod. The extension cylinders shall be totally enclosed within the extension beams to prevent damage to the rod and hoses. The extension beams shall be 8.00" x 10.00" x .375" wall steel tubing with a 1.50" steel plate welded to the top and 1.50" steel plate welded to the bottom of each beam.

Extension of the horizontal rear beams shall be activated by dual extension cylinders, which shall each have a 2.00" internal diameter (bore) and a 1.25" diameter cylinder rod. The extension cylinders shall be totally enclosed within the extension beams to prevent damage to the rod and hoses. The extension beams shall be 8.00" x 6.00" x .375" wall steel tubing with a .625" steel plate welded to the top and .625" steel plate welded to the bottom of each beam.

WEAR PADS/BEARING SURFACES

Nylon wear pads impregnated with molybdenum disulfide and high in molecular weight shall be used between the stabilizer housing assembly and the extension tube for maximum smoothness of operation.

Two (2) Nylatron wear pads shall be installed in each stabilizer extension system. There shall be one wear pad located on the top back portion of the extension tube assembly that shall glide on the inner wall of the top housing tube wall. There shall be an additional pad located on the inner wall of the bottom housing tube wall that shall separate the bottom side of the extension tube and the bottom wall of the housing tube. The pads shall be installed in such a manner as to reduce friction for ease of operation and to reduce the amount of metal to metal contact.

Each stabilizer down jack housing tube shall contain four wear pads, one (1) on each side of the tubes.

STABILIZER ANGLE LEVEL GAUGES

One (1) manual angle level gauge shall be located on the rear of the apparatus. The gauge shall have a sight bubble that will measure the side-to-side angle of the apparatus in 2 degree increments.

One (1) manual angle level gauge shall be located on the apparatus, near the rear. The gauge shall have a sight bubble that will measure the fore-to-aft angle of the apparatus in 2 degree increments.

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ELECTRIC / HYDRAULIC STABILIZER CONTROLS

The stabilizer controls shall be located at the rear of the apparatus. Two (2) stations shall be installed, one (1) on each side at the rear, arranged so that the operator has a full view of the stabilizer being positioned. All stabilizer control functions shall be of the electric paddle joystick style. The make and model of the joysticks shall be P-Q controls, model M105. The controls shall be designed to allow stabilizers to be operated independently so that the vehicle may be set up in a restricted area or uneven terrain.

An electrically actuated diverter valve shall be provided in conjunction with the stabilizer controls as a safety device. The diverter valve shall allow the hydraulic fluid to flow either to the stabilizer circuit or the turntable and ladder circuit.

A stabilizer deployment warning alarm, activated by stabilizer mode, shall be provided at each stabilizer to warn personnel. The warning alarm shall deactivate only when all stabilizers are in the load supporting configuration, or when the diverter switch is no longer in the stabilizer mode.

The stabilizer controls shall each be accessible through a brushed stainless steel door.

GROUND CONTROL STATION

A control station shall be located at the rear of the apparatus in an easily accessible area. The control panel shall be illuminated for night time operation. The following items shall be furnished at the control console, clearly identified and located for ease of operation and viewing:

- Individual stabilizer down indicator lights
- Aerial PTO engaged indicator light
- High idle switch with indicator light
- Emergency hydraulic pump control with indicator light
- Stabilizer/Aerial diverter control with indicator light
- Side to side leveling bubble

A weather proof compartment shall be furnished behind the control panel and shall contain the aerial circuit breakers, interlock components and control circuit distribution terminals. The control station shall be accessible through a brushed stainless steel door.

The stabilizer controls and ground control station surfaces shall be fabricated from 3mm thick solid core aluminum composite panel with double-sided painted aluminum outer surfaces bonded to a solid polyethylene core. They shall include an Innovative Controls graphic overlay design and supply a second- surface printed UV and scratch-resistant polycarbonate graphic overlay backed with UL 969-compliant outdoor adhesive.

AUXILIARY STABILIZER PADS

An auxiliary pad for additional load distribution on soft surfaces shall be supplied for each stabilizer. The pads shall be constructed of ultra-high molecular weight composite

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material that is a minimum of 2" thick with a minimum surface area of 576 square inches. The auxiliary pads shall be stored in locations that are readily accessible.

STABILIZER COVER WARNING LIGHTS

One (1) Whelen M6V Series Super-LED combination warning and perimeter light shall be installed on each extending stabilizer cover panel, for a total of four (4). These lights shall have red LEDs and clear lens and activated by the aerial master switch and emergency master switch.

STABILIZER ARM WARNING LIGHTS

Eight (8) Whelen 5G Series Super-LED red flashing lights shall be mounted on the stabilizer beams. Each stabilizer beam shall include two (2) lights, one (1) facing forward and one (1) facing rearward. The lights shall be mounted inboard of vertical jack tubes. The warning lights shall be activated by the aerial master switch.

STABILIZER WORK LIGHTS

Four (4) Grote 4" round LED lights shall be provided, one (1) at each stabilizer location to illuminate the surrounding area. The lights shall be located under the stabilizer beams and activated by the aerial master switch.

TURNTABLE

The turntable shall be designed in such a manner as to allow a generous working area, regardless of the position of the aerial, including when positioned at maximum elevation. The turntable shall also be designed to allow for the most efficient use of space on the apparatus body.

The turntable shall be a minimum of 98" side to side and 78" forward to aft.

It shall be covered with Tread-Grip Safe-Deck pattern decking to allow the walking surface to shed liquids with unparalleled ease and comply with NFPA intent, to provide secure footing for the operator in all weather conditions.

A downward lip shall "skirt" the turntable decking around the entire circumference to provide protection from hazards.

All hoses and electrical lines shall be routed under removable covers in order to prevent a tripping hazard. The covers shall also be designed to prevent damage from occurring to these components. Likewise, the center of the turntable shall have a removable step cover to prevent tripping hazards as well as provide for an easier transition to the first rung of the aerial ladder.

To prevent unnecessary added weight to the apparatus, the turntable shall not be built entirely from solid materials.

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AERIAL PIVOT PINS

The aerial device pivot pins shall be located on the turntable and shall attach the aerial device base section to the turntable. To maintain a suitable safety factor, the pivot pins shall be composed of certified structural steel, thereby ensuring structural integrity.

In the interest of safety, the pivot pins shall be located as low as possible and shall be at the aerial device base rails. This shall keep the pivot points away from the areas where persons regressing to and from the aerial base section, might place their hand(s).

Aerial pivot pins shall be installed with a means to keep the pins in place. The design shall not inhibit the pins from being removed by a trained mechanic.

TURNTABLE HANDRAILS

There shall be three (3) handrails, each shall be of one piece construction and provide large sweep corners at the edge of the turntable. Each shall be 42" high and shall be constructed of knurled stainless steel. The handrails shall be installed around the rear 180-degree perimeter of the turntable for operator and personnel safety. Each individual handrail shall be secured to the turntable by the use of two (2) minimum 5/8" anchor bolts on the underside of the turntable. Additionally, chrome plated stanchions with rubber gaskets shall be provided on the top surface of the turntable where each railing meets the decking surface.

There will be three (3) openings in the handrails, two (2) for access from the ladders and one (1) in the center.

TURNTABLE RESTRAINTS

Two (2) FRC ManSaver Bars, without covers, and one (1) stainless steel chain shall be installed in the spaces between the handrails. All items shall be permanently attached at one end.

TURNTABLE WORK LIGHTING

The turntable shall be lighted for night time operation with two (2) 8" On Scene Access lights, which shall be automatically activated by the aerial master switch (day or night). The work lights shall be positioned so the light is directed toward the decking. The lights shall have cast aluminum housings to keep light from glaring upward into the operator's eyes.

An additional Truck-Lite LED light shall be recess mounted in the front access door of the control stand.

AERIAL HOUR METER

An hour meter shall be installed at the turntable control station connected to the system engagement control for the aerial. The meter shall register the total hours of aerial use for scheduling periodic maintenance.

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Hour meters that are not connected to the aerial system engagement are not considered acceptable in order to capture true aerial operational hours.

TURNTABLE CONTROL CONSOLE

The turntable control console shall be located on the turntable, on the driver's side of the apparatus. The console shall be illuminated by an On-Scene Access LED light with mounting clips for night time operation and have a hinged weather cover. A pressurized gas filled cylinder shall be furnished on the cover to hold it in the open position. The gas filled cylinder shall assist in closing the cover automatically when it is positioned over the center. The console surface shall be angled toward the operator so controls may be viewed and operated ergonomically. Rubber bumpers shall be provided so that when the control console lid is closed, the lid and the control panel will be protected from each other (no metal to metal contact).

Three (3) handles for the ladder hydraulic functions (elevation, rotation, and extension) shall be installed at the control console. The controls shall be manual for safety and durability reasons - No Exceptions. The function of each control lever shall be cast into the plate under the appropriate lever. The controls shall be capable of being operated independently or simultaneously with a gloved hand. The speed of movement caused by moving any control shall be minimally affected when multiple controls are activated.

The control console surface shall be fabricated from aluminum and shall include a graphic overlay. The overlay shall be Innovative Controls design and supply a second surface-printed UV and scratch-resistant polycarbonate graphic overlay backed with UL 969-compliant outdoor adhesive.

A hinged door shall be provided on the front of the control console with a lift and turn latch. This door shall allow access to the inner components for inspection purposes. A recessed work light shall be provided in the access door. A hinged access door shall be provided on the outboard side of the control panel. The door shall be provided with a spring loaded, slotted head latch. The opening shall allow access to the electrical components for service purposes

All turntable controls shall override the controls at the tip.

The following items shall be furnished at the console, clearly identified and located for ease of operation and viewing:

Elevation, extension and rotation controls

Lighted push/pull button to deactivate hydraulic and electrical system

Fast idle button

Panel light mounted in cover

Rung alignment light

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Ladder light switches

Ladder overload warning horn

System pressure gauge

Loadminder

Emergency pump unit switch and light

Monitor function controls

Intercom with controls

Operators load chart

SYSTEM LOCK CONTROL

A push/pull systems engagement control shall be installed at the turntable control console. The control shall energize the hydraulic system for the ladder function and provide the flow of hydraulic fluid to the master valve bank. An automatic throttle switch shall be attached to the systems engagement control that advances the engine speed to a preset RPM when the engagement control is in the "RUN" position. In the "LOCK" position, the engine speed shall return to the normal idle RPM and the hydraulic system be de-energized.

AERIAL LOAD SENSING SYSTEM

A Loadminder shall be installed at the operator's pedestal indicating the load(s) on the aerial device. The display shall be in the form of a LED illuminated bar graph. The instrument shall be readable in day and night conditions. The display shall be a "real-time" display, thereby giving immediate readings to the operator. Additionally, a color-coded bar shall be above and below the actual LED bar graph, to surround the actual reading given to the operator; thereby making the display easier and faster to read. The color coded bars shall progress from green to yellow, and finally to red. When the LED bar graph illuminates, representing a load on the aerial ladder, the operator need only glance at the display to determine the load applied to the aerial device - in relation to 100% rated aerial device capacity.

The readout given by the display shall be continuous relative to the NFPA compliant aerial device rated capacity as stated in these specifications, and shall include (but not be limited to) the following items: Accumulated equipment on any and all ladder sections, or at the platform including manufacturer installed items or customer installed items Accumulated personnel on any and all ladder sections or at the platform Accumulated ice buildup on any and all ladder sections or at the platform The total load suspended from any load lifting/rappelling eye installed by the manufacturer Any load reaction from dynamic loads placed on or realized by the aerial structure Any water weight or reactionary force realized by the aerial structure Any combination of the above items The Loadminder as described shall be designed in such

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a manner that the operator will not have to refer to an angle indicator, extension tape, or load chart; or be required to guess at, or try to calculate the loads or forces applied to, or interacting with the aerial device at any given time, and in any situation. This shall be in compliance with NFPA 1901. Systems that require the use of a load chart, angle indicator or extension tape shall not be acceptable for safety reasons.

The Loadminder shall be connected to a 100 db. alarm at the operator's control station that sounds when the ladder load is above the rated capacity. This alarm system shall also be connected to two (2) strobe lights on the end of the base section, one on each side, to provide further notice to the operator of an unsafe condition.

AIR HORN ACTIVATION

An air horn button shall be provided on the aerial turntable console. The button shall be red in color and include a label reading "AIR HORN".

AERIAL PLATFORM LOAD CHARTS

There shall be two (2) load charts installed on the aerial platform; one (1) shall be installed at the turntable control console, and one (1) in the platform at the tip of the aerial. The load charts shall cover the full operating range of the platform, with the waterway dry or flowing water.

AERIAL COMMUNICATION SYSTEM

A Fire Research Always Clear Talking (ACT) Intercom, model ICA900-112, two-way system shall be provided between the aerial tip and the turntable control console. The intercom kit shall include two control modules, one at the aerial tip that is hands-free and one at the turntable control console that has a push-to-talk button, two speakers, and cables. The interconnection between control modules shall require two wires. The control modules shall have a LED volume display and push-button volume control. The hands-free module shall constantly transmit to the other module unless the push-to-talk button is pressed.

The intercom shall be designed for exterior use. The control module shall be no more than 2 7/8" high by 5 1/8" wide by 1 7/8". The speaker shall be no more than 5 1/8" high by 5 1/8" wide by 1 1/2" deep. The power requirements for each control module with a speaker shall not exceed 1/2 amp at 12 VDC.

HI-VIZ LED TIP LIGHTS

Two (2) FireTech Hi-Viz, model FT-WL-X 9-FT-W-SH2 combination spot/flood LED shall be installed low ahead of the cradle, on the base section of the ladder, one (1) on each side. Each Hi-Viz light shall have 9 LED bulbs delivering combination 25 degree spot and 60 degree flood optic configuration. Each light output shall be 7200 raw lumens with an amp draw of 5.25. Each light shall have a white housing.

The lights shall be controlled from the operator control station at the base of the ladder

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The tracking lights shall be controlled by a toggle switch located on the turntable control console.

MID MOUNT PLATFORM DESIGN AND CONSTRUCTION - DUAL MONITORS

The platform frame shall be constructed of certified 6061-T extruded aluminum tubing and certified plate as a minimum. The construction of the platform frame shall be modular, with each module being welded in fixtures to ensure tight tolerances, prevent warpage, and eliminate excessive annealing. In an effort to account for the maximum working area inside of the platform, any design having less than 18 square feet of working area shall not be considered acceptable.

Platforms that are not of modular construction shall not be acceptable due to extreme warpage during welding (causing base material damage and poor component fit). Additionally, the inability to replace a portion of the platform should it become damaged during rescue/firefighting operations.

When completed, the individual modules shall be assembled with certified structural fasteners.

The finished assembly shall be attached to the aerial ladder in a manner that shall be easily replaceable should it become damaged.

Heavy duty, extruded rubber bumpers shall be provided on the underside of the platform frame for safe "landing" on rooftops or the ground.

This style of a platform shall be able to accommodate two (2) monitors.

PLATFORM DECK SURFACE

The floor of the platform shall be aluminum grating with an aggressive serrated surface. This decking shall provide excellent footing in all environments and working conditions. Simple bar type grating or tread plate shall not be acceptable because they become slippery under many conditions or do not sufficiently shed liquids.

To provide the maximum working surface for victim rescue, the aggressive decking shall extend outside of the enclosed portion of the platform a minimum of 4" on the sides and 10" on the front. The front and side leading edges of the platform shall be protected by a heavy duty, "D" type extruded rubber bumper.

The decking shall be of a design that shall allow debris to fall through to the anodized aluminum heat shield underneath. This design shall prevent debris from interfering with operator footing, yet shall prevent the debris from falling below the platform.

PLATFORM DECK WORK LIGHTING

Optronics mini LED lights shall be installed for platform deck working lights. The lights shall provide adequate lighting within the platform to illuminate the entire floor area during nighttime operations. The lights shall be hooded to direct all light downward and

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shall automatically energize anytime the aerial system is activated. The lights shall be installed inside of the platform in such a manner to prevent damage during operation by moving or shifting equipment in the platform.

PLATFORM ACCESS GATES

Two (2) gates shall be supplied at the front of the platform. Each gate shall have a positive latching mechanism that can be operated from inside or outside of the gate. The latch shall require no operation to close the gate. Each gate shall be double hinged in such a manner that it may be fully opened while the platform's leading front edge is against a building. The double hinged doors shall operate in a manner to allow personnel and victims to get in and out of the platform without having to move to allow the doors to swing. All hinges shall be stainless steel piano style. Automatically engaging and disengaging provisions shall be made to positively hold each gate in the fully open position.

Each gate shall be capable of withstanding a 1000 pounds of force applied in the least favorable position and the least favorable direction, without opening outward.

Additional safety shall be provided by a hinged safety bar above each gate entrance, which may remain closed while the gate is open and still allow personnel to egress to and from the platform. This bar shall have a large sweep corner and be completely covered with deeply serrated rubber sheathing for outstanding grip in all environmental conditions. The safety bar shall be provided with a positive latching mechanism that can be operated from both sides of the platform. The latch shall require no operation to close the safety bar.

GROUND TO PLATFORM ACCESS GATE

The platform shall be designed with a rear access gate that will allow personnel to climb the ladder located at the driver's side rear of the body. The gate shall be located on the rear wall of the platform, driver's side. A swing-in positive-latching door shall be installed.

Each gate shall be capable of withstanding a 1000 pounds of force applied in the least favorable position and the least favorable direction, without opening outward.

PLATFORM CONTROL STATION

Controls for the platform functions shall be located front and center of the work area in a manner that is consistent with the pedestal at the base.

The console shall be constructed of a smooth aluminum plate and shall be painted to match the existing construction. The controls shall be widely spaced to allow for easy operation with a gloved hand. The center of the control console shall have a removable plate where the extension, elevation, and rotation controls are located.

The extension, elevation, and rotation control levers shall be spring loaded joystick type controls with an automatic lockout feature that prevents operation of the control if it is

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merely bumped or accidentally actuated. No Exception shall be allowed to this design, as any accidental movement of the platform shall be unacceptable.

A minimum of two (2) control panel illumination LED lights shall be provided to illuminate the control console during night operation. The lights shall be mounted above the panel surface to cast maximum illumination on the panel's surface. The lights shall be hooded so that all light is directed toward the panel and not at the operator.

The control console surface shall be fabricated from aluminum and shall include a graphic overlay. The overlay shall be Innovative Controls design and supply a second surface-printed UV and scratch-resistant polycarbonate graphic overlay backed with UL 969-compliant outdoor adhesive.

All wiring and hoses shall be routed in such a manner (hidden) that there be no possibility of snagging or damage by the operator or occupants during operations.

Controls within the platform area shall include:

- Elevation, extension and retraction controls
- Platform safety override leveling button and light
- Water curtain control
- Loadminder readout with alarm
- Two hooded control station panel illumination lights
- Monitor function controls
- Intercom
- Warning signs
- Three-position speed selector switch

SHIFT ON THE FLY" PLATFORM SPEED SELECTOR SWITCH

A "Shift On The Fly" speed selector switch shall be located at the platform control station. This speed selector shall provide the operator in the platform with unmatched operation capabilities for use during all situations and operations.

The switch shall have three (3) positions consisting of high, medium and low-speed settings. By positioning the "Shift On The Fly" speed selector in one of these three positions, the speed of the aerial functions may be finitely controlled, and quickly and safely changed from the platform control station.

POSITION 1:

"High" This position allows the platform to operate at the maximum allowable speed setting of each aerial function.

POSITION 2:

"Medium" This position allows the platform to operate at approximately 50% of the maximum allowable speed setting of each aerial function.

POSITION 3:

"Low" This position allows the platform to operate at approximately 15% of the

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maximum allowable speed setting of each aerial function.

"SHIFT ON THE FLY" OPERATIONS

While the platform is moving in any direction at any speed, the operator may choose to "Shift On The Fly" to a different speed; either slower or faster, without having to stop platform movement or "feather" a control. This design and capability is unequaled within the industry and allows the operator to achieve consistent and reproducible operational speeds.

Additionally, the "Shift On The Fly" design allows less experienced operators to be more consistent and perform safer operators due to the fact that they need not become accustomed to "feathering" the joystick control to achieve differing speeds. Instead, they need only fully actuate the joystick and then utilize the "Shift On The Fly" feature.

Designs that require the operator to rely solely on "feathering", the function control handle in the platform to change the speed of any function, shall be unacceptable.

No Exceptions shall be allowed to this design in the interest of operator safety and enhanced platform operation capabilities.

PLATFORM CONTROLS SYSTEM LOCK

There shall be a platform control system lock at the platform control console. The platform control system lock switch shall be a push/pull systems engagement control. The control shall disable the platform controls at the platform control console, but still allow platform and ladder movement from the turntable control console.

AUTO RAMP PLATFORM CONTROL

Platform elevation, extension, and rotation function controls in the platform shall be equipped with an electric "Auto Ramp" feature. This ramping feature shall allow the operator in the platform to engage the controls abruptly without resulting in "tip lash" or sudden jerking of the platform.

When one of the above controls is engaged or disengaged abruptly; the hydraulic pressure shall "Auto Ramp" up or down to the speed the function level is being held at, thus providing a smooth transition from start to stop or stop to start. No Exception shall be allowed to this design in the interest of operator safety.

The "Auto Ramp" feature additionally shall aid less experienced operators in safely and successfully operating the platform.

AUTOMATIC EXTENDING PLATFORM EGRESS HANDRAILS

Automatically extending handrails shall be provided between the rear entrance to the platform and the tip of the fly section. These handrails shall be constructed of a minimum 1-1/4" tubing and shall be covered full length with deeply serrated rubber sheathing for maximum grip in all environments.

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The handrails shall effectively maintain a plane consistent with the fly section handrails as the aerial platform is elevated and extended and shall serve to aid in the transition to and from the platform, by extending the handrails of the fly section to meet the rear of the platform. In order to provide the maximum amount of safety for personnel entering and exiting the platform, handrails that are attached only to the platform or the fly section, and not both, will not be considered acceptable.

Additionally, two (2) or more chrome grab handles shall be provided in the rear opening of the platform to aid in the transition.

FALL PROTECTION EQUIPMENT "D" RINGS

A minimum of four (4) heavy duty "D" rings shall be installed in the platform to allow attachment of safety belts/fall protection equipment. The rings shall be installed in a manner to allow occupants in any location within the platform to be safely anchored.

PLATFORM HEAT SHIELDING

The rear, sides, front, front gates, and the entire underside of the platform shall be covered with smooth anodized aluminum sheet material to act as heat shields and protect platform occupants. The heat shields shall also serve to protect the platform structure from excessive heat exposure by reflecting heat energy, and by inhibiting heat transfer from the shields to structural members due to the spacing between the shields and the structure.

The heat shields shall be attached to the platform utilizing stainless steel fasteners. The fasteners shall be installed with protective nylon washers with shoulders. This design shall allow easy removal and replacement of any heat shield should it become damaged during rescue/ firefighting operations.

Designs that allow "permanent" attachment of the heat shields shall not be acceptable for the above reason. "Permanent" shall be defined as rivets, welding, or integral with the platform in any way.

To further protect from any heat below the platform, a water curtain nozzle with a circular pattern shall be mounted in the center of the underside of the platform. This device shall be electrically actuated from the platform control station and provide a minimum of a 75 GPM spray.

Additionally, the heat shields on the underside of the platform shall serve to prevent debris or small equipment that has passed through the serrated aluminum grating decking from falling from the platform. This design shall keep the debris from interfering with operator footing.

The heat shield shall be designed to allow for easy cleaning with a water hose or spray nozzle without having to remove the shields to clean their top sides.

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PLATFORM LEVELING SYSTEM

An electronic over hydraulic platform leveling system shall be installed, self-contained within the platform. The system shall electronically monitor the position of the platform relative to the earth and not the position of the apparatus should it be sitting on uneven ground. Each individual leveling cylinder shall contain two (2) counterbalance valves to assure equal distribution of load. A failsafe system shall freeze the position of the platform if it should become more than four degrees out of level with the earth for a period of 2 seconds. This system shall prevent the platform from tipping forward in an unlikely event such as a hydraulic line break or electrical system malfunction.

An override button shall be provided to allow the operator to reset the platform and regain control of all function.

LOAD LIFTING EYES

Two (2) load lifting eyes shall be installed on the underside of the platform. The eyes shall be sufficiently spaced to allow even balancing of a load. The eyes, as a pair, shall be rated not to exceed the tip load of the ladder structure.

Permanently attached aluminum alloy labels shall be installed adjacent to the eyes. The labels shall state the rated capacity of the eyes. The information on the labels shall be professionally engraved or stamped into the label for lasting quality.

PARAPET GROUND LADDER ATTACHMENT

A removable ground ladder attachment mechanism shall be located at the front of the dual monitor mid mount platform. This mechanism shall provide a temporary attachment for a 14' or shorter certified ground ladder to aid the department in clearing a parapet wall.

The mechanism shall be designed to minimize interference with other platform components such as monitors, nozzles, and swing-out gates. The design shall utilize the insertion of two (2) solid shaft pins inserted through the hollow rungs of the ground ladder.

For maximum security, the ground ladder shall rest within the attachment mechanism at two (2) points, near the height of the platform handrails and near the platform floor area.

PLATFORM RAPPELLING ARM WITH STOKES MOUNTING

One (1) 500 lb. capacity rappelling arm shall be mounted on the front of the aerial platform. The arm shall be capable of folding into a stored position, yet remain permanently attached to the platform for safety reasons. To maintain a rigid, safe structure; the arm itself shall not have any hinging in its structural members. The arm shall be equipped with two (2) rappelling eyes to attach rappelling gear or a Stokes basket safely and quickly. Detachable arms that require the operator to physically install it for operation shall be unacceptable, regardless of design, for safety reasons.

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The arm shall be permanently mounted and utilize a spring loaded, locking pivot. When pivoted into a working position, the arm shall automatically lock into that position. When the arm is in the stowed or operational position, it shall not interfere in any manner with the operation of the monitor(s), spotlights, or platform gates.

Specifically, the arm shall be mounted as close to front and center as possible to help ensure that any applied load is centered. Platform arms that are mounted on or near the corner(s) of the platform shall not be acceptable due to their off-center location.

There shall be provisions made in the design of the platform that shall allow for a Stokes basket to be temporarily but securely mounted on the platform for rescue operations.

The design of the platform shall ensure that normal access to the platform control station for normal operation is attainable when a Stokes basket is being utilized in a rescue condition.

The design shall utilize two mounting brackets, Kinedyne Track Fitting, that shall be located on the inside of the platform.

One (1) set of securing straps with spring loaded latch assemblies, Kinedyne series FF800, shall be supplied that securely hold a Stokes basket on the side hand rail assembly of the platform back wall area and the lifting arm device located on the front of the platform.

PLATFORM EQUIPMENT STORAGE BOX

An equipment storage box shall be provided on the platform. The storage box shall be constructed of smooth aluminum plate, and shall be painted to match the existing platform structure. The box shall be located on the rear/outside walls of the platform. The box shall be constructed to be weather tight and come with a painted aluminum hinged lid and a lift and turn latch that is easily operated with a gloved hand. The box shall be suitable for storage of tools and air masks/equipment.

MID MOUNT PLATFORM MARKER LIGHTING

A minimum of three (3) red LED marker lights shall be installed on the front of the platform to provide additional marker light capabilities. These lights shall be required when the standard marker lights on the rear of the body are blocked by the platform.

PLATFORM LED WARNING LIGHTS

Four (4) Whelen M7 Series Split Super-LED lights installed on the platform. The LED lights shall be installed one on each side of the platform and two on the front of the platform. The LED lights shall be split red/blue in color with clear lenses and flash anytime the parking brake is released and the emergency master has been activated. All LED lights shall be wired through the aerial device swivel.

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HI-VIZ 12 VOLT SCENE LIGHTS

Two (2) HiViz model Firetech FT-MB-18-TR-FT-W scene lights installed at the tip of the aerial platform. Each lamp head shall operate on 12 volt DC and incorporate a 18 LEDs that combines both 10 degree spot and 60 degree flood lighting. Each light shall be 27" in length, draw 7.5 amps and generate 9,504 total raw lumens. The lamp heads and brackets shall be powder coated white.

The lights shall be located on the underside of the aerial platform at the front, one (1) driver's side and one (1) officer's side of center.

The tip light(s) shall be controlled by a toggle switch located on the turntable control console.

WHELEN LED TIR3 LOCATOR LIGHTS

Two (2) Whelen TIR3 LED locator lights shall be provided. The lights shall have blue LEDs and clear lens, and shall be activated by the aerial master switch.

The lights shall be located at the lower rear portions of the aerial platform, one (1) on each side of the platform structure.

WATERWAY SYSTEM

A waterway system shall be provided consisting of the following components and features:

A 5" outside diameter pipe shall be connected to the water supply on one end and to a water swivel at the rotation point of the turntable. The swivel shall allow the ladder to rotate 360 degrees continuously while flowing water.

A 4" inside diameter pipe waterway shall be routed through the rotation point swivel up to the heel pin swivel. The heel pin swivel shall allow the water to flow to the waterway while elevating the aerial ladder from -12 degrees below to +72 degrees above horizontal.

The heel pivot pin shall not be integral with the waterway swivel at any point. The design of the waterway shall allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

WATERWAY PIPE DIAMETERS

The integral telescopic waterway system shall consist of a 5" outside diameter steel pipe in the base section, a 4-1/2" diameter pipe on the second section, a 4" outside diameter pipe on the third section, and a 3-1/2" outside diameter in the fly section.

CP-84 CHROME PLATED WATERWAY

The CP-84 telescopic waterway shall be composed of high quality 84K PSI steel. The

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pipes shall be professionally prepared to accept a highly durable, hot dipped galvanizing coating. Preparation shall include de-greasing as needed, followed by wheel-o-braiding to remove any contaminants or scale.

Following preparation, each water pipe shall be hot-dipped galvanized. The pipes shall be completely submerged in the galvanizing bath to ensure 100% coverage and intimate bonding of the galvanic coating to the steel. Following the dipping process, all dross shall be ground and the perimeter of the pipe shall be ground to a smooth finish.

Each pipe shall then be prepared to be heavily chrome plated. Materials (nickel/copper/chrome) used in the chrome plating process shall be of the highest purity to complete the chrome plating process. The chrome shall be polished to an extremely high luster.

The result of the preceding processes shall provide an aerial waterway that is of unequaled quality and durability. The heavy galvanizing and chrome plating shall ensure that no corrosion occurs on the waterway and that the outer surface remains smooth for long seal life. Additionally, the chrome plating shall aid in preventing nicks, scratches, and abrasions from occurring where they would otherwise easily occur with softer and more malleable aluminum tubes.

The waterway on the base section of the aerial device shall be galvanized with the process described above, followed by complete coverage utilizing PPG paint of job color.

WATERWAY RELIEF VALVE

A 3/4" safety relief valve shall be installed in the base section waterway. The relief valve shall be preset at 240 psi. The valve shall protect the waterway from overpressure, which is normally caused by the capping of the monitor outlet. This valve in no way is to act as a relief for the total flow of the system.

WATERWAY DRAIN VALVE

A 1-1/2" drain valve shall be installed in the lower section of the aerial plumbing under the apparatus. The valve, when opened, shall drain the aerial waterway and lower plumbing.

AERIAL WATERWAY INLET

A 5" inlet, with 5" plumbing, shall be installed on the officer's side pump panel of the apparatus to be used for supplying the aerial waterway.

INTAKE RELIEF VALVE

An Elkhart Brass intake relief valve shall be installed on the suction side of the pump. The valve shall be preset to 125 PSI and field adjustable from 75 to 250 PSI, and shall be designed to prevent vibration from altering the setting. The relief outlet shall be directed below the pump with the discharge terminating in a 2-1/2" male NH connection.

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The discharge shall be away from the pump operator and labeled "Do Not Cap".

A 5" NPT X 5" NH thread chrome waterway adapter with screen shall be provided.

One (1) 5" swivel Storz x 5" female NH thread swivel rocker lug 30-degree elbow adapter shall be provided. The elbow shall be constructed of hard coat anodized aluminum alloy and have a silver powder coat finish inside and out.

One (1) 5" Storz blind cap, complete with lanyard, shall be provided.

TASK FORCE TIPS MONSOON RC ELECTRIC MONITOR

A Task Force Tips Monsoon RC remote controlled electric monitor shall be installed at the front of the platform. The monitor shall operate with 12-volt direct current and controlled by a monitor mounted switch panel with functions that control rotation, elevation, and nozzle patterns. The monitor shall be compatible with optional wired and wireless control panels.

The electrical controls for the monitor shall be waterproof and utilize current limiting and position encoders to protect the drive train at the ends of travel. The monitor will be pre-wired to a control/connection box with 4 feet of wire such that the control/connection box is mountable to the ladder at a nearby location. Control box on the monitor will contain a membrane switch panel for control of the unit from the top of the ladder. Remote control/connection box will contain one TFT communications module which will allow the connection of a remote TFT toggle switch box (supplied separately if additional controls at the ladder tip are desired) simultaneously with allowing input from discreet signals that provide a positive 12-volt signal for actuation of each movement axis or can be easily reconfigured in the field to accept ground signals. The priority of operation will be set from the factory such that the discrete inputs always have control priority. An electrical connection for a TFT remote control nozzle shall be provided. The monitor shall be equipped with small override knobs for use in the event of power failure or electrical malfunction. The knobs control stainless steel worm gears for rotation and elevation adjustment.

The monitor shall have the following capabilities:

- Control box mounted to top center of monitor for maximum clearance
- Override control shafts shall be short in length to provide maximum clearance
- Small override knobs installed
- Maximum operating pressure of 200 PSI

For resistance to corrosion, the monitor shall be constructed from hard coat anodized aluminum with a silver powder coat interior and exterior finish. A threaded port for an optional pressure gauge shall be provided.

The monitor shall be designed with a unique waterway that minimizes the path of travel, reduces friction loss and turbulence, and produces a far-reaching water stream. The monitor shall be configured with a 4" ANSI 150 flange inlet and 3-1/2" male NH outlet.

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PRIMARY REMOTE MONITOR CONTROL STATION (TURNABLE)

Task Force Tips primary control station for Monsoon remote control monitors shall be provided on the turntable. The control station shall be designed for flush panel mounting and include switches to control horizontal rotation, vertical elevation, and nozzle stream pattern, oscillate and stow. The switch enclosure shall be weatherproof and utilize weatherproof components such as a membrane switch, silicone seal, and hardware with O-rings and liquid tight electrical connections with strain relief fittings. A 10-foot long incoming power connection cable shall be supplied and can be used as a central connection point for other wired or wireless controls or monitor position display.

MONITOR COLOR

The monitor shall be powder-coated silver by the monitor manufacturer and shall not be repainted by the OEM.

A Task Force Tips, model M-ERP2000-NN, Master Stream automatic electric nozzle with 3-1/2" NH thread swivel base shall be provided. The nozzle shall be capable of producing a stream at any volume from 300 to 2000 GPM. The nozzle shall be equipped with an electric pattern control. The nozzle shall maintain a constant nozzle pressure regulated to 100 PSI while being continuously variable from straight stream to wide fog. A rubber bumper shall incorporate "power fog" teeth for fully-filled, finger-free fog pattern shall be included. The nozzle shall be lightweight hard coat anodized aluminum for maximum resistance to corrosion and wear.

TASK FORCE TIPS MONSOON MANUAL MONITOR

A Task Force Tips Monsoon manually controlled monitor shall be installed at the front of the platform. The monitor shall be equipped with two (2) handwheel controlled, non-corrosive, open gear drives for quick and easy positioning. The handwheels shall be self-locking so that once a position is achieved, the operator need not hold onto the handwheels to maintain monitor position.

The monitor shall have the following capabilities:

- Horizontal stops preset to 90 degrees left and right of center
- 135 degrees of vertical travel with field changeable stops at 90 degrees above horizontal and 45 degrees below horizontal
- Maximum operating pressure of 200 PSI.

For resistance to corrosion, the monitor shall be constructed from hard coat anodized aluminum with a silver powder coat interior and exterior finish. A threaded port for an optional pressure gauge shall be provided. The monitor shall be designed with a unique waterway that minimizes the path of travel, reduces friction loss and turbulence, and produces a far-reaching water stream. The monitor shall be configured with a 4" ANSI 150 flange inlet and 3-1/2" male NH outlet.

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MONITOR COLOR

The monitor shall be powder-coated silver by the monitor manufacturer and shall not be repainted by the OEM.

One (1) set of Task Force Tips, model YST-4NN, quad stacked tips with 3-1/2" NH threads shall be provided. The stacked tips shall be lightweight and hard coat anodized, have a 3-1/2" NH slotted female inlet, machined protection rings on the discharge ends, 2-3/4", 2-1/2", 2-1/4", and 2" recessed orifices for protection. The stacked tips shall have a built in stream straightener and pressure/flow charts laser engraved on each tip. The stacked tips shall be shipped as loose equipment with the finished apparatus.

MONITOR SWEEP

Each monitor shall be capable of vertical positioning from -45 degrees to 45 degrees. The left monitor shall be capable of horizontal positioning of 90 degrees to the left to straight ahead, and the right monitor shall be capable of horizontal positioning of 90 degrees to the right to straight ahead, combining for a full 180-degree sweep.

MONITOR SHUT OFF VALVES

A monitor shut off valve shall be located at the base of each monitor. The valves shall be easily accessible to platform personal and shall provide a means of controlling water flow to the monitor from the platform. The manual valves shall be actuated by a hand wheel gear.

MONITOR CONTROLS

The aerial master stream device shall have two (2) separate control stations. One station shall be at the main aerial turntable control console. The other station shall be located in the aerial platform. Each station shall have the capability of controlling the nozzle pattern as well as the horizontal and vertical position of the device.

2-1/2" PLATFORM DISCHARGES

Two (2) 2-1/2" discharges shall be located at the front of the platform. Each discharge shall be controlled at the platform by a quarter-turn ball valve.

Two (2) 2-1/2" NH thread rocker lug chrome plated vented caps, each with a cable or chain, shall be provided.

LADDER BELTS

Four (4) Gemtor 531 series ladder/escape belts shall be supplied with the apparatus. Each belt is made of specially woven, high strength nylon webbing. Lock stitched with high tenacity nylon thread and features a 3" wide buckle strap and 5" wide body pad. There shall be one (1) medium, two (2) large and one (1) extra large belt supplied with the apparatus.

WINDCREST VOL FIRE DEPARTMENT

RUNG ILLUMINATION LIGHTING

The aerial ladder sections shall be equipped with permanently installed blue LED rung illumination lights. The lights shall be mounted on the inside of the ladder sections, facing inward; on each aerial section in a "staggered" configuration. The blue colored lens shall serve to illuminate ladder rungs without inducing any glare, which would hinder safety. Each light shall be equipped with an integral guard to protect it from damage. The lights shall be positioned such that all light be directed inward toward the rungs of the aerial sections, maximizing safety for all personnel during night operations. The lights shall also aid the operator in locating aerial ladder section in conditions of reduced visibility.

Designs that use luminescent tape on the rungs shall not be permitted as they require previous exposure to sunlight and can wear off over time.

The rung lighting shall be controlled by a toggle switch located on the turntable control console.

AERIAL LADDER SIGNS

Two (2) sign panels measuring 16" tall x 133" long shall be installed on the base section of the aerial ladder, one on each side. The sign panels shall be fabricated of 1/8" aluminum plate. The signs shall be large enough to accept a maximum lettering size of 12" high.

BASE SECTION MOUNTED STOKES BASKET STORAGE

A storage box shall be provided on the base section for a Stokes basket. The box shall be on the officer's side of the base section to be the least obtrusive when viewing the aerial tip from the turntable control console. The box shall be fabricated from smooth aluminum and be painted to match the ladder. The box shall be attached to the aerial section using stainless steel fasteners. A painted aluminum lid shall be provided on the box to secure Stokes basket.

STRETCHER

The stretcher shall be dealer/customer supplied.

BASE SECTION MOUNTED ROOF LADDER

One (1) roof ladder mounting bracket set shall be provided on the outside of the base section, on the driver's side, for a solid beam roof ladder. The brackets shall be formed using break and bend techniques for added strength and an outstanding appearance. To enhance durability, the brackets shall be coated with Line-X. Stainless steel fasteners shall be employed where the ladder bracket is bolted to the aerial section or ladder sign panel.

The roof ladder shall be secured using a spring-loaded handle, which is easily lifted away from the roof ladder with a gloved hand for safe access.

WINDCREST VOL FIRE DEPARTMENT

One (1) Alco-Lite, model DRL-14, 14' aluminum roof ladder with double end folding roof hooks shall be provided.

FLY SECTION MOUNTED PIKE POLE

One (1) pike pole mounting bracket shall be provided on the driver's side of the aerial fly section. A strap shall be provided to hold the pike pole in the bracket.

One (1) Fire Hooks Unlimited, model RH-8, 8' steel shaft pike pole with a New York Roof Hook and chisel end shall be provided.

BODY PAINT PREPARATION

The apparatus body and components shall be metal finished as follows to provide a superior substrate for painting:

- All aluminum sections of the body shall undergo a thorough cleaning process, starting with a phosphoric acid solution to begin the etching process, followed by a complete rinse. The next step shall consist of a chemical conversion coating applied to seal the metal substrate and become part of the aluminum surface for greater film adhesion.
- After the cleaning process, the body and its components shall be primed with a high solids primer and the seams shall be caulked.
- All bright metal fittings, if unavailable in stainless steel or polished aluminum, shall be heavily chrome plated. Iron fittings shall be copper underplated prior to chrome plating.

PAINT PROCESS

The paint process shall follow the strict standards as set forth by PPG Fleet Finish Guidelines.

The body shall go through a three-stage paint process: primer coat, base coat (color), and clear coat. In the first stage of the paint process, the body shall be coated with PPG F3980 Low VOC / High Solids primer to achieve a total thickness of 2-4 mills. In the second stage of the paint process, the body shall be painted with PPG FBCH Delfleet High Solids Polyurethane Base Coat. A minimum of two to three coats of paint shall be applied to achieve covering. In the final stage of the paint process, the body shall be painted with PPG DCU-2002 Clear Coat. A minimum of two to three coats shall be applied to achieve a total dry film thickness of 2-3 mills.

As part of the curing process, the painted body shall go through a Force Dry / Bake Cycle process. The painted components shall be baked at 185 degrees for 3 hours to achieve a complete coating cure on the finished product.

HAND POLISHED

After the Force Dry / Bake Cycle and ample cooldown time, the coated surface shall be sanded using 3M 1000, 1200, and/or 1500 grit sandpaper to remove surface defects. In

WINDCREST VOL FIRE DEPARTMENT

the final step, the surface shall be buffed with 3M super-duty compound to add extra shine to coated surface. No more than .5 mil of clear shall be removed in this process.

BODY PAINT COLOR

The body shall be painted with PPG High Solids Polyurethane Base Coat.

The single tone body shall be painted PPG# FBCH-2185 white.

AERIAL COMPONENT PROTECTION / PAINT

All aerial device components above the rotation point that are not chrome plate, bright aluminum tread plate, or stainless steel shall be painted. All areas to be painted shall be sanded to remove any metal flakes and smooth any rough surfaces. All surfaces to be painted shall be phosphatized to remove metal impurities, aid paint adhesion and inhibit rust. The components shall be prime painted with a Low V.O.C. high solids non-isocyanate primer and finish painted with a Low V.O.C. extremely durable, single-stage ultra- high solids high gloss polyurethane paint. The support structure and components below the rotation point shall be painted black.

The extending stabilizer beams, inner jack cylinder protective tubes, and stabilizer pads shall be hot dip galvanized. The extending stabilizer beams, inner jack tubes, and stabilizer pads shall be wheel-o-braided to remove any mill scale, or contamination prior to galvanizing.

Following this preparation, the individual components shall be hot dip galvanized. The galvanizing process requires that the entire assembly be completely submerged. Following the galvanizing process, the surface shall be ground smooth to remove dross. This preparation shall provide maximum protection for these critical components. Following surface preparation, components shall be coated with black water-based self-etching coating. No exceptions shall be allowed to this requirement.

The high gloss polyurethane paint, which shall be applied to the aerial ladder sections and other components above the rotation point, shall be cured at an elevated temperature for a period not less than 2 hours to enhance durability and appearance. The temperature shall not be less than 180 degrees Fahrenheit. Curing of the paint shall promote a chemical reaction within the substrate that shall harden the paint. The curing shall be performed in a clean, sealed, controlled atmosphere. The atmosphere shall comply with all environmental standards and any air entering the chamber shall be filtered.

AERIAL DEVICE PAINT COLOR

The aerial device shall be painted with PPG Delfleet High Solids polyurethane enamel paint. The color shall be PPG# FDGH-2185 white.

AERIAL CORROSION PROTECTION

Internal structural members of the aerial structure shall be 100% concealed from

WINDCREST VOL FIRE DEPARTMENT

oxygen or have corrosion protection applied. Totally sealed members are not subject to the possibility of corrosion attacking the metal from the interior.

The structural tubing of the aerial structure that contains drilled holes or is exposed to outside air and elements shall be protected to eliminate the possibility of corrosion occurring on the inside of the tube. No exceptions as this is imperative to the strength and integrity of the aerial structure.

The interior of exposed tubing shall be coated with a compound labeled NWAC 120-4. The application of the coating shall be applied after the welding process of the aerial structure is complete and shall cover 100% of the interior of the structural tube. NWAC 120-4 is an effective cavity corrosion inhibitor that provides long-term protection for both ferrous and non-ferrous metals. The resulting water-repellent, flexible, air-dried film has crevice penetrating, spreading and clinging characteristics. The product dries to a nearly transparent film and provides maximum corrosion protection for all void spaces subject to humidity and condensation.

AERIAL PLATFORM PAINT COLOR

The aerial platform shall be painted with PPG Delfleet High Solids polyurethane enamel paint. The color shall be PPG# FDGH-2185 white. The front platform doors shall be unpainted anodized aluminum with a silver, brushed finish.

AERIAL LADDER SIGN PAINT COLOR

The aerial ladder signs, mounted on the base section, shall be painted the same color as the aerial ladder.

UNDERCOATING

The apparatus shall undergo a two-step undercoating process. The first step shall be a rubberized polyurethane base compound applied after the body has been primed. The materials used incorporate unused paint products to reduce the amount of waste released into the environment. This coat shall be applied to all hidden pockets and surfaces that are not visible after completion.

As a final step, the entire underside of the body shall be coated with a bituminous based automotive type undercoating when the apparatus is completed. During this application, special care shall be taken to avoid spraying the product on air lines, cables, or other items that would hinder normal maintenance.

CORROSION PREVENTION

One (1) 3.75-ounce tube of Electrolysis Corrosion Kontrol (ECK) shall be provided to use when additional items are mounted to the apparatus. ECK protects aluminum and stainless steel against electrolytic reaction, isolates dissimilar metals and gives bedding protection for hardware and fasteners. ECK contains an anti-seizing lubricant for threads. ECK is dielectric and perfect for use with electrical connectors.

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LINE-X THERMOPLASTIC COATING

In designated areas, Line-X XS-350, a two-component spray-in-place thermoplastic polyurethane system shall be used for maximum protection of the body and equipment. Line-X XS-350 is a 100% high-performance aromatic solids pure Polyurea elastomeric membrane. The coating shall be a fast cure, textured surface, multi-purpose material designed for commercial and industrial applications. It shall adhere to the body and serve as a protective, abrasion resistant liner where applied.

The coating shall exhibit the following minimum typical physical properties:

- Tensile strength - 3,432 PSI (ASTM D-412)
- Elongation - 162% (ASTM D-412)
- Tear Strength - 783 PLI (ASTM D-624)
- Shore D Hardness - 60 +/-1 (ASTM D-2240)

SAMPLE PAINT CARD

One (1) sample paint card shall be provided with the apparatus. The card shall show an example of the apparatus body color on one side and have the specific PPG paint formula printed on the reverse side.

LETTERING-DEALER SUPPLIED AND INSTALLED

The reflective lettering shall be dealer provided and installed.

REFLECTIVE STRIPING - STABILIZER BEAMS

Retroreflective striping shall be installed on the front and rear sides of the four (4) horizontally extending stabilizer beams for increased visibility when extended. The striping shall be 4" wide and white in color.

CHEVRON COLOR - RED/FLUORESCENT YELLOW-GREEN

The chevron striping shall consist of red, 3M part number 1172 EC, and fluorescent yellow-green, 3M part number 3983, and shall meet the chevron color requirements in accordance with NFPA 1901, current edition.

Only 3M Diamond Grade VIP Reflective Striping shall be used. 3M Diamond Grade VIP Reflective Striping is a wide-angle prismatic lens reflective sheeting designed for the production of durable traffic control signs and delineators that are exposed vertically in service. This sheeting is designed to provide higher sign brightness than sheeting's that use glass bead lenses. It is intended to also provide high sign brightness in the legibility distance where other sheeting's do not. If something other than 3M is being used, third party documentation must be provided with the bid to prove it is compliant with Federal DOT and NFPA 1901, current edition.

CHEVRON STRIPING - REAR BODY

Retroreflective striping shall cover at least 50% of the rear-facing vertical surfaces in

WINDCREST VOL FIRE DEPARTMENT

accordance with NFPA 1901, current edition. The striping shall be in a chevron pattern sloping downward and away from the centerline of the apparatus at an angle of 45 degrees. Each stripe shall be a minimum of 6" in width. The striping shall consist of a solid base layer of reflective material and alternate between the exposed base layer material and durable, transparent, acrylic colored film.

The chevron pattern shall include rear face of the body and the torque box lap door.

MATERIAL AND WORKMANSHIP WARRANTY

OEM installed purchased parts and fabricated parts shall be free of defects in material and workmanship for a period of two (2) years starting thirty (30) days after the original invoice date. Full details shall be provided in the complete warranty document.

TEN (10) YEAR WARRANTY BODY STRUCTURAL INTEGRITY

The body shall be free of structural or design failure or workmanship for a period of ten (10) years or 100,000 miles starting thirty (30) days after the original invoice date.

TORQUE BOX SUPERSTRUCTURE WARRANTY

The torque box superstructure shall be free of structural or design failure or workmanship for a period of fifteen (15) years starting thirty (30) days after the original invoice date. Full details shall be provided in the complete warranty document.

TWENTY-FIVE (25) YEAR AERIAL STRUCTURAL INTEGRITY WARRANTY

The aerial device shall be free of structural or design failure or workmanship for a period of twenty-five (25) years or 100,000 miles, starting thirty (30) days after the original invoice date. For further details, please refer to the complete warranty document.

TEN (10) YEAR AERIAL WATERWAY AND WATERWAY SEALS LIMITED WARRANTY

The aerial device waterway, including the waterway seals, shall be free of defects in design and workmanship for a period of ten (10) years starting thirty (30) days after the original invoice date.

STAINLESS STEEL PLUMBING LIMITED WARRANTY

The stainless steel plumbing and piping shall be free from corrosion perforation for a period of ten (10) years starting thirty (30) days after the original invoice date. Full details shall be provided in the complete warranty document.

WATER TANK WARRANTY

The tank shall be complete with a lifetime warranty. The tank manufacturer shall mark the tank and furnish notice that indicates proof of warranty. Full details shall be provided in the complete warranty document.

WINDCREST VOL FIRE DEPARTMENT

PAINT LIMITED WARRANTY

The apparatus body and pump house shall be free of blistering, peeling and any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces for a prorated period of three (3) years starting thirty (30) days after the original invoice date.

Paint on the undercarriage, body interior (Line-X coating included) or aerial structure related paint, if applicable, is covered only under the standard two (2) year limited warranty.

CORROSION PERFORATION LIMITED WARRANTY

The body exterior paint shall be warranted against corrosion perforation for a prorated period of ten (10) years starting thirty (30) days after the original invoice date. Full details shall be provided in the complete warranty document.

PUMP WARRANTY

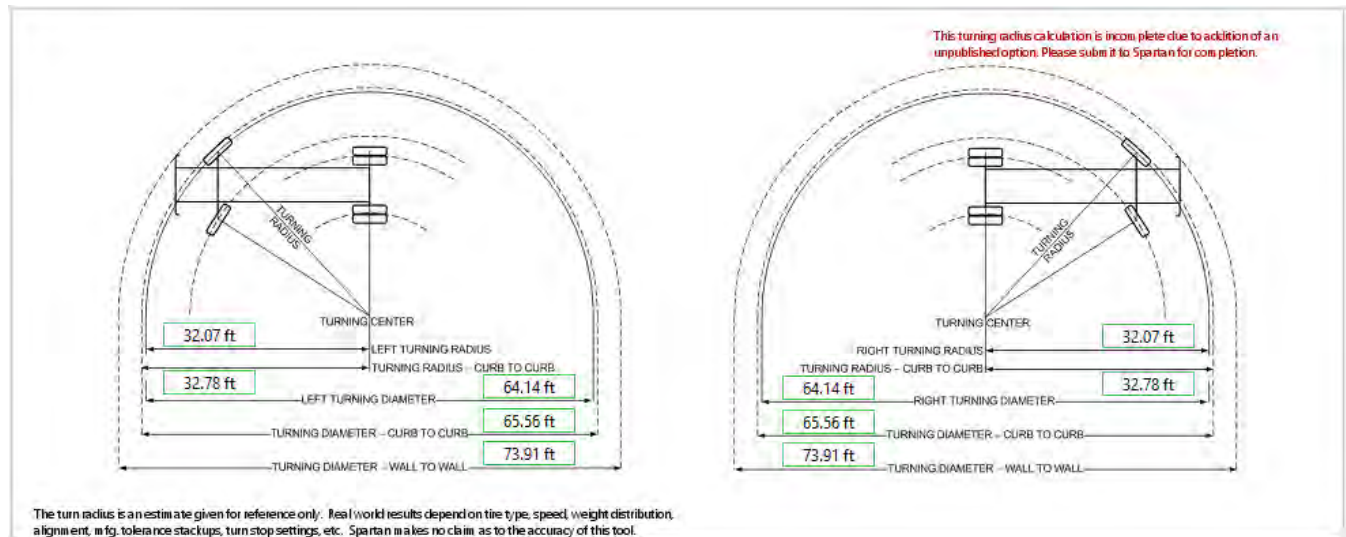
The fire pump shall be warranted by Waterous for a period of seven (7) years from the date of delivery to the fire department or seven and one-half (7-1/2) years from the shipment date by Waterous, whichever period expires first. Full details shall be provided in the complete warranty document.

DEALER SUPPLIED AND/OR INSTALLED EQUIPMENT

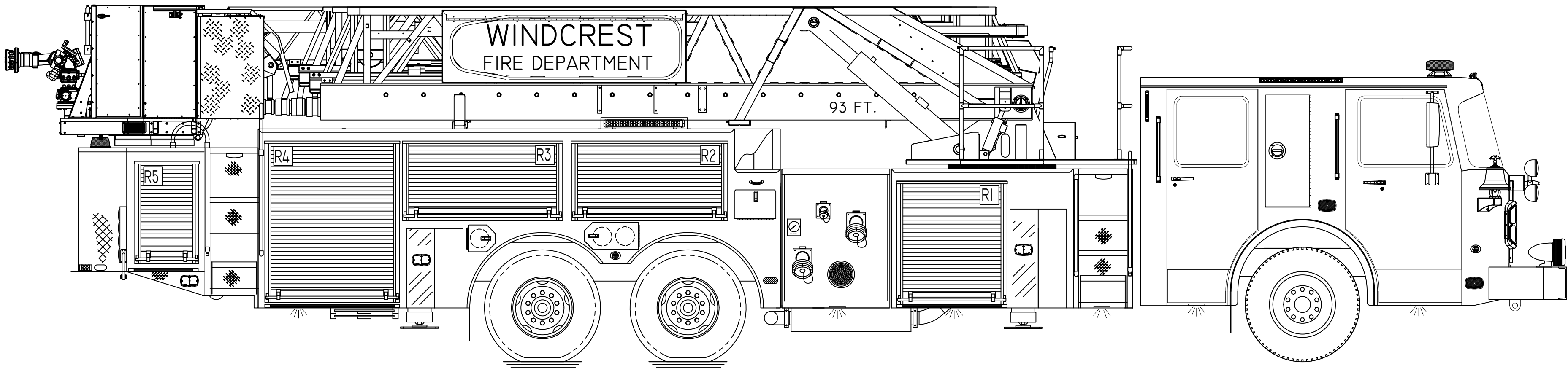
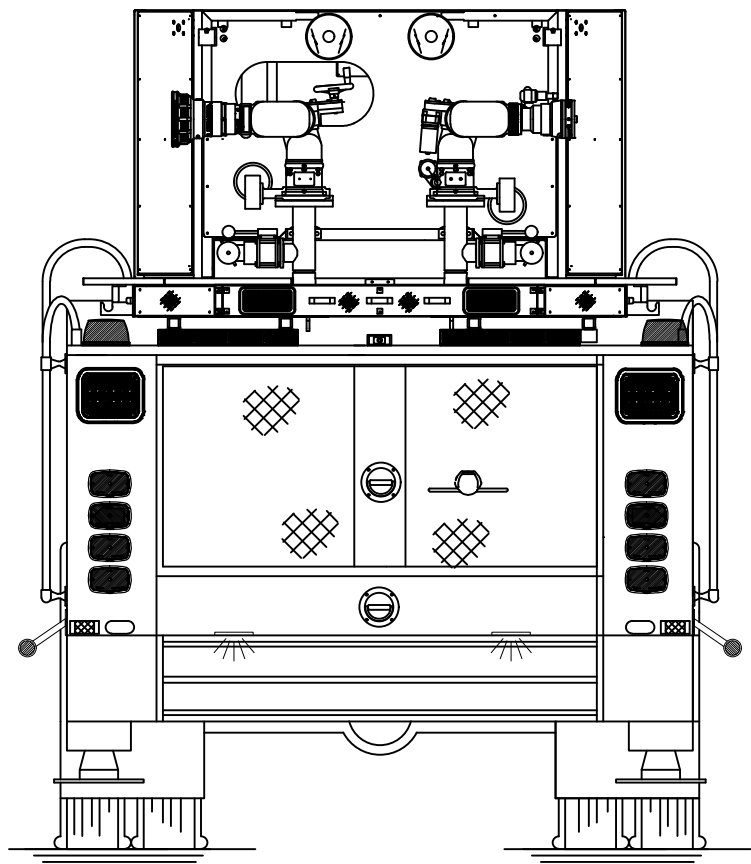
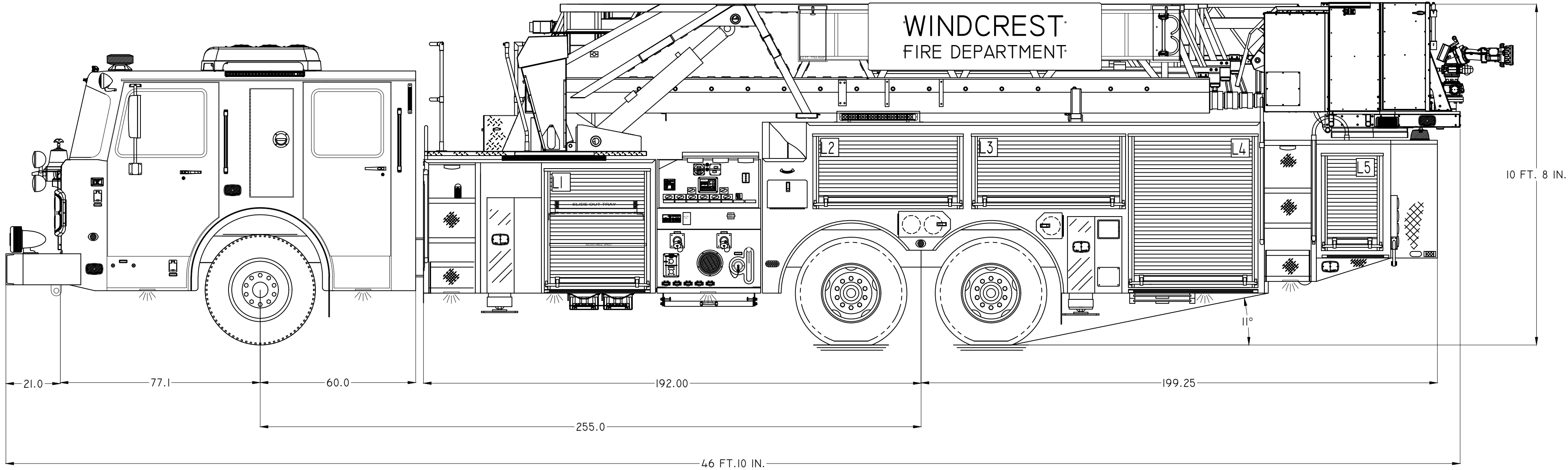
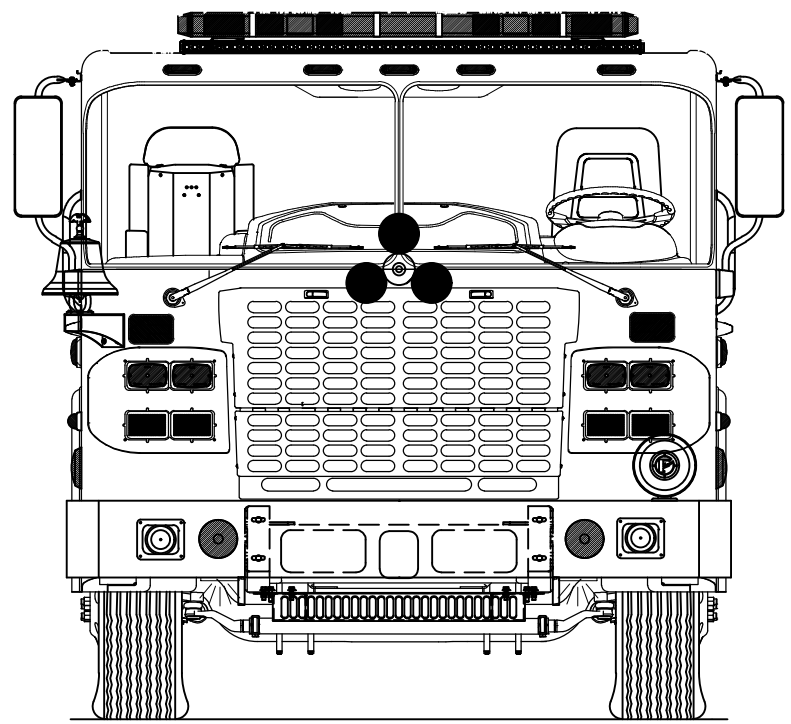
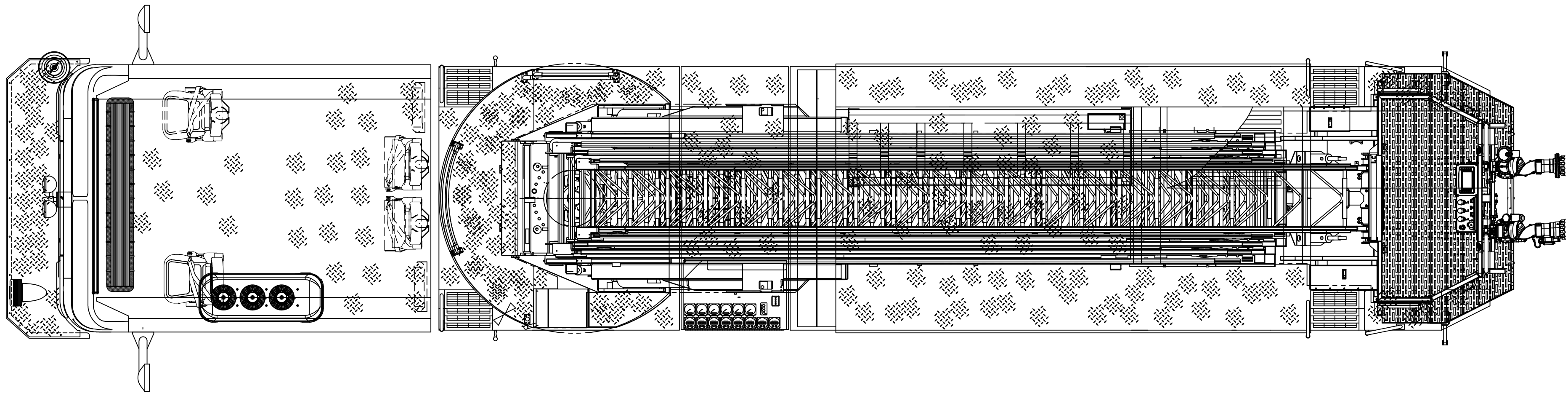
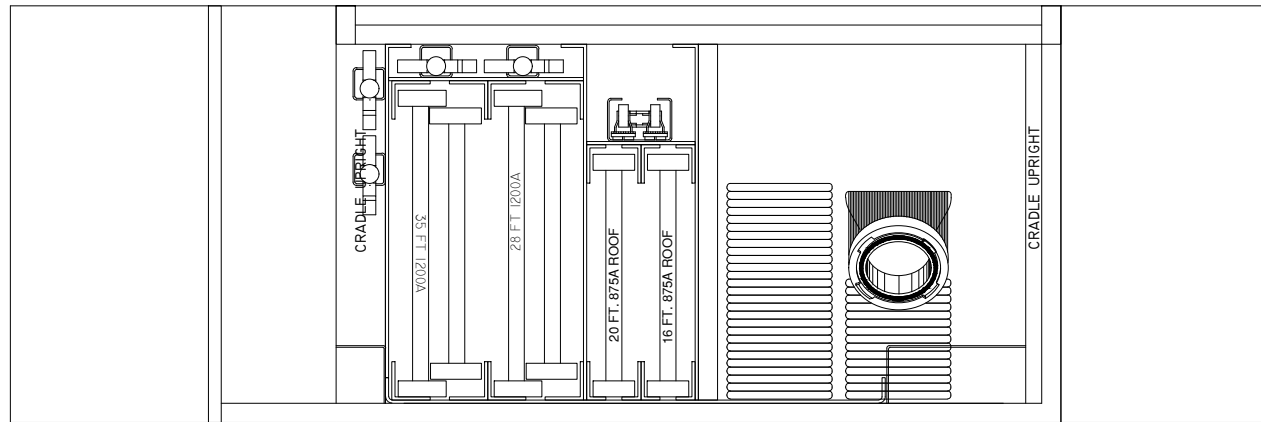
The following will be supplied and/or installed by the apparatus dealer:

1	EA	FIRECOM-5100D	DIGITAL INTERCOM, 1 RADIO
1	EA	FIRECOM-MR-52X	MOBILE RADIO INTERFACE CABLE
3	EA	FIRECOM-UHW503	CREW HEADSET
2	EA	FIRECOM-UHW505	HEADSET
2	EA	MET-MR-CROSSLAY FLAP	D&S RED VINYL CROSSLAY COVER
2	EA	MET-MR-EMS CABINET WEBBING	D&S EMS CABINET WEBBING
1	EA	MET-MR-FC HOOK ASSEMBLY	FIRECOM HOOK ASSEMBLY
1	EA	MET-MR-FLASHLIGHTS	INSTALL FLASHLIGHTS IN CAB
1	EA	MET-MR-HOSE BED COVER	D&S VINYL HOSE BED COVER
1	EA	MET-MR-RADIO INSTALL	INSTALL CUSTOMER SUPPLIED RADIO

Turning Radius



End User Name	Windcrest Fire Department 85' MMP Quint
Chassis Model	0100-012 Gladiator
Wheelbase	250.00 in
Bumper Extension	6.00 in
Bumper Width	104.40 in
Left hand outside tire turn angle	42.70 deg
Right hand outside tire turn angle	42.70 deg
Left hand Curb-to-Curb turning radius	32.78 ft, 9.99 m
Right hand Curb-to-Curb turning radius	32.78 ft, 9.99 m
Left hand Wall-to-Wall turning radius	36.96 ft, 11.26 m
Right hand Wall-to-Wall turning radius	36.96 ft, 11.26 m



SPARTAN FIRE, LLC.
EPHRATA, PA 17522

CHASSIS:	SPARTAN GLADIATOR EMFD
ENGINE:	CUMMINS X-15 600 HP
TRANSMISSION:	ALLISON 4000 EVS
AXLES:	24,000# FRONT / 62,000# REAR
MODEL:	P45M-93 LADDER TOWER
WATER/FOAM:	275 / 25 GALLONS
PUMP:	WATEROUS S-101 2000 GPM
FOAM SYSTEM:	FOAM PRO 2001
GENERATOR:	N/A

COMPARTMENT DIMENSIONS		
ID.	DOOR OPENING	COMPARTMENT INTERIOR
L1	36.00W X 40.375H	39.875W X 45.25H X 23.00D
L2	54.00W X 27.00H	63.375W X 29.625H X 24.00D
L3	54.00W X 27.00H	60.375W X 29.625H X 24.00D
L4	48.00W X 54.375H	52.50W X 59.25H X 24.00D
L5	22.50W X 33.375H	28.50W X 37.25H X 13.00D
R1	36.00W X 40.375H	39.875W X 45.25H X 23.00D
R2	54.00W X 27.00H	63.375W X 29.625H X 13.50D
R3	54.00W X 27.00H	60.375W X 29.625H X 13.50D
R4	48.00W X 54.375H	52.50W X 59.25H X 13.50D UPPER 24.00D LOWER
R5	22.50W X 33.375H	28.50W X 37.25H X 13.00D

IMPORTANT: COMPARTMENT DIMENSIONS ARE
PRELIMINARY AND SUBJECT TO CHANGE
PENDING FINAL DEVELOPMENT OF SOLID MODELS
FROM WHICH THE BODY WILL BE BUILT.

GROUND LADDER INVENTORY:
ONE 35 FT. I200A 2-SECTION
ONE 28 FT. I200A 2-SECTION
ONE 20 FT. 875A ROOF
ONE 16 FT. 875A ROOF
ONE 12 FT. 585A FOLDING
ONE LITTLE GIANT MODEL 17 DEFENDER
ONE 12 FT. 775A ROOF ON AERIAL BASE
ONE FHU 12 FT. NATIONAL HOOK
ONE FHU 10 FT. NATIONAL HOOK
ONE FHU 8 FT. ROOF HOOK
ONE FHU 6 FT. ROOF HOOK
ONE FHU 10 FT. TRASH HOOK

CUSTOMER

THIS DRAWING IS A CLOSE APPROXIMATION OF YOUR FIRE APPARATUS. IN ALL CASES WHERE THE DRAWING AND THE WRITTEN SPECIFICATION DIFFER, THE SPECIFICATION SHALL PREVAIL. PLEASE WORK WITH YOUR DEALER TO ASSURE THAT THE WRITTEN SPECIFICATION REPRESENTS WHAT YOU WANT IN YOUR FINISHED PRODUCT. SPARTAN FIRE, LLC BUILDS TO THE WRITTEN SPECIFICATION, NOT THE DRAWING TO ASSURE THAT YOUR NEEDS ARE MET.

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SPARTAN FIRE, LLC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SPARTAN EMERGENCY RESPONSE IS PROHIBITED. SPARTAN MOTORS USA, INC. D/B/A SPARTAN FIRE, LLC.

REV	DATE	DESCRIPTION	WB NAME
0	5/14/20	INITIAL PROPOSAL	WB

SCALE: NOT TO SCALE

WINDCREST FIRE DEPARTMENT
WINDCREST, TEXAS

TRUCK NUMBER:	DRAWING No.
000000	3-020-0364



Apparatus Specialists, Inc.

514 Michigan / Houston, Texas 77587 / (713) 692-0911 / (713) 692-1591 fax

Windcrest 93' Mid Mount Platform Quint Specifications

INTENT OF SPECIFICATIONS

Spartan Motors USA, Inc. of Charlotte, MI and the authorized Dealership representing Spartan submit the following detailed proposal for your consideration.

The following items have been specifically addressed regardless of whether they are included in the published specifications.

The Spartan detailed proposal supersedes the published specifications and will be the specifications in which the apparatus will be designed and manufactured to, if awarded the contract.

Any mutually agreed changes made during a pre-construction meeting or build process, will become part of the contract and the build specification. Based on these processes any costs and or credits will be applied to the final invoice.

Spartan is a business unit of Spartan Motors USA, Inc. and has operated since 1912. Spartan of Charlotte, MI is a leading supplier to the fire service and has operated since 1975. They maintain a complete on-site parts department with same-day shipping provided for all necessary service parts.

Spartan is a U.S. based provider of fire apparatus. Spartan designs and manufactures fire and rescue apparatus which utilize the approach of complete product integration including the apparatus body and pump house structures. Engineering, assembly and testing all take place on Spartan owned premises only.

Each apparatus is quality control inspected with full documentation at each step of the manufacturing process.

The unit will be manufactured at a Spartan manufacturing facility. Spartan operates three (3) manufacturing facilities.

- An apparatus manufacturing facility located at 907 7th Avenue North, Brandon, South Dakota
- An aerial and apparatus manufacturing facility located at 68 Cocalico Creek Road, Ephrata, Pennsylvania
- A chassis and apparatus manufacturing facility located at 1541 Reynolds Road, Charlotte, Michigan

STANDARD SPARTAN FEATURES PROVIDED

The unit will be designed and assembled so that all recommended daily maintenance checks can be performed easily by the operator without the need for hand tools.

WINDCREST VOL FIRE DEPARTMENT

Apparatus components that interfere with removal or repair of other major components will be attached with fasteners and installed with normal hand tools. These components will not be welded or otherwise permanently secured into place.

A test data plate will be provided at the pump operator's position which gives the rated discharges and pressures, together with the speed of the engine as determined by the manufacturer's test for this unit.

A manufacturer's certification of GVWR and GAWR on a nameplate will be affixed to the completed vehicle.

A Fire Apparatus Safety Guide published by Fire Apparatus Manufacturer's Association shall be provided with the apparatus upon delivery. This manual includes essential safety information for fire fighters, fire chiefs, apparatus mechanics, and fire department safety officers. The guide is applicable to municipal, wildland, and airport firefighting apparatus manufactured on either custom or commercial chassis.

A permanent plate mounted in the driver's area of the cab unless otherwise specified will be supplied. It will 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 will be installed, specifying the seating capacity of the included cab.

Signs that state "OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION" will be provided. They will be visible from each seated position.

An accident prevention sign will be located at the rear step area of the apparatus. The sign will warn personnel that standing on the step while vehicle is in motion; is prohibited.

When equipped with a fire pump, 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 height of the fully loaded vehicle's center of gravity will not exceed the chassis manufacturer's maximum limit.

The front to rear weight distribution of the fully loaded vehicle will be within the limits set by the chassis manufacturer. The front axle loads will be less than the maximum axle loads specified by the chassis manufacturer, under full load 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 will not exceed 7 percent.

All manufacturers' operations and maintenance documents supplied with components and equipment installed on, or supplied with the completed vehicle will be provided with the completed unit.

The unit will be protected by permanent Anti-Freeze for operation between -30 degrees F to +235 degrees F.

WINDCREST VOL FIRE DEPARTMENT

All fluid levels and applicable pressures will be brought to proper levels and noted prior to final delivery.

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 of 2,500 lbs per NFPA 1901, Standard for Automotive Fire Apparatus criteria. It shall be the responsibility of the purchaser to provide the contractor with the weight of any additional equipment and personnel to be carried and the location on the apparatus 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 apparatus will be designed and constructed to follow the requirements of the following recognized standards unless otherwise specified by the customer:

(NFPA) 1901 Standard for Automotive Fire Apparatus
Federal Motor Vehicle Safety Standards (FMVSS)
Department of Transportation (DOT)
Interstate Commerce Commission (ICC)
Society of Automotive Engineers (SAE)
Underwriters Laboratories, LLC (UL, LLC)

The apparatus when fully loaded will be capable of the following performance on dry, level paved roads in good condition. Item (d) not included requiring an incline.

A continuous minimum ten (10) mile road test shall be conducted with the apparatus fully loaded.

The apparatus shall be inspected for any loss of power, overheating, noise from the transmission or drive lines, any vibrations and noise.

(a) From a standing start the vehicle will attain a true speed of 35 mph within 25 seconds.

(b) From a steady pace of 15 mph, the vehicle will accelerate to a true speed of 35 mph within 15 seconds. This will be accomplished without moving gear selector.

(c) The vehicle will attain a minimum top speed of 50 mph.

(d) The apparatus will be able to maintain a speed of at least 20 mph on any grade up to and including 6 percent.

DELIVERY

To ensure proper break-in of all components while still under warranty, the apparatus **shall be delivered under its own power**. The unit will remain insured by the apparatus manufacturer until the department accepts the unit.

SERVICE

Due to the importance of keeping this vital piece of firefighting apparatus in service with a minimum of downtime, the manufacturer shall maintain a network of service centers with factory-

WINDCREST VOL FIRE DEPARTMENT

trained personnel.

WARRANTY

Warranties applicable to the chassis and body (excluding vendor supplied components {engine, transmission, axles, etc.}) which carry their own specific warranties) will be addressed by a single point warranty service provider approved by the manufacturer to perform service as necessary.

BID/PROPOSAL DRAWING

For purposes of evaluation, Spartan shall provide a drawing illustrating, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus.

The drawings shall be large "D" size (minimum 24.00 inches x 36.00 inches).

Other specified equipment shall be required to be included with the bidder's proposal package.

PRE-CONSTRUCTION DRAWINGS

After the award of the bid, Spartan shall provide detailed colored engineering drawings including, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus for use at the pre-construction conference.

The drawings shall include, but shall not be limited to the right, left, top, front and rear views of the apparatus.

In addition, a detailed engineering drawing of the pump operator's panel shall be provided prior to manufacturing for fire department approval.

SINGLE SOURCE MANUFACTURER

Spartan is defined as a single source apparatus manufacturer.

Spartan designs and manufactures our products utilizing an approach that includes complete product integration, including the apparatus Chassis, Aerial Device and Body Module being constructed, assembled, and tested on company premises.

Warranties qualified to the Chassis, Aerial Device and Body Module design construction (excluding vendor component warranties such as engine, axles, transmission, and pumps, etc.) will be from Spartan.

SUPPLIED INFORMATION & EXTRAS

Spartan will supply two (2) copies of apparatus manuals with all manufactured apparatus.

The manuals shall include, but not be limited to: all component warranties, users' manuals and information for supplied products, apparatus engineering information including drawings and build prints, and whatever other pertinent information Spartan can supply to its customer regarding the said apparatus.

The following manuals pertaining to the aerial device shall also be included:

WINDCREST VOL FIRE DEPARTMENT

- Two (2): Operators' manuals.
- Two (2): Parts manuals in a CD format.
- Two (2): Electrical and Hydraulic Diagrams in a CD format.

Included in the delivery of the unit, Spartan Emergency Response will also include spare hardware and extra fasteners, paint for touch-up, information regarding washing and care procedures, as well as other recommendations for care and upkeep of the general apparatus.

Spartan will also supply a manufacturer's record of apparatus construction details, including the following information:

- Owner name and address
- Spartan, model and serial number
- Chassis make, model, and serial number
- GAWR of front and rear axles
- Front tire size and total rated capacity in pounds
- Rear tire size and total rated capacity in pounds
- Chassis weight distribution in pounds with water (if applicable) and Spartan ER mounted equipment (front and rear);
- Engine make, model, serial number, rated horsepower, and no load governed speed
- Type of fuel and fuel tank capacity
- Electrical system voltage and alternator output in amps
- Battery make and model, capacity in CCA
- Paint numbers
- Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall vehicle (with the water tank full (if applicable) but without personnel, equipment, and hose)
- Written load analysis and results of the electrical system performance tests
- Transmission make, model, and type
- Pump to drive through the transmission (yes or no)
- Engine to pump gear ratio and transmission gear ratio used
- Pump make and model, rated capacity in gallons per minute, serial number, and number of stages
- Pump manufacturer's certification of suction capability
- Pump manufacturer's certification of hydrostatic test
- Pump manufacturer's certification of inspection and test for the fire pump
- Copy of the apparatus manufacturer's approval for stationary pumping applications
- Pump transmission make, model and serial number
- Priming device type
- Type of pump pressure control system
- The engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum no load governed speed
- Certification of water tank capacity
- The certification of inspection and test for the aerial device
- All the technical information required for inspections to comply with (NFPA) 1911, Standard for Automotive Fire Apparatus and Standard for Testing Fire Department Aerial

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Devices.

ELECTRICAL SCHEMATICS

The apparatus manufacturer shall supply one (1) set(s) of "Generic" wiring schematics with each apparatus.

WARNING AND INFORMATION LABELS

All warning and informational labels (non-vendor specific) shall be provided in compliance with (NFPA) 1901, Standard for Automotive Fire Apparatus, and installed in the appropriate locations to alert the operator of potential hazards and operating instructions.

ONLINE CUSTOMER INTERACTION

Spartan shall provide the capability for online access through the Spartan Emergency Response website.

The fire department shall be able to view digital photos of their apparatus in the specified phases of construction.

The following phases will be captured and displayed:

- Chassis when available at manufacturing facility
 1. Body – Prior to Paint
 2. Body – Painted
 3. Pump and Plumbing
 4. Assembly – 80% Complete

LIABILITY INSURANCE COVERAGE

Spartan certificate of liability insurance coverage is included in this proposal, in the required amount of \$10 million.

GENERAL WARRANTY

A warranty shall be offered for each new fire apparatus manufactured by Spartan for a period of two (2) years from the date of delivery, except for a commercial chassis (if specified) and certain other components as noted in the next paragraph.

The warranty on the chassis, engine, transmission, tires, storage batteries, generators, electrical lamps and other devices subject to deterioration is limited to the warranty of the chassis manufacturer thereof and adjustments for the same are to be made directly with the chassis manufacturer.

This warranty is in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on our part.

We neither assume nor authorize any person to assume for us any liability in connection with the sales of our apparatus unless made in writing by Spartan.

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Please see the official warranty document in the appendix (attached) for specific details.

STRUCTURAL BODY WARRANTY

A structural Aluminum body warranty shall be provided by Spartan, 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.

Please see the official warranty document in the appendix (attached) for specific details.

PAINT WARRANTY

A Prorated Paint Warranty shall be provided by Spartan 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.

Please see the official warranty document in the appendix (attached) for specific details.

PUMP WARRANTY

Waterous Co shall provide a limited manufacturer's pump warranty with total protection package (TTP-5) to be free from defects in material and workmanship, under normal use and service, for a period of five (5) years from the date placed into service.

PLUMBING WARRANTY

A Stainless Steel Plumbing/Piping warranty will be provided by Spartan 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.

Please see the official warranty document in the appendix (attached) for specific details.

TANK WARRANTY

A lifetime tank warranty will be provided by the tank manufacturer, Pro Poly.

Please see the official warranty document in the appendix (attached) for specific details.

MULTI-PLEXED ELECTRICAL WARRANTY

A four (4) year limited (V-MUX) multiplex system warranty, of Weldon Technologies, Inc.; shall be provided by Spartan for parts and labor, while under normal use and service; against mechanical, electrical and physical defects from the date of installation.

The warranty shall exclude; sensors, shunt interface modules, serial or USB kits, transceivers, cameras, GPS, and electrical display screens, which shall be limited to a period of one (1) year repair parts and labor from the date of installation.

WARRANTY - AERIAL DEVICE

Spartan shall guarantee to the original purchaser to repair or replace any defective structural

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component resulting from faulty material or workmanship for a period of twenty (20) years after delivery of the aerial device to the purchaser. The warranty shall cover the aerial device weldments, open base, torque box and outrigger weldments.

To ensure sole source responsibility of the aerial device, the bidder shall clearly state its intention to warrant the aerial device, open base, torque box and outrigger weldments as these integral parts and components of the aerial device.

WARRANTY - HYDRAULIC CYLINDER STRUCTURAL

Spartan shall guarantee to the purchaser to repair or replace any defective or prematurely failed parts, resulting from structural defects or failures, for a period of five (5) years after delivery of the aerial device to the purchaser.

WARRANTY - TELESCOPIC WATERWAY ASSEMBLY

Spartan shall guarantee to the purchaser to repair or replace any defective or prematurely failed Telescopic Waterway Assembly, resulting from structural defects or failures, for a period of ten (10) years after delivery of the aerial device to the purchaser.

APPARATUS TEST BY UNDERWRITERS LABORATORIES, LLC

The following Apparatus shall comply with all (NFPA) 1901, Standard for Automotive Fire Apparatus, applicable regulations in effect as of the contract signing date. There shall be multiple tests performed by the contractor and Underwriter's Laboratories, LLC when the apparatus has been completed. The manufacturer shall furnish the completed Test Certificate(s) to the purchaser at time of delivery. Since the inspection services of Underwriters Laboratories, LLC are available to all bidders on an equal basis, no other third party testing service shall be acceptable. The tests conducted on the apparatus shall include, but not be limited to:

PUMP & PLUMBING PERFORMANCE TEST

The apparatus pump and plumbing system shall be tested and certified.

12 VOLT ELECTRICAL TEST

The apparatus low voltage electrical system shall be tested and certified.

AERIAL TESTING & CERTIFICATION

General

The following Apparatus shall comply with all (NFPA) 1901, Standard for Automotive Fire Apparatus, applicable regulations in effect as of the contract signing date. There shall be multiple tests performed by the contractor and Underwriter's Laboratories, LLC when the apparatus has been completed. The manufacturer shall furnish the completed Test Certificate(s) to the purchaser at time of delivery.

The apparatus upon completion will be tested and certified by Underwriters Laboratories, LLC. The certification tests will follow the guidelines outlined in (NFPA) 1901, Standard for Automotive Fire Apparatus, "Standard for Fire Apparatus".

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There shall be multiple tests performed by the contractor and Underwriter's Laboratories, LLC when the apparatus has been completed. The manufacturer shall provide the completed Test Certificate(s) to the purchaser at time of delivery. The inspection services of Underwriters Laboratories, LLC are available to all bidders on an equal basis; therefore, no third party testing service shall be acceptable.

Performance Testing

All work outlined in (NFPA) 1901, Standard for Automotive Fire Apparatus, including nondestructive testing, shall be conducted at the manufacturer's facility. In addition, the following test work, Certification Test sections of (NFPA) 1901, Standard for Automotive Fire Apparatus, shall be conducted.

1. 1-1/2:1 DYNAMIC STABILITY AND LIFT TEST - A test of the apparatus shall be performed that the aerial device sections are so designed and powered to support a load representing 150% of the manufacturer's rated tip load capacity at maximum horizontal reach on level ground. Since this is a dynamic test, the load must be raised, lowered and rotated without evidence of instability.

2. 1-1/3:1 DYNAMIC STABILITY AND LIFT TEST - A test of the apparatus shall be performed that the tip and aerial device sections are so designed and powered to support a load representing 133% of the manufacturer's rated tip load capacity at maximum horizontal reach on a five (5) degree slope. Since this is a dynamic test, the load must be raised, lowered and rotated without evidence of instability.

3. TIME TEST - A test of the apparatus shall be performed to raise the aerial device from a bedded position extended to full height and rotated through a 90 degree turn smoothly and without undue vibration in not over 120 seconds.

4. WATER TOWER TEST #1 - A test of the apparatus shall be performed to test its ability to discharge 1000 gallons per minute parallel to the aerial device with the unit at full extension and zero degree elevation. The unit shall be capable of performing this test while loaded to its rated tip load capacity.

5. WATER TOWER TEST #2 - A test of the apparatus shall be performed to test the ability to discharge 1000 gallons per minute, 90 to the aerial device while at full extension, zero degree elevation. The unit shall be capable of performing this test while loaded to its rated tip load capacity.

Bidders must state their ability to comply with all of the above tests. Failure to do so shall be grounds for rejection of their bid.

Written Examination and Test Report

A complete written Examination and Test Report for each aerial device inspection performed at the manufacturer's facility. The test report, as required by (NFPA) 1901, Standard for Automotive Fire Apparatus, shall include the following test results.

- a). Torque verification of all mounting bolts including bolt size, grade, and torque specification.
- b). The following NDT methods and results shall be recorded. All ferrous welds shall be magnetic particle inspected for defects. All nonferrous welds shall be visually inspected, and if questionable

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defects are identified, a penetrating dye shall be used to further evaluate the quality of the weld. All bolts and pins shall be ultrasonically inspected for internal flaws. A waterway pressure test shall be performed and a hydraulic oil sample taken.

c). The following measurements shall be taken and recorded in the examination and test record: bearing clearance and backlash, elevation cylinder drift, engine speed operating rpm, relief pressure, stabilizer extension cylinder drift, aerial device section twist, hardness readings, base rail thickness, winch drift, extension brake drift, and extension cylinder drift.

Personnel

The inspectors performing the test work on the units are certified to Level II in the required NDT methods, under the requirements outlined in ASNT document CP-189.

Aerial Apparatus Certification

When the unit successfully meets all the requirements outlined in (NFPA) 1901, Standard for Automotive Fire Apparatus, UL, LLC shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with (NFPA) 1901, Standard for Automotive Fire Apparatus.

FACTORY PRE-CONSTRUCTION CONFERENCE

The factory authorized Distributor shall be required, prior to manufacturing, to have a pre-construction conference at the manufacturing facility with a factory representative present and with One (1) individuals from the to finalize all construction details.

The factories authorized distributor shall, at his expense, provide transportation, lodging, and meals. Any distance greater than 200 miles shall be by commercial air travel.

MID-CONSTRUCTION INSPECTION CONFERENCE

The factory authorized Distributor shall be required, during manufacturing, to have a mid-construction conference at the site of the manufacturing facility with One (1) individuals from the to inspect the apparatus during construction.

The "Purchaser" shall designate the stage of construction at which the visit will be conducted.

The factories authorized distributor shall, at his expense, provide transportation, lodging, and meals. Any distance greater than 200 miles shall be by commercial air travel.

FINAL INSPECTION CONFERENCE

The factory authorized Distributor shall be required, during manufacturing, to have a final completion inspection conference at the site of the manufacturing facility with One (1) individuals from the to inspect the apparatus after construction.

The factories authorized distributor shall, at his expense, provide transportation, lodging, and meals. Any distance greater than 200 miles shall be by commercial air travel.

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AERIAL LADDER DEVICE DEMONSTRATION - (3) CONSECUTIVE DAYS

A factory trained and authorized instructor shall provide three (3) consecutive days of on-site classes after apparatus acceptance. Topics covered in the class shall include:

5. General familiarization and demonstration of aerial device
 - Aerial apparatus safety including a review of all safety devices, interlocks, and operational hazards
 - Positioning and locating the vehicle for safe operations
 - Chassis parking brakes and engagement of hydraulic system
 - Deployment of stabilization devices and use of ground pads
 - Operation of elevation, extension, and rotation of the aerial device
 - Operation of waterway, nozzle, and other firefighting devices of aerial device
 - Operation and use of breathing air system
 - Specific aerial device maintenance and service areas for operators
 - Shutdown and return to service operations
 - Operation of tip controls and platform controls if equipped

Classes shall consist of presentations as well as hands-on demonstration.

PUMP & APPARATUS TRAINING

The training course shall cover the operation and preventative maintenance of all components of the apparatus called for in the specifications, specifically covering nomenclature of components, proper operation of the apparatus, daily operational maintenance checks, and other information necessary for a firefighter/driver/engineer to properly operate and maintain the apparatus.

It is intended that this training is organized in such a manner that both the mechanics and fire personnel receive the full benefit of the structured training. The firefighter/operator training shall be conducted within one week after the vehicle is fully accepted and readied for service by the "Purchaser" or at a time mutually agreed upon by the "Purchaser" and "Supplier".

MAXIMUM OVERALL LENGTH REQUIREMENT

The apparatus specified shall be constructed as detailed and shall NOT exceed a maximum overall length of 564 inches.

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MAXIMUM OVERALL HEIGHT REQUIREMENT

The apparatus specified shall be constructed as detailed and shall NOT exceed a maximum overall height of 131 inches.

MAXIMUM OVERALL WIDTH

The apparatus specified shall be constructed as detailed and shall NOT exceed a Maximum Overall Width of One Hundred (100") inches.

This dimension shall include the primary construction of the apparatus body and chassis cab. Any peripheral items shall not be incorporated into this measurement.

The items included, but not limited to, are: Rub Rails, Fenderettes, Mirrors, Lights, Handrails, Front Bumpers, Cab Steps, Overlays, Etc.

MAXIMUM WHEELBASE REQUIREMENT

The apparatus specified shall be constructed with no restrictions to the maximum wheelbase.

MODEL

The chassis shall be a Gladiator model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2021 model year.

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. Spartan Chassis is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from Spartan Chassis or their OEM needed to be in compliance with those regulations.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English. All applicable caution, warning, and safety notice labels shall be Innovative Controls brand. Where applicable to the location within the specific layout and label package of the cab and chassis, the labels shall include decorative chrome bezels. Designs shall include bezels that fit individual labels or packaged configurations of labels in certain common locations.

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The following labels shall be Innovative Controls brand, each including a decorative chrome bezel (where applicable):

- Shoreline
- Aerial Stowed
- Aerial Breakers 2
- Air Conditioner
- Cab Tilt Plate
- Air Compressor Breaker
- Battery Conditioner Breaker
- Helmet Caution
- Horn Tag
- Q2B Tag
- Load Center Plate
- Not a Step Label
- Occupancy Tag
- Do Not Move
- Occupants Must Be Seated
- Do Not Stand
- Danger Do Not Weld
- Danger--Untrained Operator
- Def Tag, including any additional labels selected in the 2907- subcat
- Battery Direct
- Kneeling
- IFS Air Fault
- Engine Brake
- Retarder
- LR 100 Amp Node
- 300 Amp EPU
- 100 Amp Front O/R Node
- 100 Amp T/T Node
- 100 Amp RR O/R Node
- 10 Amp EPU
- Master Power
- 12 Volt Power
- Aerial Hours
- Pump In Drive

Windshield Washer Fluid

APPARATUS TYPE

The apparatus shall be a Quint vehicle designed for emergency service use. The apparatus shall include a permanently mounted fire pump which has a minimum rated capacity of 750 gallons per minute (3000 L/min), a water tank, a hose storage area, a mid mount aerial ladder or elevating platform with a permanently mounted waterway, and compliment of ground ladders.

MID MOUNT AERIAL DEVICE TYPE

The chassis shall be configured for a mid-frame section mounted elevating ladder to Ladder Tower Company device model specifications.

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VEHICLE TYPE

The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.

VEHICLE ANGLE OF APPROACH PACKAGE

The angle of approach of the apparatus shall be a minimum of 8.00 degrees.

NFPA1901 Angle of Approach definition:

“To determine the angle of approach, place a thin steel strip against the front of the tires where they touch the ground or stretch a tight string from one front tire to the other at the front where they touch the ground. Determine the lowest point (component or equipment) on the vehicle forward of the front tire that would make the smallest angle of approach. Hang a plumb bob from the lowest point and mark the point on the ground where the point of the plumb bob touches. Measure the vertical distance from the ground to the point where the plumb bob was hung (distance V). Measure the horizontal distance from the plumb bob point to the steel strip or string running from front tire to front tire (distance H). Divide the vertical distance by the horizontal distance. The ratio of V/H is the tangent of the angle of approach. If the ratio is known, the angle of approach can be determined from a table of trigonometric functions of angles or from a math calculator. The standard requires a minimum angle of approach of 8.00 degrees: since the tangent of 8.00 degrees is 0.1405, if V divided by H is 0.1405 or larger, the angle of approach is 8.00 degrees or greater.”

AXLE CONFIGURATION

The chassis shall feature a 6 x 4 axle configuration consisting of a tandem rear drive axle set with a single front steer axle.

GROSS AXLE WEIGHT RATINGS FRONT

The front gross axle weight rating (GAWR) of the chassis shall be 24,000 pounds.

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 62,000 pounds.

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

PUMP PROVISION

The chassis shall include provisions to mount a drive line pump in the middle of the chassis, behind the cab, more commonly known as the midship location. Chassis driveline pump provisions shall include an interlock feature for automatic setting of the park brake when the vehicle is shifted into pump mode while the transmission is in neutral and the transmission output speed translates to less than 1 mph. When the conditions are met the driver side parking

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brake valve shall activate. Once shifted to road mode the condition for electric automatic brake engagement is no longer present and the driver's parking brake control valve shall function normally.

WATER & FOAM TANK CAPACITY

The chassis shall include a carrying capacity of up to 750 gallons (2839 liters). The water and/or foam tank(s) shall be supplied and installed by the apparatus manufacturer.

CAB STYLE

The cab shall be a custom, fully enclosed, EMFD model with a flat roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to eight (8) seating positions.

The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.

The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.

All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.

The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and roof skin shall be 0.13 inch thick; the rear wall skin shall be 0.09 inch thick; the front cab structure shall be 0.19 inch thick.

The exterior width of the cab shall be 99.40 inches wide with a minimum interior width of 91.00 inches. The overall cab length shall be 137.10 inches with 60.00 inches from the centerline of the front of the axle to the back of the cab.

The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

The cab shall offer an interior height of 57.50 inches from the front floor to the headliner and a rear floor to headliner height of 55.00 inches at a minimum. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of

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55.88 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 51.00 inches high, from the cab floor to the top of the door opening.

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.

The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.

The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.

OCCUPANT PROTECTION

The vehicle shall include the Advanced Protection System™ (APS) which shall secure belted occupants and increase the survivable space within the cab. The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The system components shall include:

- Driver steering wheel airbag
- Driver dual knee air bags (patent pending) with energy management mounting (patent pending) and officer knee airbag.
- Large driver, officer, and crew area side curtain airbags
- APS advanced seat belt system - retractor pre-tensioners tighten the seat belts around the occupants, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries
- Heavy truck Restraints Control Module (RCM) - receives inputs from the outboard sensors, selectively deploys APS systems, and records sensory inputs immediately before and during a detected qualifying event

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- Integrated outboard crash sensors mounted at the perimeter of the vehicle - detects a qualifying front or side impact event and monitors and communicates vehicle status and real time diagnostics of all critical subsystems to the RCM
- Fault-indicating Supplemental Restraint System (SRS) light on the driver's instrument panel

Frontal impact protection shall be provided by the outboard sensors and the RCM. In a qualifying front impact event the outboard sensors provide inputs to the RCM. The RCM activates the steering wheel airbag, driver side dual knee airbags (patent pending), officer side knee airbag, and advanced seat belts for each occupant in the cab.

Rollover, side impact, and ejection mitigation shall be provided by the outboard sensors and the RCM. In qualifying rollover or side impact events the outboard sensors provide inputs to the RCM. The RCM activates the side curtain airbags and advanced seat belts for each occupant in the cab. The RCM measures roll angle, lateral acceleration, and roll rate to determine if a rollover event or side impact event is imminent or occurring.

In the event of a qualifying offset or other non-frontal impact, the RCM shall determine and intelligently deploy the front impact protection system, the side impact protection system, or both front and side impact protection systems based on the inputs received from the outboard crash sensors.

CAB FRONT FASCIA

The front cab fascia shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate which shall be an integral part of the cab.

The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab and shall be the "Classic" design.

The front cab fascia shall include two (2) molded plastic modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated molded plastic bezel shall be provided on each side around each set of four lamps.

FRONT GRILLE

The front cab fascia shall include a classic box style, 304 stainless steel front grille. The grille shall measure 55.45 wide X 33.50 inches high X 1.50 inches deep. The upper portion of the grille shall be hinged to provide service access behind the grille. The grille shall include a minimum free air intake of 750.00 square inches.

CAB UNDERCOAT

There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

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CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.

CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper followed by sealing the seams with SEM brand seam sealer.

The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils. The entire cab shall then be baked at 180 degrees for one (1) hour to speed the curing process of the coatings.

CAB PAINT MANUFACTURER

The cab shall be painted with PPG Industries paint.

CAB PAINT PRIMARY/LOWER COLOR

The primary/lower paint color shall be:

CAB PAINT WARRANTY

The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for ten (10) years from the first owner's date of purchase or in service or the first 100,000 actual miles, whichever occurs first.

The warranty details can be found in the chassis warranty document.

CAB PAINT INTERIOR

The visible interior cab structure surfaces shall feature a medium gray Spar-Liner spray on bedliner coating which shall mold to each surface of the cab interior. The Spar-Liner shall be environmentally friendly and chemically resistant.

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CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.

CAB ENTRY DOOR TYPE

All cab entry doors shall be barrier clear design resulting in exposed lower cab steps. The doors shall provide approximately 32.00 inches of clearance from the ground to the bottom of the door so cab doors may be opened un-hindered by most obstacles encountered, such as guard rails along interstate highways.

Entry doors shall include Pollak mechanical plunger style switches for electrical component activation.

CAB INSULATION

The cab ceiling and walls shall include 1.00 inch thick foam insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

LH MID EMS COMPARTMENT

The cab shall include a compartment located in the middle of the wall above the left side wheel well. This compartment shall measure 17.00 inches wide X 43.00 inches high X 23.00 inches deep.

LH MID EMS EXTERIOR ACCESS

The cab shall include a hinged box pan door featuring a full length stainless steel piano style hinge and a bright aluminum tread plate inner panel located in the middle of the wall above the left side wheel well. The compartment shall have a clear door opening of 15.00 inches wide X 40.00 inches high.

LH MID EMS COMPARTMENT INTERIOR

The cab compartment located in the middle of the wall above the left side wheel well shall include solid aluminum walls with an interior access point rear facing. This compartment shall be finished to customer specification.

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LH MID EMS COMPARTMENT INTERIOR ACCESS

The left hand EMS compartment shall include access from inside the cab. The compartment shall be accessible from the inside of the cab via a cutout. The interior access provision shall feature a clear opening of 15.00 inches wide and as tall as possible in the available customer specified right EMS compartment height and access point.

LH MID EMS COMPARTMENT INTERIOR SHELVING

The left hand mid EMS compartment located in crew area of the cab shall include one (1) aluminum shelf which shall be secured using Unistrut channel on two (2) sides of the interior walls of the compartment. The shelf shall include a 1.00 inch lip around the edges. The shelf shall be finished the same as the interior of the compartment.

LH MID EMS COMPARTMENT DOOR HARDWARE

The left side EMS compartment door shall include a locking bent D-ring slam latch installed in the lower latch side of the door. There shall be a switch to activate the open compartment warning light in the cab in the event the door is left ajar.

RH MID EMS COMPARTMENT

The cab shall include a compartment located in the middle of the wall above the right side wheel well. This compartment shall measure 17.00 inches wide X 43.00 inches high X 23.00 inches deep.

RH MID EMS EXTERIOR ACCESS

The cab shall include a hinged box pan door featuring a full length stainless steel piano style hinge and a bright aluminum tread plate inner panel located in the middle of the wall above the right side wheel well. The compartment shall have a clear door opening of 15.00 inches wide X 40.00 inches high.

RH MID EMS COMPARTMENT INTERIOR

The cab compartment located in the middle of the wall above the right side wheel well shall include solid aluminum walls with an interior access point rear facing. This compartment shall be finished to customer specification.

RH MID EMS COMPARTMENT INTERIOR ACCESS

The right hand EMS compartment shall include access from inside the cab. The compartment shall be accessible from the inside of the cab via a cutout. The interior access provision shall feature a clear opening of 15.00 inches wide and as tall as possible in the available customer specified right EMS compartment height and access point.

RH MID EMS COMPARTMENT INTERIOR SHELVING

The right hand mid EMS compartment located in crew area of the cab shall include one (1) aluminum shelf which shall be secured using Unistrut channel on two (2) sides of the interior

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walls of the compartment. The shelf shall include a 1.00 inch lip around the edges. The shelf shall be finished the same as the interior of the compartment.

RH MID EMS COMPARTMENT DOOR HARDWARE

The right side EMS compartment door shall include a locking bent D-ring slam latch. There shall be a switch to activate the open compartment warning light in the cab in the event the door is left ajar.

MID EMS COMPARTMENT LIGHTING

The interior portion of each of the mid EMS compartments shall include compartment door activated LED lighting to illuminate all usable surfaces within each compartment.

MID EMS COMPARTMENT EXTERIOR FINISH

The EMS compartment exterior shall feature a medium gray Spar-Liner spray on bedliner coating.

MID EMS COMPARTMENT INTERIOR FINISH

The EMS compartment interior shall feature a medium gray Spar-Liner spray on bedliner coating.

CAB STRUCTURAL WARRANTY

Summary of Warranty Terms:

THE FOLLOWING IS SUMMARY OF WARRANTY TERMS FOR INFORMATION ONLY. THE ACTUAL LIMITED WARRANTY DOCUMENT, CAN BE FOUND IN THE CHASSIS WARRANTY DOCUMENT, CONTAINS THE COMPLETE STATEMENT OF THE SPARTAN MOTORS USA LIMITED WARRANTY. SPARTAN'S RESPONSIBILITY IS TO BE ACCORDING TO THE TERMS OF THE COMPLETE LIMITED WARRANTY DOCUMENT.

The cab structure shall be warranted for a period of ten (10) years or one hundred thousand (100,000) miles which ever may occur first. The warranty period shall commence on the date the vehicle is delivered to the first end user.

CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks, Section 5 of SAE J2422 Cab Roof Strength Evaluation Quasi –Static Loading Heavy Trucks and ECE R29 Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

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ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

OEM WIRING

A custom wiring interface and harness shall be provided and designed to meet the requirements provided by the apparatus manufacturer. This shall include the following circuits/features:

- Remote engine start circuit shall be provided to activate the engine starter solenoid from the aerial apparatus and shall utilize existing cab starter interlocks. The input for starter activation shall be provided and programmed by the apparatus manufacturer through the Weldon V-mux system.
- Remote engine stop circuit shall be provided to shut down the chassis engine from the aerial apparatus. The input for chassis engine shutdown shall be provided and programmed by the apparatus manufacturer through the Weldon V-mux system.
- Additional master power circuit located at apparatus manufacturer chassis interface connector at least 12 gauge in size and capable of supplying 20 amps.
- Additional communication connection for Weldon V-Mux multiplex system shall be provided and located near the apparatus manufacturer chassis interface connector.
- Aerial PTO override SPST guarded toggle switch located in the driver's diagnostic panel and labeled "Aerial PTO Override". When activated, the switch will override standard PTO interlocks and supply direct power to the aerial PTO solenoid for emergency activation.

The custom chassis harness shall also include additional inputs/outputs for Pump Engaged, Marker Lights, Neutral, Park Brake, Aerial Warning Lights, PTO Request, PTO Enable (input), PTO Enable (output), Open Door Beacon, and High Idle.

APPARATUS WIRING PROVISION

An apparatus wiring panel shall be installed in the center dash area behind the rocker switch panel which shall include eight (8) open circuits consisting of three (3) 20 amp, one (1) 30 amp, three (3) 10 amp, and one (1) 15 amp circuit, with relays and breakers with trigger wires which shall be routed to the rocker switch panel.

MULTIPLEX DISPLAY

The multiplex electrical system shall include a Weldon Vista IV display which shall be located on the left side of the dash in the switch panel. The Vista IV shall feature a full color LCD display screen which includes a message bar displaying the time of day and important messages

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requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be eight (8) push button virtual controls, four (4) on each side of the display for the on-board diagnostics. The display screen shall be video ready for back-up cameras, thermal cameras, and DVD.

The Vista IV display shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.

LOAD MANAGEMENT SYSTEM

The apparatus load management shall be performed by the included multiplex system. The multiplex system shall also feature the priority of sequences and shall shed electrical loads based on the priority list specifically programmed.

DATA RECORDING SYSTEM

The chassis shall have a Weldon Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:

- Vehicle Speed
- Acceleration
- Deceleration
- Engine Speed
- Engine Throttle Position
- ABS Event
- Seat Occupied Status
- Seat Belt Status
- Master Optical Warning Device Switch Position
- Time
- Date

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system.

ACCESSORY POWER

The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud. A 225 amp battery direct power and ground stud shall be provided and installed on the chassis near the left hand battery box for OEM body connections.

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AUXILIARY ACCESSORY POWER

An auxiliary set of power and ground studs with supporting battery cables shall be provided at the apparatus interface location on the chassis transmission cross member location and labeled "Aerial EPU". The studs and battery cables shall be capable of supplying 600 amps and be wired battery direct.

ADDITIONAL ACCESSORY POWER

An additional six (6) position Blue Sea Systems 5025 blade type fuse panel shall be installed behind the switch panel. The fuse panel shall be protected by a 60 amp fuse located behind the switch panel. The panel shall be capable of carrying up to a maximum 60 amp ignition switched load.

EXTRA ACCESSORY POWER

An extra ten (10) position blade type fuse panel shall be installed behind the driver's seat. The fuse panel shall be protected by a 40 amp fuse.

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.

ENGINE

The chassis engine shall be a Cummins X15 engine. The X15 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 600 horsepower at 1800 RPM and shall be governed at 2100 RPM. The torque rating shall feature 1850 foot pounds of torque at 1200 RPM with 912 cubic inches (14.9 liter) of displacement.

The X15 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2017 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent 15W40 CK-4 low ash engine oil which shall be utilized for proper engine lubrication.

A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade 0.19 of an inch thick aluminum alloy plate. The tunnel shall be a maximum of 46.50 inches wide X 29.00 inches high.

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DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with a virtual Vista button and an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the engine is running and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the Vista display and control screen for the high idle speed control.

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

The engine shall include programming which will govern the top speed of the vehicle.

AUXILIARY ENGINE BRAKE

A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.

The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.

AUXILIARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:

- A valid gear ratio is detected.
- The driver has requested or enabled engine compression brake operation.
- The throttle is at a minimum engine speed position.
- The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift.

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The compression brake shall be controlled via an off/low/high virtual button through the Vista display and control screen. The engine brake system shall default to be on and set to high when the vehicle is started.

FLUID FILLS

The front of the chassis shall accommodate fluid fill for the engine oil through the grille. This area shall also accommodate a check for the engine oil. The transmission, power steering, and coolant fluid fills and checks shall be under the cab. The windshield washer fill shall be accessible through the front left side mid step.

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

ENGINE WARRANTY

The Cummins engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

REMOTE THROTTLE CONTROL

A Fire Research In Control 400 pressure sensor governor shall be provided for the electronic engine. It shall include a remote mountable control head.

The In Control shall regulate the pump pressure and monitor all essential engine parameters.

LED readouts shall display RPM, PSI, pump discharge and intake pressure, engine oil pressure, engine temperature, transmission temperature and battery voltage. An audible alarm output shall also be part of the system.

The rpm increase and decrease will be controlled by control knob on the face of the In Control 400.

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail behind the cab for reconnection by the apparatus builder. The harness shall contain connectors for a Fire Research In Control 300/400 pressure governor and a multiplexed gauge. Separate circuits shall be included for pump controls, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light. The harness shall contain interlocks that will prevent shifting to road or pump mode unless the transmission output speed translates to less than 1 mph and the transmission is in neutral. The shift to pump mode shall also require the park brake be set. The harness shall be designed for a side mount pump panel.

An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits,

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governor/hand throttle controls and dash display which shall incorporate "Pump Engaged" and "OK to Pump" indicator lights. The harness shall contain circuits for the apparatus builder to wire in a pump switch.

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 700 rpm.

ENGINE AIR INTAKE

The engine air intake system shall include an ember separator. This ember separator shall be designed to protect the downstream air filter from embers using a combination of unique flat and crimped metal screens packaged in a heavy duty galvanized steel frame. This multilayered screen shall trap embers and allow them to burn out before passing through the pack.

The engine air intake system shall also include an air cleaner mounted above the radiator. This air cleaner shall utilize a replaceable dry type filter element designed to prevent dust and debris from being ingested into the engine. A service cover shall be provided on the housing, reducing the chance of contaminating the air intake system during air filter service.

The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled, Horton clutched type fan drive.

When the clutched fan is disengaged it shall facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure. The fan speed shall be electronically programmed to vary through thermostatic control to run as efficiently and quietly as required to maintain temperature.

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

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The cooling system shall be comprised of a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.

The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

The cooling system shall include a one piece injected molded polymer fan with a three (3) piece fiberglass fan shroud.

The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and rearward oriented sight glass to observe coolant in the system. A cold fill and observation line shall be included within the frame mounted translucent recovery bottle to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements and allows for expansion and recovery of coolant into a separate integral expansion chamber.

All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.

The radiator and charge air cooler shall be removable through the bottom of the chassis.

ENGINE COOLING SYSTEM PROTECTION

The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame components.

ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

ENGINE COOLANT FILTER

An engine coolant filter with a shut-off valve for the inlet and outlet shall be installed on the chassis. The location of the filter shall allow for easy maintenance.

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Proposals offering engines equipped with coolant filters shall be supplied with standard non-chemical type particulate filters.

ELECTRONIC COOLANT LEVEL INDICATOR

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

COOLANT HOSES

The cooling systems hose shall be formed silicone hose and formed aluminized steel tubing and include stainless steel constant torque band clamps.

ENGINE COOLANT OVERFLOW BOTTLE

A remote engine coolant overflow expansion bottle shall be provided in the case of over filling the coolant system. The overflow bottle shall capture the expansion fluid or overfill rather than allow the fluid to drain on the ground.

ENGINE EXHAUST SYSTEM

The exhaust system shall include an end-in end-out horizontally mounted single module after treatment device, and downpipe from the charge air cooled turbo. The single module shall include four temperature sensors, diesel particulate filter (DPF), urea dosing module (UL2), and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be mixed and injected into the system through the DPF and SCR.

The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.

The single module after treatment through the end of the tailpipe shall be connected with zero leak clamps. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.

The exhaust system after treatment module shall be mounted below the frame in the outboard position.

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DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.

The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.

The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.

ENGINE EXHAUST ACCESSORIES

An exhaust temperature mitigation device shall be shipped loose for installation by the body manufacturer on the vehicle. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.

ENGINE EXHAUST WRAP

The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.

TRANSMISSION

The drive train shall include an Allison model EVS 4000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

The transmission shall include two (2) internal oil filters which shall offer Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

The transmission gear ratios shall be:

1st	3.51:1
2nd	1.91:1
3rd	1.43:1
4th	1.00:1
5th	0.74:1
6th	0.64:1 (if applicable)
Rev	4.80:1

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.

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TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.

This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>
Inputs		
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
Outputs		
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103

ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.

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TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

LH PTO

A Spartan supplied ten (10) bolt standard duty clutched drive PTO shall be installed on the transmission. Installation shall include mounting of the PTO and wiring the unit with a control switch.

LH PTO MODEL

A ten (10) bolt Chelsea model 280-GGFJP-B5RK heavy duty transmission driven PTO shall be installed. The clutched shifted PTO is designed specifically for the Allison world transmission and provides an intermittent and continuous torque rating of 360 lb. ft.

PTO LOCATION

The transmission shall have two (2) power take off (PTO) mounting locations, one (1) in the 8:00 o'clock position and one (1) in the 1:00 o'clock position.

LH PTO CONTROL

The left hand power take off shall be controlled by the transmission. It will use a virtual button on the Vista display and control screen with text messages. Disable is displayed when switch is off. Enable is displayed when the switch is turned on. Active is displayed when the switch is on with positive engagement of the power take off.

Required operating conditions for enabling this function are:

- Throttle position is low
- Engine speed is within customer specified constant limits
- Transmission output speed is within customer specified constant limits

Park brake set

PTO PROGRAMMING

The power take off shall be programmed for operator control such that it shall only engage at or below 900 engine RPM and a transmission output speed of 250 RPM. The PTO shall operate

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in a range up to 4000 engine RPM or a transmission output speed of 5000 RPM. The PTO programming shall provide for automatic disengagement set at a specified engine speed of 4000 RPM, or transmission output speed of 5000 RPM. The range shall be programmed to protect equipment driven from the power take off.

DRIVELINE

All drivelines shall be heavy duty metal tube and equipped with MSI 1810 series universal joints for the main drivelines, and 1710 series for the inter-axle shaft. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat®. The drivelines shall include Meritor brand u-joints with thrust washers.

MIDSHIP PUMP / GEARBOX

A temporary jackshaft driveline shall be installed by the chassis manufacturer to accommodate the mid-ship split shaft pump as specified by the apparatus manufacturer. Holes shall be provided in the frame as specified by the OEM for mounting a Smeal aerial pump module.

See PDF for specific hole pattern.

MIDSHIP PUMP / GEARBOX MODEL

The midship pump/gearbox provisions shall be for a Waterous CSUC20 pump.

MIDSHIP PUMP GEARBOX DROP

The Waterous pump gearbox shall have a "B" (short) drop length.

MIDSHIP PUMP RATIO

The ratio for the midship pump shall be 2.27:1.

MIDSHIP PUMP LOCATION C/L SUCTION TO C/L REAR AXLE

The midship pump shall be located so the dimension from the centerline of the suction to the centerline of the rear axle is 160.00 inches.

PUMP SHIFT CONTROLS

One (1) air pump shift control panel shall be located on the left hand side of the engine tunnel, integrated with the shifter pod. The following shall be provided on the panel: a three (3) position control lever; an engraved PUMP ENGAGED identification light; and an engraved OK TO PUMP identification light. The pump shift control panel shall be black with a yellow border outline and shall include pump instructions. An instruction plate describing the transmission shift selector position used for pumping shall be provided and located so it can be read from the driver's position per NFPA 16.10.1.3. The road mode shall be selected when the control lever is in the forward position and pump mode shall be selected when the control lever is in the rearward position.

The control lever center position shall exhaust air from both pump and road sides of the pump gear box shift cylinder.

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PUMP SHIFT CONTROL PLUMBING

Air connections shall be provided from the air supply tank to the pump shift control valve and from the pump shift control valve to the frame mounted bracket. The frame mounted bracket shall include labeling identifying the pump and road connection points with threaded 0.25 inch NPT fittings on the solenoid for attaching the customer installed pump. The air supply shall be pressure protected from service brake system.

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Racor GreenMAX 6600R fuel filter/water separator as a primary filter. The fuel filter shall have a drain valve and a see-through cover to allow visual inspection of fuel and filter condition. The Racor 6600R shall meet engine requirements for particulate size, collection capacity, removal efficiency, and water removal efficiency. The filter shall be capable of handling a maximum flow rate of 150 gallons per hour.

A secondary fuel filter shall be included as approved by the engine manufacturer.

An instrument panel lamp and audible alarm which indicates when water is present in the fuel-water separator shall also be included.

FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be black textile braided lines which are reinforced with braided high tensile steel wire. The fuel lines shall be connected with reusable steel fittings.

FUEL SHUTOFF VALVE

There shall be two (2) fuel shutoff valves which shall be installed, one (1) in the fuel draw line at the primary fuel filter and one (1) in the fuel outlet line at the primary fuel filter to allow the fuel filters to be changed without loss of fuel to the fuel pump.

A third fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

FUEL COOLER

An aluminum cross flow air to fuel cooler shall be provided to lower fuel temperature allowing the vehicle to operate at higher ambient temperatures. The fuel cooler shall be located behind the rear axle raised up mounted to a cross member.

FUEL TANK

The fuel tank shall have a capacity of sixty-eight (68) gallons and shall measure 35.00 inches in width X 17.00 inches in height X 32.50 inches in length. The top corners of the tank shall be

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notched to allow the tank to be raised between the frame rails and the bottom rear portion of the tank shall kick up for an increased angle of departure for the chassis.

The baffled tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.

FUEL TANK MATERIAL AND FINISH

The fuel tank shall be constructed of 12 gauge aluminized steel. The exterior of the tank shall be powder coated black and then painted to match the frame components.

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 Method B, results to be 5B minimum. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794, results to be 5B minimum.

Any proposals offering painted fuel tanks with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

FUEL TANK STRAP MATERIAL

The fuel tank straps shall be constructed of ASTM A-36 steel. The fuel tank straps shall be powder coated black and then painted to match the frame components if possible.

FUEL TANK FILL PORT

The fuel tank fill ports shall be provided with two (2) left fill ports located one (1) in the forward position and one (1) in the rearward position and the right fill port located in the rearward position of the fuel tank.

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 8.00 feet of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

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FUEL TANK DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.

FRONT AXLE

The front axle shall include an independent front suspension (IFS) offering superior ride and improved handling.

The suspension shall utilize fully independent double wishbone arms with carrier and kingpin for optimized scrub radius. Air springs are tuned for ride and help reduce suspension weight. The IFS reduces turn radius with improved wheel cut over beam axles. The hydraulic damper shall feature rebound control to ensure the maximum load stability and superior driver comfort. The IFS system shall improve handling and offer better braking because of improved ground to tire ratio. This design shall allow for independent adjustment of the vehicle's alignment settings. The IFS shall include an auxiliary transverse leaf spring.

Proposals offering independent front axles comprised of torsion bar style suspensions shall not be considered.

FRONT AXLE WARRANTY

The front axle shall be warranted by Tuthill for three (3) years or 150,000 miles, which ever comes first. Details of the Tuthill warranty are provided on the PDF document attached to this option.

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.

FRONT SHOCK ABSORBERS

Two (2) Koni shock absorbers shall be provided and installed as part of the front suspension system. Each shock shall deliver improved road handling and durability.

FRONT SUSPENSION

The chassis shall include an independent front suspension (IFS) system. The known advantages of IFS systems can be improved handling and better braking due to the increase in tire surface to ground contact area. The suspension travel of the IFS shall be approximately 6.50 inches, providing 3.00 inches bounce and 3.50 inches rebound of the suspension. The IFS front axle shall be rated between 21,000 and 24,000 pounds.

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver's position. The steering wheel shall be covered with black polyurethane foam padding.

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The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

POWER STEERING PUMP

The hydraulic power steering pump shall be a TRW PS and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type. The power steering system shall include an oil to air passive cooler.

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle of 48-degrees to the left and right.

POWER STEERING GEAR

The power steering gear shall be a TRW model TAS 85/RCS 85.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to ensure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

REAR AXLE

The rear axle shall be a Meritor model RT-58-185 tandem drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 63,000 pounds.

The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.56 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.

The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

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REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for five (5) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

REAR AXLE DIFFERENTIAL CONTROL

The tandem axle chassis shall include an inter-axle differential lock which shall allow both axles to be engaged as drive axles. The inter-axle differential lock shall be controlled by a virtual button on the Vista display and control screen. The Vista display shall indicate when positive engagement of the inter-axle differential lock has occurred.

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 60 MPH +/-2 MPH at governed engine RPM.

REAR SUSPENSION

The tandem axle shall feature a Raydan Air-Link AL-600 air suspension. The Air-Link AL-600 shall feature a unique air ride and walking beam suspension design which combines a super smooth ride with durability. The suspension has only two (2) moving parts for long wear and low maintenance cost. The rear tandem suspension shall have 56.00 inch axle centers.

Dual air height control valves shall be installed to ensure equal frame height on both sides of the vehicle regardless of the load.

The rear suspension shall be run flat capable at reduced speeds.

The rear suspension capacity shall be rated at 54,000 to 62,000 pounds.

REAR SHOCK ABSORBERS

Shock absorbers shall be supplied by the suspension manufacturer and installed on the rear axle suspension.

SUSPENSION CONTROLS

The front suspension shall incorporate an air retention system which shall activate when the park brake is engaged. The air retention system shall retain air in the front suspension air bags when the chassis is raised off the ground by the aerial outriggers. There shall be an air retention system low pressure indicator within the driver's instrumentation panel.

The rear suspension shall incorporate a kneeling feature which, when activated, will deplete the air in the air bag to lower the chassis.

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The kneeling system shall have a rocker switch temporarily mounted at the rear of the chassis with a park brake interlock and an instrument panel mounted red indicator lamp, which shall illuminate when the system is activated.

TIRE INTERMITTENT SERVICE RATING

The chassis shall be rated using Intermittent Service ratings provided to the emergency vehicle market by the tire manufacturers as the basis for determining the maximum vehicle load and speed.

FRONT TIRE

The front tires shall be Goodyear 425/65R-22.5 20PR "L" tubeless radial G296 MSA mixed service tread.

The front tire stamped load capacity shall be 22,800 pounds per axle with a nominal speed rating of 68 miles per hour when properly inflated to 120 pounds per square inch.

The Goodyear Intermittent Service Rating maximum load capacity shall be 24,400 pounds per axle with a speed rating of 68 miles per hour when properly inflated to 120 pounds per square inch.

The Goodyear Intermittent Service Rating maximum speed capacity shall be 22,800 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Goodyear Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR TIRE

The rear tires shall be Goodyear 315/80R-22.5 20PR "L" tubeless radial G291 highway tread.

The rear tire stamped load capacity shall be 33,080 pounds per axle with a nominal speed rating of 68 miles per hour when properly inflated to 130 pounds per square inch.

The Goodyear Intermittent Service Rating maximum load capacity shall be 35,400 pounds per axle with a speed rating of 68 miles per hour when properly inflated to 130 pounds per square inch.

The Goodyear Intermittent Service Rating maximum speed capacity shall be 33,080 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 130 pounds per square inch.

The Goodyear Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

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REAR AXLE RATIO

The rear axle ratio shall be 5.38:1.

TIRE PRESSURE INDICATOR

There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.

FRONT WHEEL

The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch LvL One™ polished aluminum wheels. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts. The wheels shall feature one-piece forged strength and shall include Alcoa's Dura-Bright® finish with XBR technology as an integral part of the wheel surface. Alcoa Dura-Bright® wheels keep their shine without polishing. Brake dust, grime and road debris are easily removed by simply cleaning the wheels with soap and water.

REAR WHEEL

The rear wheels shall be Alcoa hub piloted, heavy duty, 22.50 inch X 9.00 inch LvL One™ polished aluminum wheels with Alcoa Dura-Bright® wheel treatment with XBR® technology as an integral part of the wheel. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

BALANCE WHEELS AND TIRES

All of the wheels and tires, including any spare wheels and tire assemblies, shall include Counteract brand balancing beads.

WHEEL TRIM

The front wheels shall include stainless steel lug nut covers and stainless steel baby moons shipped loose with the chassis for installation by the apparatus builder. The baby moons shall have cutouts for oil seal viewing when applicable.

The rear wheels shall include stainless steel lug nut covers and band mounted spring clip stainless steel high hats shipped loose with the chassis for installation by the apparatus builder.

The lug nut covers, baby moons, and high hats shall be RealWheels® brand constructed of 304L grade, non-corrosive stainless steel with a mirror finish. Each wheel trim component shall meet D.O.T. certification.

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include, at a minimum, a three (3) air tank, four (4) reservoir system with a total of 6236 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application

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in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

The tandem rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

A six (6) sensor, six (6) modulator Anti-lock Braking System (ABS) shall be installed on the front and tandem rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the tandem rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

A virtual style switch shall be provided and properly labeled "mud/snow". When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.

The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle's motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle's lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

FRONT BRAKES

The front brakes shall be Knorr/Bremse SN7 disc brakes with 17.00 inch vented rotors.

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 8.63 inch S-cam drum type. The brakes shall feature a cast iron shoe.

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

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SUPPLEMENTAL BRAKE

A supplemental brake engagement shall be supplied that can only be engaged while the rear spring brakes are engaged. In addition to the mechanical rear brake engagement, the front service brakes shall also be engaged via air pressure, providing additional braking capability. Front service brake activation shall be accomplished with activation of the rear mechanical park brake valve.

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.

The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver. The control shall include a protective guard which shall prevent accidental activation of the parking brake and still allow proper actuation of the control.

REAR BRAKE SLACK ADJUSTERS

Gunite rear brake automatic slack adjusters shall be installed on the axle.

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer with an integral 100 watt heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be located on the right hand frame rail forward of the front wheel behind the right hand cab step.

FRONT BRAKE CHAMBERS

The front brakes shall be provided with type 24 brake chambers as supplied with the independent front suspension axle.

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/36 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.

AIR COMPRESSOR

The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

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AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket on the left frame rail behind the battery box.

AUXILIARY AIR RESERVOIR

One (1) auxiliary air reservoir with a 2084 cubic inch capacity shall be installed on the chassis to act as an additional reserve supply to the air system for air horn, air tool, or other non-service brake use. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

MOISTURE EJECTORS

Heated, automatic moisture ejectors with a manual drain provision shall be installed on all reservoirs of the air supply system. The manual drain provision shall include an actuation pull cable coiled and tied at each drain valve. The supplied cables when extended shall be sufficient in length to allow each drain to be activated from the side of the apparatus.

AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Brass compression type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

AIR INLET CONNECTION

A Kussmaul air automatic eject connection for the shoreline air inlet shall be supplied.

AIR INLET/ AUTO EJECT CONNECTION COVER

The air auto eject connection shall be red in color.

AIR INLET LOCATION

The air inlet shall be installed in the left hand side lower front step in the forward position.

AIR INLET/ OUTLET FITTING TYPE

The air connector supplied shall be a 0.25 inch size Tru-Flate Interchange style manual connection which is compatible with Milton 'T' style, Myers 0.25 inch Automotive style and Parker 0.25 inch 10 Series connectors.

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REAR AIR TANK MOUNTING

If a combination of wheelbase, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted perpendicular to frame.

WHEELBASE

The chassis wheelbase shall be 255.00 inches.

REAR OVERHANG

The chassis rear overhang shall be 100.00 inches.

FRAME

The forward section of the frame shall consist of double rails running parallel to each other with cross members forming a ladder style frame. The frame rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep upper and lower flanges X 0.38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and 0.38 inches thick. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. The forward section of the frame under the chassis cab shall have an overall width of 35.00 inches at the front suspension to provide vehicle stability. Any frame notching under the cab shall be by a plasma cutter. All relief areas shall be cut with a 2.00 inch radius at intersection points of cutouts with the edges ground smooth to prevent stress focal points.

The rear section of the frame shall feature a mid-mount torque box type frame assembly. The torque box frame shall be constructed to withstand the heavy requirements of the fire service vocation. The torque box frame shall be constructed of 14.00 inch X 4.00 inch steel tube and 0.375 inch steel plating. The steel tube shall meet requirements of ASTM A500; Grade B, and the plate material shall meet ASTM A572 standards. The top of the frame will remain free of fasteners. The front section of the frame shall be designed to support a set of stabilizers for use with the aerial device without damage or twisting of the frame rails.

The Resisting Bending Moment (RBM) shall be 10,055,500 in. lbs calculated at the center of the frame. The RBM of the frame under the cab shall be 3,213,100 in. lbs. The Section Modulus (SM) of the torque box frame shall be a minimum of 201.11 cubic inches. The section modulus of the frame under the cab shall be 29.21 cubic inches. The Section Modulus and Resisting Bending Moment of the frame rails shall be calculated using the "Radius Method" to provide geometrically accurate frame strength data.

Proposals calculating the frame strength using the "box method" shall not be considered.

Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.

A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The bolt heads shall

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be flanged type, held in place by distorted thread flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.

Any proposals not including additional reinforcement for each cross member shall not be considered.

The frame and cross members shall carry a lifetime warranty to the original purchaser. A copy of the frame warranty shall accompany the bid.

Proposals offering warranties for frames not including cross members shall not be considered.

FRAME WARRANTY

Summary of Warranty Terms:

THE FOLLOWING IS SUMMARY OF WARRANTY TERMS FOR INFORMATION ONLY. THE ACTUAL LIMITED WARRANTY DOCUMENT, CAN BE FOUND IN THE CHASSIS WARRANTY DOCUMENT, CONTAINS THE COMPLETE STATEMENT OF THE SPARTAN MOTORS USA LIMITED WARRANTY. SPARTAN'S RESPONSIBILITY IS TO BE ACCORDING TO THE TERMS OF THE COMPLETE LIMITED WARRANTY DOCUMENT.

The frame and cross members shall carry a limited lifetime warranty to the original purchaser. The warranty period shall commence on the date the vehicle is delivered to the first end user.

FRAME CLEAR AREA

The chassis frame shall be left clear of chassis mounted components inside or outside the frame rails within the first 30.00 inches behind the cab to allow space for OEM installed components. Cross members may be installed in the clear area if required for proper frame or driveline configuration.

FRAME PAINT

The frame rails shall be hot dip galvanized prior to assembly and attachment of any components. The components that shall be galvanized shall include:

- Main frame "C" channel or channels

The frame parts which are not galvanized shall be powder coated prior to any attachment of components. Parts which shall be powder coated shall include but are not limited to:

- Steering gear bracket
- Front splayed rails and fish plates
- Bumper extensions
- Cross members
- Cross member gussets
- Fuel tank mounting brackets
- Fuel tank straps (unless material/finish is specified in 3130 subcat)
- Air tanks (unless color coded tanks are specified in 3205 subcat)
- Air tank mounting brackets

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- Exhaust mounting brackets
- Air cleaner skid plate
- Radiator skid plate
- Battery supports, battery trays and battery covers

Other non-galvanized under carriage components which are received from the suppliers with coatings already applied shall include but are not limited to:

- Suspension components
- Front and rear axles

All powder coatings, primers and paint used on the non-galvanized components shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.

REAR MUD FLAP

The unit shall be equipped with a temporary wooden fender and mud flap assembly for transport to the body manufacturer.

FRAME PARTS

An aerial hydraulic PTO support bracket shall be mounted to the frame behind the battery box on the left hand side

FRONT BUMPER

The chassis shall be equipped with a severe duty front bumper constructed from structural steel channel. The bumper material shall be 0.38 thick ASTM A36 steel which shall measure 12.00 inches high with a 3.05 inch flange and shall be 104.50 inches wide with angled front corners.

The bumper shall be primed and painted as specified.

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended approximately 21.00 inches ahead of the cab.

FRONT BUMPER PAINT

The front bumper shall be painted the same as the lower cab color.

FRONT BUMPER APRON

The 21.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.

The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.

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MECHANICAL SIREN

The front bumper shall include an electromechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include a pedestal mount to surface mount on a horizontal surface.

MECHANICAL SIREN LOCATION

The siren shall be pedestal mounted on the bumper apron on the furthest outboard section of the bumper on the driver side.

AIR HORN

The chassis shall include two (2) Grover brand Stutter Tone air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish.

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper fascia between the frame rails in the right and left outboard positions.

AIR HORN RESERVOIR

One (1) air reservoir, with a 2084 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

ELECTRONIC SIREN SPEAKER

There shall be two (2) Whelen Engineering Inc. model SA315P, 100 watt speakers constructed of a nylon composite material provided. Each speaker shall measure 6.50 inches tall X 6.50 inches wide X 2.88 inches deep.

ELECTRONIC SIREN SPEAKER LOCATION

The two (2) electronic siren speakers shall be located on the front bumper face outboard of the frame rails with one (1) on the right side and one (1) on the left side in the outboard positions.

FIRE BELL

A chromed cast formed fireman's bell shall be installed on the front bumper. The bell shall include an eagle perched at the top and feature a polished chrome finish. The bell shall measure approximately 17.50 inches in height from the top of the eagle to the base of the bell.

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FIRE BELL LOCATION

The fire bell shall be pedestal mounted on the right side cab corner on a polished stainless steel bracket.

FRONT BUMPER TOW EYES

The bumper shall include two (2) chrome plated tow eyes shall be installed above the front bumper. The eyes shall be fabricated from 0.75 inch thick #1020 ASTM-A36 hot rolled steel. The inside diameter of the tow eye shall be 2.00 inches and shall include inside/outside chamfered edges.

TOW FORK PROVISION

Two (2) heavy duty steel towing forks shall be bolt-on to the underside of the frame flange and butted to the bottom frame with a fish plate joint. Each shall be shaped like an upside down "U" to act as a designated hookup point to accept a tow bar from a service vehicle without having to reach the front axle. The robust design shall allow a disabled vehicle to be lifted and towed without doing damage to the bumper or bumper mounted options. The provisions shall be mounted directly behind the cab tilt cross member to provide optimal vehicle stability while maintaining access for most heavy duty tow stingers.

CAB TILT SYSTEM

The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.

The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.

Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.

Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.

A steel safety channel assembly, painted safety yellow shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.

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CAB TILT AUXILIARY PUMP

A manual cab tilt pump module shall be attached to the cab tilt pump housing.

CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.

CAB TILT CONTROL RECEPTACLE

The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.

The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.

CAB TILT LOCK DOWN INDICATOR

The cab dash shall include a message located within the dual air pressure gauge which shall alert the driver when the cab is unlocked and ajar. The alert message shall cease to be displayed when the cab is in the fully lowered position and the hold down hooks are secured and locked to the cab mounts.

In addition to the alert message an audible alarm shall sound when the cab is unlocked and ajar and the parking brake is released.

CAB WINDSHIELD

The cab windshield shall have a surface area of 2969.88 square inches and be of a two (2) piece wraparound design for maximum visibility.

The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Each windshield shall be installed using black self-locking window rubber.

GLASS FRONT DOOR

The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

WINDCREST VOL FIRE DEPARTMENT

There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as “cozy glass” ahead of the front door roll down windows.

The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.

GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS REAR DOOR RH

The rear right hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

GLASS TINT REAR DOOR RIGHT HAND

The window located in the right hand side rear window shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS REAR DOOR LH

The rear left hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

GLASS TINT REAR DOOR LEFT HAND

The window located in the left hand side rear door shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

CLIMATE CONTROL

A ceiling mounted combination defroster and cabin heating and air conditioning system shall be located above the engine tunnel area. The system covers and plenums shall be of severe duty design made of aluminum which shall be coated with a customer specified interior paint. The design of the system's covers shall provide quick access to washable air intake filters as well as easy access to other serviceable items.

The air delivery plenums provide targeted airflow directly to the vehicle occupants. Six (6) adjustable louvers will provide comfort for the front seat occupants and ten (10) adjustable louvers will provide comfort for the rear crew occupants.

WINDCREST VOL FIRE DEPARTMENT

The system shall be capable of producing up to 12 FPM of air velocity at all occupant seating positions. Separate front and rear blower motors shall be of brushless design and shall be controlled independently. It shall be capable of reducing the interior cabin air temperature from 122° F (+/- 3° F) to 80° F in thirty minutes with 50% relative humidity and full solar load as described in SAE J2646.

The system shall also provide heater pull up performance which meets or exceeds the performance requirements of SAE J1612 as well as defrost performance that meets or exceeds the performance requirements of SAE J381.

A gravity drain system shall be provided that is capable of evacuating condensate from the vehicle while on a slope of up to a 13% grade in any direction.

The air conditioning system plumbing shall be a mixture of custom bent zinc coated steel fittings and Aeroquip flexible hose with Aeroquip EZ-Clip fittings.

The overhead heater/defroster plumbing shall include an electronic flow control valve that re-directs hot coolant away from the evaporator, via a bypass loop, as the temperature control is moved toward the cold position.

Any component which needs to be accessed to perform system troubleshooting shall be accessible by one person using basic hand tools. Regularly serviced items shall be replaceable by one person using basic hand tools.

*****Spartan Motors Inc. recommends that the overall climate system performance be based off third-party testing in accordance to Society of Automotive Engineering standards as a complete system.***

Individual component level BTU ratings is not an accurate indicator of the performance capability of the completed system. System individual component BTU ratings:

- Air conditioning evaporator total BTU/HR: 82,000
- Air conditioning condenser total BTU/HR: 59,000
- Heater coil total BTU/HR: 98,000

Performance data specified is based on testing performed by an independent third-party test facility using a medium four-door 10" Raised roof Gladiator chassis equipped with an ISL engine.

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

CLIMATE CONTROL ACTIVATION

The heating, defrosting and air conditioning controls shall be in the center dash center switch panel, in a position which is easily accessible to the driver. The climate control shall be activated by a rotary switch.

WINDCREST VOL FIRE DEPARTMENT

HVAC OVERHEAD COVER PAINT

The overhead HVAC cover shall be painted with a multi-tone silver gray texture finish.

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed on the center of the cab, mid-roof.

A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted compressor. The compressor shall be compatible with R134-a refrigerant.

*****Spartan Motors Inc. recommends that the overall climate system performance be based off third-party testing in accordance to Society of Automotive Engineering standards as a complete system.***

Individual component level ratings are not an accurate indicator of the performance capability of the completed system.

Refrigerant Compressor displacement: 19.1 cubic inches per revolution.

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

The engine tunnel insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The cab floor insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by acrylic pressure sensitive adhesive.

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.

WINDCREST VOL FIRE DEPARTMENT

INTERIOR TRIM

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with vinyl.

HEADER TRIM

The cab interior shall feature header trim over the driver and officer dash constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum.

TRIM CENTER DASH

The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation. The center dash electrical access cover shall include a gas cylinder stay which shall hold the cover open during maintenance.

TRIM LH DASH

The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.

TRIM RH DASH

The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.

POWER POINT DASH MOUNT

The cab interior shall include three (3) 12 volt cigarette lighter type receptacles in the cab dash switch panel to provide a power source for 12 volt electrical equipment. The receptacles shall be wired battery direct.

WINDCREST VOL FIRE DEPARTMENT

STEP TRIM

Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of SAE 304 stainless steel with embossed perforations and diamond shaped cutout. The perforations and cutouts shall allow water and other debris to flow through rather than becoming trapped within the stepping surface. The step shall feature a splash guard to reduce water and debris from splashing in to the step. The splash guard shall have drainage holes beneath the back of the step to allow debris and water to flow through rather than becoming trapped within the stepping surface. The stainless steel material shall have a number 8 mirror finish. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength. The middle step shall be integral with the cab construction and shall be trimmed in 0.08 inch thick 3003-H22 embossed aluminum tread plate.

STEP TRIM KICKPLATE

The cab steps shall include a kick plate in the rise of each step. The risers shall be trimmed in 3003-H22 bright aluminum tread-plate which is 0.07 inch thick.

UNDER CAB ACCESS DOOR

The cab shall include an access door in the left crew step riser constructed of aluminum tread plate with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.

INTERIOR DOOR TRIM

The interior trim on the doors of the cab shall consist of a two (2) piece panel constructed of SAE 304 stainless steel. The stainless steel shall have a brushed finish.

DOOR TRIM SCUFF PLATE

The trim along the door shall include a stainless steel scuff plate along the door jamb to prevent the chipping of paint should the seat belt buckle come in contact with the door jamb.

DOOR TRIM CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.

CAB DOOR TRIM REFLECTIVE

In accordance with the current standards of NFPA, the body builder shall provide 96.00 square inches of reflective material on the interior of each cab door.

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each "A" post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.

WINDCREST VOL FIRE DEPARTMENT

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish to assist personnel entering and exiting the cab.

INTERIOR GRAB HANDLE REAR DOOR

A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. The handle shall assist personnel in exiting and entering the cab.

INTERIOR SOFT TRIM COLOR

The cab interior soft trim surfaces shall be gray in color.

INTERIOR TRIM SUN VISOR

The header shall include two (2) 7.00 inches high X 18.00 inches wide impact resistant, transparent acrylic polycarbonate sun visors with a smoke gray tint shall be provided and installed on the header above the driver and officer.

The see thru visors are designed for maximum flexibility of positioning utilizing an arm with virtually unlimited adjustability with 13.50 inch long lateral travel of the tinted visor at the end of the arm which can be locked in place by a thumbscrew.

The visors are easily adjusted and can be placed into a chosen position with one hand. The sun visors will help protect vehicle occupants from solar glare without obscuring their vision.

INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be gray in color.

HEADER TRIM INTERIOR PAINT

The metal surfaces in the header area shall feature a medium gray Spar-Liner spray on bedliner coating.

TRIM CENTER DASH INTERIOR PAINT

The entire center dash and any accessory pods attached to the dash shall feature a medium gray Spar-Liner spray on bedliner coating.

TRIM LEFT HAND DASH INTERIOR PAINT

The left hand dash shall feature a medium gray Spar-Liner spray on bedliner coating.

TRIM RIGHT HAND DASH INTERIOR PAINT

The right hand dash shall feature a medium gray Spar-Liner spray on bedliner coating.

WINDCREST VOL FIRE DEPARTMENT

DASH PANEL GROUP

The main center dash area shall include three (3) aluminum removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The panels shall be coated with a black texture finish. The center panel shall be within comfortable reach of both the driver and officer.

SWITCHES CENTER PANEL

The center dash panel shall include no rocker switches or legends.

SWITCHES LEFT PANEL

The left dash panel shall include one (1) windshield wiper/washer control switch located in the left hand side of the panel. The switch shall have backlighting provided.

SWITCHES RIGHT PANEL

The right dash panel shall include six (6) rocker switch positions in a three (3) over three (3) switch configuration.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SEAT BELT WARNING

A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s), an indicator light in the instrument panel, and an audible alarm.

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and audible alarm shall remain active until all occupied seats have the seat belts fastened.

SEAT MATERIAL

The Bostrom Firefighter seats shall include a covering of extra high strength, wear resistant fabric made of durable Durawear Plus™ ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Durawear Plus™ meets or exceeds specification of the common trade name Imperial 1800. The material meets FMVSS 302 flammability requirements.

If applicable, Theatre style seats located in the cab shall be high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Common trade names for this material are Imperial 1200 and Durawear.

WINDCREST VOL FIRE DEPARTMENT

SEAT COLOR

All seats supplied with the chassis shall be gray in color. All seats shall include red seat belts.

SEAT BACK LOGO

The seat back shall include the "Spartan" logo. The logo shall be centered on the standard headrest of the seat back and on the left side of a split headrest.

SEAT DRIVER

The driver's seat shall be an H.O. Bostrom 400 Series Sierra model seat with air suspension. The four-way seat shall feature 3.00 inch vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat position shall include a three-point shoulder harness with lap belt and an automatic retractor attached to the cab. The buckle portion of the seat belt shall be mounted on a semi-rigid stalk extending from the seat base within easy reach of the occupant.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 37.00 inches measured with the seat suspension height adjusted to the upper limit of its travel.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK DRIVER

The driver's seat shall feature a two (2) way adjustable lumbar support and offer an infinite fully reclining adjustable titling seat back. The seat back shall also feature a contoured head rest.

SEAT MOUNTING DRIVER

The driver's seat shall be installed in an ergonomic position in relation to the cab dash.

OCCUPANT PROTECTION DRIVER

The driver's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

WINDCREST VOL FIRE DEPARTMENT

The driver's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the driver, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the driver's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the driver in a qualifying event by covering the window and the upper portion of the door.
- Dual knee airbags (patent pending) with energy management mounting (patent pending) - protects the driver's lower body from dangerous surface contact injuries, acceleration injuries, and from intrusion as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.

Steering wheel airbag - protects the driver's head, neck, and upper torso from contact injuries, acceleration injuries, and contact points with intrusive surfaces as a result of a collision.

SEAT OFFICER

The officer's seat shall be an H.O. Bostrom 400 Series Sierra model seat with air suspension. The four-way seat shall feature 3.00 inch vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat position shall include a three-point shoulder harness with lap belt and an automatic retractor attached to the cab. The buckle portion of the seat belt shall be mounted on a semi-rigid stalk extending from the seat base within easy reach of the occupant.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 37.00 inches measured with the seat suspension height adjusted to the upper limit of its travel.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK OFFICER

The officer's seat shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder

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diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING OFFICER

The officer's seat shall offer a special mounting position which is 2.00 inches rearward of the standard location offering increased leg room for the occupant.

OCCUPANT PROTECTION OFFICER

The officer's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The officer's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the officer, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the officer's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the officer in a qualifying event by covering the window and the upper portion of the door.

Knee airbags - protects the officer's lower body from dangerous surface contact injuries, acceleration injuries, and from contact points with intrusive surfaces as a result of a collision as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.

WINDCREST VOL FIRE DEPARTMENT

SEAT BELT ORIENTATION CREW

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

SEAT FORWARD FACING OUTER LOCATION

The crew area shall include one (1) forward facing outboard seat located directly behind the engine tunnel on the left side of the cab.

SEAT CREW FORWARD FACING OUTER

The crew area shall include a seat in the forward facing outer position which shall be a theatre style series. The seat shall feature a padded seat cushion which shall be hinged and attached to the wall providing optimum space savings. The seat shall remain in the stored position until occupied.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.

The buckle portion of the seat belt shall be mounted on a rigid or semi-rigid stalk such that the buckle remains positioned in an accessible location. The seat belt assembly anchorages shall conform to the Federal Safety Standard (FMVSS) No. 210, "Seat belt assembly anchorages".

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK FORWARD FACING OUTER

The crew area theatre style seating shall include a seat back pad in the forward facing outboard position which shall be attached to the rear wall. The seat back pad shall be 30.00 inches in height X 18.00 inches in width X 1.50 inches thick. The seat back pad shall be the same material and color as the seats.

SEAT MOUNTING FORWARD FACING OUTER

The forward facing outer seat shall be mounted in the furthest outboard position facing the front of the cab.

WINDCREST VOL FIRE DEPARTMENT

OCCUPANT PROTECTION FFO

The forward facing outer seat position(s) shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

Each forward facing outer seating position APS shall include:

- APS advanced seatbelt system - retractor pre-tensioners tighten the seat belts around each occupant, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.

Side curtain airbag - protects each occupant's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to each occupant in a qualifying event by covering the windows and walls adjacent to each seating position with an airbag custom designed for each cab configuration.

SEAT FORWARD FACING CENTER LOCATION

The crew area shall include two (2) forward facing center crew seats with both located at the center of the rear wall.

SEAT CREW FORWARD FACING CENTER

The forward facing center seat shall be a H.O. Bostrom 500 Series Firefighter model seat. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position. The seat and cushion shall be hinged and compact in design for additional room. The seat shall include a "Fold and Hold" feature so that the cushion shall remain in the seated position and simply touched to flip up.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the

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flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK FORWARD FACING CENTER

The forward facing center seat shall feature a SecureAll™ self-contained breathing apparatus (SCBA) locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

OCCUPANT PROTECTION FFC

The forward facing center seat position(s) shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

Each forward facing center seating position APS shall include:

- APS advanced seatbelt system - retractor pre-tensioners tighten the seat belts around each occupant, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.

Side curtain airbag - provides ejection mitigation protection to each occupant in a qualifying event by covering the windows and walls adjacent to crew seating with an airbag custom designed for each cab configuration.

SEAT FRAME FORWARD FACING

The forward facing center seating positions shall include an enclosed seat frame located and installed on the rear wall. The seat frame shall measure 42.38 inches wide X 12.38 inches high X 22.00 inches deep. The seat frame shall be constructed of Marine Grade 5052-H32 0.19 inch

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thick aluminum plate. The seat box shall be painted with the same color as the remaining interior.

SEAT FRAME FORWARD FACING STORAGE ACCESS

There shall be one (1) access point to the storage area centered on the front of the seat frame. This access point shall be covered by a hinged door to allow access for storage in the seat box.

SEAT MOUNTING FORWARD FACING CENTER

The forward facing center seats shall offer a special mounting. The seats shall be installed 6.00 inches apart offering additional room for each occupant.

CAB FRONT UNDERSEAT STORAGE ACCESS

The left and right under seat storage areas shall have a solid aluminum hinged door with non-locking latch.

SEAT COMPARTMENT DOOR FINISH

All underseat storage compartment access doors shall feature a medium gray Spar-Liner spray on bedliner coating.

WINDSHIELD WIPER SYSTEM

The cab shall include a triple arm linkage wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers; each shall be affixed to a radial arm. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position. The windshield wipers shall be interlocked with the park brake allowing activation only when the park brake is released.

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a "Check Washer Fluid Level" message.

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of aluminum with a chrome plated finish.

The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

WINDCREST VOL FIRE DEPARTMENT

DOOR LOCKS

Each cab entry door shall include a manually operated door lock. Each door lock may be actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door or by using a TriMark key from the exterior. The door locks are designed to prevent accidental lock out.

DOOR LOCK LH EMS COMPARTMENT

The left hand side EMS compartment shall feature a manual door lock.

DOOR LOCK RH EMS COMPARTMENT

The right hand side EMS compartment shall feature a manual door lock.

GRAB HANDLES

The cab shall include one (1) 18.00 inch three-piece knurled aluminum anti-slip exterior grab handle behind each cab door. The Hansen Lit Anti-Slip Rails shall be mounted in bright anodized aluminum 4000 Series II stanchions, complete with weep holes to prevent the buildup of moisture.

The grab rails shall include a 12 volt, 17.00 inch long blue LED light to provide an increased margin of safety for nighttime cab entry and egress. The lights shall only be activated when the parking brake is set and the ignition is on.

REARVIEW MIRRORS

Retrac Aerodynamic West Coast style dual vision mirror heads model 613305 shall be provided and installed on each of the front cab doors.

The mirrors shall be mounted via 1.00 inch diameter tubular stainless steel arms to provide a rigid mounting to reduce mirror vibration.

The mirrors shall measure 8.00 inches wide X 19.00 inches high and shall include an integral convex mirrors installed in the mirror head below the flat glass to provide a wider field of vision. The flat and convex mirrors shall be motorized with remote horizontal and vertical adjustment. The control switches shall be mounted within easy reach of the driver. The flat and convex mirrors shall be heated for defrosting in severe cold weather conditions.

The mirrors shall be constructed of a vacuum formed chrome plated ABS plastic housing that is corrosion resistant and shall include the finest quality non-glare glass.

REARVIEW MIRROR HEAT SWITCH

The heat for the rearview mirrors shall be controlled through a virtual button on the Vista display and control screen.

TRIM REAR WALL EXTERIOR

The exterior rear wall of the cab shall include an overlay of 3003-H22 aluminum tread plate which shall be 0.07 inches thick. This overlay shall cover the entire rear wall of the cab.

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CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 3.50 inches wide made of rubber.

MUD FLAPS FRONT

The front wheel wells shall have mud flaps installed on them. The mud flaps shall extend from the outer edge of the wheel well to the inner edge of the wheel well to provide additional protection from road spray.

CAB EXTERIOR FRONT & SIDE EMBLEMS

The cab shall include three (3) Spartan emblems. There shall be one (1) installed on the front air intake grille and two (2) for the exterior sides of the cab shipped loose with the chassis for installation by the body manufacturer. The cab shall also include one (1) Advanced Protection System shield emblem on each front door.

IGNITION

A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a one-quarter turn Cole Hersee switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches.

Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position.

The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.

BATTERY

The single start electrical system shall include six (6) Harris BCI 31 925 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.

BATTERY TRAY

The batteries shall be installed within two (2) steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.

The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

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BATTERY BOX COVER

Each battery box shall include a steel cover which protects the top of the batteries. Each cover shall be coated the same as the frame and shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.

BATTERY CABLE

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed at the ends with heat shrink and sealant.

BATTERY JUMPER STUD

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step, 8.00 inches apart. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

ALTERNATOR

The charging system shall include a 430 amp Delco Remy 55SI 12 volt alternator. The alternator shall include a self-exciting integral regulator.

STARTER MOTOR

The single start electrical system shall include a Delco brand starter motor.

BATTERY CONDITIONER

A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab behind the driver's seat on the AC hose cover. The rear face of the battery conditioner shall be flush with the rear face of the AC hose cover. The electrical junction box shall be located on the forward face of the AC hose cover.

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the left side of the cab above the wheel well in the forward location. The display shall be above any electrical inlet receptacle in the LH mid forward location.

AUXILIARY AIR COMPRESSOR

A Kussmaul Pump 12V air compressor shall be supplied. The air compressor shall be installed under the dashboard on the right-hand side, forward of the officer's seating position. The air compressor shall be plumbed to the air brake system to maintain air pressure.

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CAB/CHASSIS ELECTRICAL OUTLET

There shall be a 120V 20A power pre-wired into the cab to a junction box behind the driver's seat. 12/3 wiring terminating in the junction box shall be routed to behind the cab on the chassis frame rails with a 15.00 feet long coil for connection to apparatus 120V power supply.

ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab over the wheel well in the forward position rear of the grab handle and above the door entry keypad if applicable.

ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to.

Amp Draw Reference List:

Kussmaul 40 LPC Charger - 5 Amps

Kussmaul 40/20 Charger - 8.5 Amps

Kussmaul 80 LPC Charger - 13 Amps

Kussmaul EV-40 - 6.2 Amps

Blue Sea P12 7532 - 7.5 Amps

Iota DLS-45/IQ4 - 11 Amps

1000W Engine Heater - 8.33 Amps

1500W Engine Heater - 12.5 Amps

120V Air Compressor - 4.2 Amps

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner.

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a blue cover.

HEADLIGHTS

The cab front shall include two (2) FireTech rectangular LED headlamps with high/low beam in the same housing and two (2) separate FireTech LED high beam only headlamps mounted in bright chrome bezels.

FRONT TURN SIGNALS

The front fascia shall include two (2) Whelen model 600 4.00 inch X 6.00 inch programmable amber LED turn signals which shall be installed in a polished aluminum radius mount housing above and outboard of the front warning and head lamps. The light heads shall include clear lenses.

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HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly below the front warning lights.

SIDE TURN/MARKER LIGHTS

The sides of the cab shall include two (2) Weldon 9186-8589-24 LED round side marker lights which shall be provided just behind the front cab radius corners.

MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) marker lamps on the front of the vehicle designating identification and clearance. There shall be five (5) face mounted lights integrated into the scene light.

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled via a virtual button on the Vista display. The headlights shall turn on in the low beam setting when the park brake is disengaged. The headlights shall turn off when the park brake is engaged. The marker lights shall turn on when the ignition switch is in the "On" position. There shall be a virtual dimmer control on the Vista display to adjust the brightness of the dash lights.

GROUND LIGHTS

Each door shall include a Tecniq T44 LED ground light mounted to the underside of the cab step below each door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

GROUND LIGHTS

The ground lighting shall be activated when the parking brake is set, by the opening of the door on the respective cab side, and through a virtual button on the Vista display and control screen.

LOWER CAB STEP LIGHTS

The middle step located at each door shall include a recess mounted 4.00 inch round LED light which shall activate with the opening of the respective door.

INTERMEDIATE STEP LIGHTS

The intermediate step well area at each door shall include a TecNiq D06 LED light within a chrome housing. The Egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with Entry step lighting.

LIGHTBAR PROVISION

There shall be one (1) light bar installed on the cab roof. The light bar shall be provided and installed by Spartan Chassis. The light bar installation shall include a lowered mounting that

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shall place the light bar just above the junction box and wiring to a control switch on the cab dash.

CAB FRONT LIGHTBAR

The lightbar provisions shall be for one (1) Whelen brand Freedom IV LED lightbar mounted centered on the front of the cab roof. The lightbar shall be 72.00 inches in length. The lightbar shall feature fourteen (14) red LED light modules and two (2) clear LED light modules. The entire lightbar shall feature a clear lens. The clear lights shall be disabled with park brake engaged. The cable shall exit the lightbar on the right side of the cab.

LIGHTBAR SWITCH

The light bar shall be controlled by a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.

FRONT SCENE LIGHTS

The front of the cab shall include one (1) HiViz model FireTech FT-B-72-ML-W LED scene light installed on the brow of the cab. The light shall feature (5) five integrated marker lights.

The housing shall be powder coated white.

FRONT SCENE LIGHT LOCATION

There shall be one (1) scene light mounted center on the front brow of the cab.

FRONT SCENE LIGHTS ACTIVATION

The front scene lighting shall be activated by a virtual button on the Vista display and control screen and a lighted momentary rocker switch on the dash.

SIDE SCENE LIGHTS

The cab shall include two (2) HiViz model FireTech FT-MB-27-FT LED scene lights installed one (1) on each side of the cab.

The housing shall be powder coated white.

SIDE SCENE LIGHT LOCATION

The scene lighting located on the left and right sides of the cab shall be mounted on the upper side radius of the cab centered above the rear crew doors.

SIDE SCENE ACTIVATION

The scene lights shall be activated by two (2) lighted momentary rocker switches located in the switch panel, one (1) for each light, by two (2) virtual buttons on the Vista display and control screen(s), one (1) for each light, and by opening the respective side cab doors.

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INTERIOR OVERHEAD LIGHTS

The cab shall include a red/clear Whelen LED dome lamp located over each door. The dome lamps shall be rectangular in shape and shall measure approximately 7.00 inches in length X 3.00 inches in width with a black colored bezel. The clear function of each lamp shall be activated by opening the respective door. While the door is closed the individual red or clear function of each lamp can be activated dependently by switches on each lamp.

An additional incandescent three (3) light module with dual map lights shall be located over the engine tunnel which can be activated by individual switches on the lamp.

ENGINE COMPARTMENT LIGHT

There shall be a LED NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.

DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red Whelen Ion LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be located centered left to right for greatest visibility.

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed or an apparatus compartment door is not closed, and the parking brake is released.

MASTER WARNING SWITCH

A master switch shall be included, as a virtual button on the Vista display and control screen which shall be labeled "E Master" for identification. The button shall feature control over all devices wired through it. Any warning device switches left in the "ON" position when the master switch is activated shall automatically power up.

HEADLIGHT FLASHER

An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied.

HEADLIGHT FLASHER SWITCH

The flashing headlights shall be activated through a virtual button on the Vista display and control screen.

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INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen M6 Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the front fascia of the cab within a chrome bezel. The lights shall be programmed to emit the "PinWheel Variable" non-flashing pattern.

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be blue on the left and green on the right, both with clear lenses.

OUTBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen M6 Super LED front warning lights in the left and right outboard positions. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the front fascia of the cab within a chrome bezel. The lights shall be programmed to emit the "PinWheel Variable" non-flashing pattern.

OUTBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the outboard position shall be red with a clear lens.

FRONT WARNING SWITCH

The front warning lights shall be controlled through a virtual control on the Vista display and control screen. This switch shall be clearly labeled for identification.

INTERSECTION WARNING LIGHTS

The chassis shall include two (2) Whelen M6 series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn. The lights shall be set to flash "DoubleFlash 150" in/out flash pattern.

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red with a clear lens.

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted on the side of the cab rearward from the front cab corner radius ahead of the cab doors.

SIDE WARNING LIGHTS

The cab sides shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the cab within a chrome bezel. The light shall be programmed to emit the "DoubleFlash 150" in/out flash pattern.

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SIDE WARNING LIGHTS COLOR

The warning lights located on the side of the cab shall be blue with a clear lens.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the cab shall be mounted behind the rear crew door in the lowest available position.

SIDE AND INTERSECTION WARNING SWITCH

The side warning lights shall be controlled through a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.

TANK LEVEL LIGHTS

There shall be four (4) Whelen 500 Series Linear LED light heads, intended for use as water level lights. Each light shall be surface mounted horizontally in a vertical stack within a chrome bezel.

The lights shall be provided in four (4) colors. The colors from top to bottom shall be green, blue, amber, and red with clear lenses.

TANK LEVEL LIGHTS ACTIVATION

An FRC remote large light driver shall be installed under the dash with the signal wire for the primary display routed to the rear of cab on the chassis.

The light activation shall be active with the park brake set and ignition on.

TANK LEVEL LIGHTS LOCATION

There shall be water level lights mounted on each side of the cab, centered between the rear cab doors and the rear corners of the cab.

REAR WARNING LIGHTS

The cab shall be prewired and contain a cutout for a Whelen TACTL5 Traffic Advisor control head to be installed by the body builder. The prewire shall be coiled under the center dash panel.

Wiring provisions shall be provided routed to the rear of the frame for OEM installation of up to eight (8) individual traffic advisor warning lights rated at no more than one (1) amp each.

The power to the control head shall be ignition switched and activation dependent upon the state of the controllers switched position upon ignition.

ROTO-RAYS WARNING LIGHT

The cab shall be prewired for a customer installed Roto-Rays® warning light which is to be located on the front of the cab on the grille. The wiring provided shall automatically deactivate the Roto-Rays light when the park brake is engaged.

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ROTO-RAYS WARNING LIGHT SWITCH

The Roto-Rays® front warning light(s) shall be separately controlled through a virtual button on the Vista display and control screen. When the parking brake is engaged the light shall stop rotating.

SIREN CONTROL HEAD

A Whelen 295SLSC1 electronic siren control head with removable microphone shall be mounted in the left hand overhead position. The siren shall offer a selectable 100 or 200-watt output, radio broadcast, public address, and seventeen (17) Scan-Lock siren tones and hands free operation which shall allow the operator to turn the siren on and off from the steering wheel horn ring if a horn/siren selector switch option is also selected. The siren circuitry shall be placed behind the rocker switch panels under the electrical cover with a 30.00 inch loop for the OEM to route as desired.

STEERING WHEEL HORN BUTTON SELECTOR SWITCH

A virtual button on the Vista display and control screen shall be provided to allow control of either the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements.

AIR HORN AUXILIARY ACTIVATION

The air horn activation shall be accomplished by a momentary rocker switch on the switch panel.

MECHANICAL SIREN BRAKE/AUXILIARY ACTIVATION

The mechanical siren shall be actuated by a momentary rocker switch in the switch panel on the dash. A red momentary siren brake rocker switch shall be provided in the switch panel on the dash. A virtual button for the siren brake shall be provided on the Vista display.

MECHANICAL SIREN INTERLOCK

The siren shall only be active when master warning switch is on to prevent accidental engagement.

BACK-UP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

FIRE BELL ACTIVATION

There shall be a black push button located on the switch panel which shall actuate the fire bell. The button shall be clearly labeled for identification.

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INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.

A twenty eight (28) icon lightbar message center with integral LCD odometer/trip odometer shall be included. The odometer shall display up to 999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD message center screen shall be capable of custom configuration by the users for displaying certain vehicle status and diagnostic functions.

The instrument panel shall contain the following gauges:

One (1) three-movement gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.

One (1) three-movement gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.

One (1) four-movement gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 100 pounds PSI with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (°F) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 100 to 300 degrees °F with a red line zone indicating critical temperatures. A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.

The light bar portion of the message center shall include twenty-eight (28) LED backlit indicators. The lightbar shall be split with fourteen (14) indicators on each side of the LCD message screen. The lightbar shall contain the following indicators and produce the following audible alarms when supplied in conjunction with applicable configurations:

RED INDICATORS

Stop Engine - indicates critical engine fault

Air Filter Restricted - indicates excessive engine air intake restriction

Park Brake - indicates parking brake is set

Seat Belt - indicates a seat is occupied and corresponding seat belt remains unfastened

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Low Coolant - indicates critically low engine coolant

Cab Tilt Lock - indicates the cab tilt system locks are not engaged.

AMBER INDICATORS

Malfunction Indicator Lamp (MIL) - indicates an engine emission control system fault

Check Engine - indicates engine fault

Check Transmission - indicates transmission fault

Anti-Lock Brake System (ABS) - indicates anti-lock brake system fault

High exhaust system temperature – indicates elevated exhaust temperatures

Water in Fuel - indicates presence of water in fuel filter

Wait to Start - indicates active engine air preheat cycle

Windshield Washer Fluid – indicates washer fluid is low

DPF restriction - indicates a restriction of the diesel particulate filter

Regen Inhibit-indicates regeneration of the DPF has been inhibited by the operator

Range Inhibit - indicates a transmission operation is prevented and requested shift request may not occur.

SRS - indicates a problem in the supplemental restraint system

Check Message - indicates a vehicle status or diagnostic message on the LCD display requiring attention.

GREEN INDICATORS

Left and Right turn signal indicators

ATC - indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system

High Idle - indicates engine high idle is active.

Cruise Control - indicates cruise control is enabled

OK to Pump - indicates the pump is engaged and conditions have been met for pump operations

Pump Engaged - indicates the pump transmission is currently in pump gear

Auxiliary Brake - indicates secondary braking device is active

BLUE INDICATORS

High Beam indicator

AUDIBLE ALARMS

Air Filter Restriction

Cab Tilt Lock

Check Engine

Check Transmission

Open Door/Compartment

High Coolant Temperature

High or Low System Voltage

High Transmission Temperature

Low Air Pressure

Low Coolant Level

Low DEF Level

Low Engine Oil Pressure

Low Fuel

Seatbelt Indicator

Stop Engine

Water in Fuel

Extended Left/Right Turn Signal On

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ABS System Fault

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using white LED backlighting.

HOUR METER

Within the instrument panel, a Honeywell brand hour meter shall be installed which shall measure the amount of hours the PTO has been operated. The hour meter shall be wired to the left hand PTO and labeled "AERIAL HOURS".

AIR RESTRICTION GAUGE

The instrument panel shall include an Engineered Products air cleaner restriction gauge.

CAMERA REAR

One (1) Audiovox Voyager heavy duty box shaped HD camera shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle.

The camera system shall include a one-way communication device that shall be an integral part of the rear camera for the use of voice commands directly to the driver. The rear camera display shall activate when the vehicle's transmission is placed in reverse.

CAMERA DISPLAY

The camera system shall be wired to a single Weldon Vista display located on the driver's side dash. The camera system display can be activated through the Vista display panel.

CAMERA SPEAKER

The rear camera shall be wired to speaker(s) in the cab and shall audible to the driver and officer. There shall be a virtual button provided on the Vista display and control panel to deactivate the speaker(s).

COMMUNICATION ANTENNA

An antenna base, for use with an NMO type antenna, shall be mounted on the right hand front corner of the cab roof so not to interfere with light bars or other roof mounted equipment installed by Spartan Chassis. The antenna base shall be an Antenex model MABVT8 made for either a 0.38 inch or 0.75 inch receiving hole in the antenna and shall include 17.00 foot of RG58 A/U cable with no connector at the radio end of the cable. The antenna base design provides the most corrosion resistance and best power transfer available from a high temper all brass construction and gold plated contact design. The antenna base shall be provided by Spartan.

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COMMUNICATION ANTENNA CABLE ROUTING

The antenna cable shall be routed from the antenna base mounted on the roof to the area behind and underneath the right hand front seat.

AUXILIARY COMMUNICATION ANTENNA

An auxiliary antenna base, for use with and NMO type antenna, shall be installed on the cab. The antenna base shall be an Antenex model MABVT8 and shall include 17.00 foot of RG58 A/U cable with no connector at the radio end of the cable. The antenna base shall be mounted in the inboard position on the right hand front corner of the cab roof so not to interfere with light bars or other roof mounted equipment installed by Spartan Chassis. The antenna base shall be provided by Spartan.

AUXILIARY COMMUNICATION ANTENNA CABLE ROUTING

The auxiliary antenna cable shall be routed from the antenna base mounted on the roof to the area behind and underneath the right hand front seat.

TWO-WAY RADIOS

A radio wire conduit with a pull wire included shall be installed and routed from behind the dash to under the officer's seat for radio installation by the customer. The officer's under seat storage area shall include an access hole for the conduit cut into the rear face of the seat box. The hole shall be approximately 1.00 inch from the bottom and 1.00 from the inner wall of the seat box.

CAB EXTERIOR PROTECTION

The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.

FIRE EXTINGUISHER

A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.

ROAD SAFETY KIT

The cab and chassis shall include one (1) emergency road safety triangle kit.

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys for the manual door locks.

DIAGNOSTIC SOFTWARE OCCUPANT PROTECTION

Diagnostic software for the Spartan Advanced Protection System shall be available for free download from the Spartan Chassis website to Spartan authorized OEMs, dealers and service centers, as well as the vehicle owner.

The software has been validated to be compatible with the following RP1210 interface adapters:

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- Dearborn Group DPA4 Plus
- Noregon Systems JPRO® DLA+
- Cummins INLINE5
- Cummins INLINE6
- NexIQ™ USB-Link™

The software and adapter utilize the SAE J1939-13 heavy duty nine (9) pin connector which is located below the driver's side dash to the left of the steering column.

WARRANTY

Summary of Warranty Terms:

THE FOLLOWING IS SUMMARY OF WARRANTY TERMS FOR INFORMATION ONLY. THE ACTUAL LIMITED WARRANTY DOCUMENT, WHICH IS ATTACHED TO THIS OPTION, CONTAINS THE COMPLETE STATEMENT OF THE SPARTAN MOTORS USA LIMITED WARRANTY. SPARTAN'S RESPONSIBILITY IS TO BE ACCORDING TO THE TERMS OF THE COMPLETE LIMITED WARRANTY DOCUMENT.

The chassis manufacturer shall provide a limited parts and labor warranty to the original purchaser of the custom built cab and chassis for a period of twenty-four (24) months, or the first 36,000 miles, whichever occurs first. The warranty period shall commence on the date the vehicle is delivered to the first end user.

CHASSIS OPERATION MANUAL

There shall be two (2) digital copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.

ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

- (1) Hard copy of the Engine Operation and Maintenance manual with digital copy
- (1) Digital copy of the Transmission Operator's manual
- (1) Digital copy of the Engine Owner's manual

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis shall include two (2) digital copies of wiring schematics and option wiring diagrams.

SALES TERMS

The sale of the Spartan Chassis shall be governed by the terms contained on the Sales Terms – Acceptance of Purchase Order document, a copy of which is attached to this option.

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DRIVELINE LAYOUT CONFIRMATION

During the design phase of the chassis the Spartan Chassis driveline engineer shall submit the driveline layout to an OEM engineer to review the chassis design for any potential problems integrating the OEM body to the chassis. The OEM engineer shall provide approval to the driveline engineer prior to driveline bills of materials being released.

3D CHASSIS LAYOUT

A three dimensional (3D) layout of the chassis shall be provided to the OEM engineering group for use in designing the OEM body.

The layout shall include the following:

- Cab
- Frame
- Bumper
- Front Towing Device
- Front Axle
- Front Suspension
- Cab Tilt
- Exhaust
- Air Drier
- Battery Boxes & Covers
- Rear Axle
- Rear Suspension
- Fuel Tank

BUMPER EXTENSION

The chassis frame extension shall be provided by the chassis manufacture.

CHASSIS REQUIRED LABELING

Signs that state "Occupants must be seated and belted when apparatus is in motion" shall be provided.

They shall be visible from each seating position.

There shall be a lubrication plate mounted inside the cab listing the type and grade of lubrication used in the following areas on the apparatus and chassis:

- Engine oil
- Engine Coolant
- Transmission Fluid
- Pump Transmission Lubrication Fluid
- Drive Axle Lubrication Fluid
- Generator Lubrication Fluid (where applicable)
- Tire Pressures

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APPARATUS INFORMATION LABEL

There shall be a high-visibility label installed in a location clearly detectable to the driver while in the seated position.

The label shall indicate the following specified information.

Overall Height (feet and inches)
Overall Length (feet and inches)
Overall GVWR (tons or metric tons)

CAB TILT CONTROL

There shall be a cab tilt pendant control provided and installed on the forward wall of the right front compartment of the apparatus.

There shall also be a cab tilt instruction plate located as close as possible to the control pendant for ease of operation.

AIR TANK DRAIN LINES (extended)

There shall be manual pull air tank drain lines provided with the apparatus. The air drain lines shall be extended to the outer edge of the apparatus to facilitate draining moisture from the chassis air tanks to a single location for all drains and shall be actuated by a key ring. A label shall be affixed indicating "Air Tank Drain".

HEAT EXCHANGER

The supplementary heat exchanger cooling system shall be provided and installed to the discharge side of the fire pump through to the engine compartment without intermixing, for absorption of excess heat.

The heat exchanger shall be adequate in size to maintain safe operating temperature of the coolant in the pump drive engine and not in excess of the engine manufacturer's temperature rating, under all pumping conditions. Appropriate drains shall be provided to allow draining the heat exchanger to prevent damage from freezing.

HEADSET SYSTEM

The headset and intercom system shall be provided and installed by the dealership.

KNEELING FEATURE

The OEM shall connect the kneeling system to the stabilizer plant sensors. The air bags will be depleted when the aerial master is activated and any one of the stabilizers are planted.

The air bags will refill once the last stabilizer is raised or the aerial master switch is turned off. In the event the aerial master is not turned off, the aerial master is interlocked to the park brake and will be turned off once the park brake is depressed refilling the air bags.

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HELMET RESTRAINTS

All NFPA required helmet restraints will be supplied and installed by the Fire Department prior to the truck being placed into service.

MUD FLAPS

Heavy-duty black rubber mud flaps with manufactures logo shall be provided behind the rear wheels. The mud flaps shall be bolted in place.

PUMP COMPARTMENT

The complete apparatus pump compartment shall be constructed of a combination of stainless steel structural tubing and formed stainless steel sheet metal. The structure shall be welded utilizing the same A.W.S. Certified welding procedure as used on the structural body module. These processes shall ensure the quality of structural stability of the pump compartment module.

The top of the pump compartment shall have a forward "dunnage" area with the crosslays (described elsewhere within these specifications) located to the rear. The forward section shall be used to house the aerial hydraulic reservoir, hydraulic generator (if equipped), and/or other equipment as available space allows. This forward section shall be provided with a removable 3/16" aluminum diamond plate floor.

The pump compartment module shall be separated from the apparatus body with a gap. This gap is necessary to accommodate the flexing of the chassis frame rails that is encountered while the vehicle is in transit so that harmful torsional forces are not transmitted into the structural framework.

PUMP MODULE MOUNTING SYSTEM

The entire pump module assembly shall be mounted so that it "floats" above the chassis frame rails exclusively with torsion isolator assemblies to reduce the vibration and stress providing an extremely durable pump module mounting system.

The pump module substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Each assembly shall be mounted to the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be powder coated for corrosion resistance. Each pump compartment mount bracket shall be mounted to the side chassis frame flange with two 5/8"-UNC Grade 5 HHCS.

Each assembly shall have a two-part rubber vibration isolator. The isolator shall be of a specific durometer to carry the necessary loads of the pump module. The quantity of mounts utilized shall correspond directly to the anticipated weight being supported.

During installation of the mounting system all welding to the chassis frame rails and all drilling will be performed within the parameters established by the chassis manufacturer. Under no circumstances shall any drilling be done in the upper or lower flanges between the axles. All pump module to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

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PUMP COMPARTMENT WORK LIGHT

Two (2) 4" round LED work lights shall be installed in the pump compartment module to illuminate the piping and plumbing components.

The lights shall be activated by a weather resistant toggle switch inside the pump enclosure.

A third light shall be provided inside the upper gauge panel to illuminate the electrical wiring.

LEFT SIDE OPERATORS PANEL & PUMP PANEL

The pump operator's panel shall be located on the left side of the apparatus pump compartment. The panel shall be split into an upper and lower section.

The material of the operator's panel shall match that of the overlays and right side panels specified.

The upper panel shall be angled back and house gauges and controls and shall be hinged to allow easy access to components. The door shall have a rubber seal provided to prevent excessive moisture from entering or leaving the pump house.

The lower panel on the left side shall be a removable panel attached with mechanical fasteners.

Valve controls shall be immediately adjacent to its respective gauge. The valve controls shall be properly labeled and color coded for ease of use. All markings shall be permanent in nature.

PUMP PANEL LIGHTS

The left side pump operator's panel shall be illuminated with three (3) Weldon model 2631 series LED lights beneath the light hood. Three (3) 4" round recessed LED lights shall be provided for illumination to the lower panel.

The right side lower panel area shall be illuminated with three (3) 4" round recessed LED lights.

PUMP PANEL LIGHT ACTIVATION

One (1) pump panel light at the operator's panel shall be illuminated at the time the pump is ready to pump and it is "OK TO PUMP". The Pump shift has been completed and the chassis automatic transmission is engaged.

The remaining lights shall be controlled by a switch located on the side operator's panel.

PUMP COMPARTMENT WIDTH

The width of the pump compartment (front to back) shall be 40.00 inches (1.01 m).

LEFT SIDE PUMP PANELS

There shall be two (2) access panels installed on the "left side" of the pump compartment structure, one (1) upper gauge access panel and one (1) lower pump access panel.

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The upper gauge panel shall have a minimum of two (2) quick-release mechanical style latches and shall be hinged on the bottom edge. The lower pump access panel shall have a minimum of three (3) quick-release style latches and be easily removable.

RIGHT SIDE PUMP PANEL

There shall be one pump access panel installed on the "right side" of the pump compartment structure.

The access panel shall be secured with mechanical fasteners and be easily removable.

RIGHT & LEFT SIDE PUMP PANEL & OVERLAY FINISH BLACK LINE-X

All access panels shall be made from aluminum and finish coated with black Line-X.

The Line-X shall be applied in a method to produce the smoothest finish possible.

RUNNING BOARDS

The pump compartment running boards shall be made of a structural tubular framework. The tubular frame supports all loads by transmitting the loads through the pump compartment structure directly to the chassis frame rails.

The running boards shall be independent of the apparatus body and shall be tied only to the pump compartment structure, thereby eliminating any pump compartment to body interference. This is essential in keeping a truly 'modular' configuration.

LEFT SIDE RUNNING BOARD OVERLAY

The left side running board shall have a 3/16" embossed aluminum diamond plate overlay installed. The stepping area shall be as large as possible, overlapping the perimeter of the structural running board framework. The overlay shall be constructed of embossed aluminum diamond plate material.

LEFT SIDE SLIDE OUT PLATFORM

There shall be a pull-out platform installed under the left side pump compartment running board. The platform shall be as wide as possible to fit the pump compartment and shall be approximately 16.00 inches (406.40 mm) deep when extended.

The platform shall lock into place while in the extended and stowed positions. The platform surface shall be constructed of "Stainless Steel Diamond Grip Strut" material covering the framework.

There shall be a reinforcement channel on the back of the step.

If the slide out step is not properly stowed and the transmission is placed into drive or reverse mode with the parking brake released, the hazard light in the cab shall be activated to alert the crew.

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RIGHT SIDE RUNNING BOARD OVERLAY

The right side running board shall have a 3/16 inch embossed aluminum diamond plate overlay installed. The stepping area shall be as large as possible, overlapping the perimeter of the structural running board framework.

LEFT SIDE UNDER RUNNING BOARD ILLUMINATION

One (1) light shall be installed to illuminate the ground beneath the left side running board area.

The light shall be a TecNiq model T44 series, 4" round, 8 diode LED light.

The light shall be directed beneath and positioned below the running board stepping surfaces.

RIGHT SIDE UNDER RUNNING BOARD ILLUMINATION

One (1) light shall be installed to illuminate the ground beneath the right side running board area.

The light shall be a TecNiq model T44 series, 4" round, 8 diode LED light.

The light shall be directed beneath and positioned below the running board stepping surfaces.

LIGHTING ACTIVATION

Step lighting shall be activated when the park brake is set.

APPARATUS PLUMBING LABELING

Innovative Controls verbiage tag bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These tags shall be designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The verbiage tag bezel assemblies shall include a chrome-plated panel-mount bezel with durable easy-to-read UV resistant polycarbonate inserts featuring the specified verbiage and color coding. These UV resistant polycarbonate verbiage and color inserts shall be subsurface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive, which meets UL969 and NFPA standards.

FASTENERS FOR LABELS

All labels that are not installed into discharge handles shall be attached with mechanical fasteners.

BEZELS FOR DISCHARGES AND INLETS

Innovative Controls chrome finish die cast metal bezels shall be supplied around the openings in the pump panels for all discharge & auxiliary suction inlet fittings. Any additional cutouts on the pump panels used for access to pump components, such as manual overrides, shall also have bezels provided.

Chrome finish polycarbonate bezels shall be supplied around the openings for the main steamer

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inlets.

PRESSURE GOVERNOR

The Pressure Governing System provided with the chassis shall be installed on the pump operator's panel.

PRESSURE RELIEF VALVE

A Trident model AirMax relief valve assembly shall be provided. The remote operated relief valve shall be air operated with a performance range up to 750 GPM and a pressure range of 50 to 350 PSI. The unit shall exceed applicable NFPA standards. The relief valve shall be self-draining, constructed of all brass, stainless steel, and rubber components.

The remote control shall be air operated with a locking adjustment control knob mounted on the pump operator panel. The control shall include a gauge indicating set pressure from 50 to 300 PSI. The valve shall be preset at 125 PSI. The excess water shall be plumbed to the atmosphere via the unloader pipe and shall dump on the opposite side of the pump operator.

Where multiple AirMax relief valves are installed, a single panel control shall be used unless otherwise specified.

For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating "DO NOT CAP" installed.

INTAKE RELIEF VALVE TERMINATION

The Intake relief valve shall terminate below the pump house compartment. If the apparatus is equipped with a heat pan, the relief valve shall terminate within the heat pan.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) NPT x 2.50 inch (65 mm) MNST chrome plated brass fitting

MASTER GAUGES

NOSHOK 4.00 inch (100 mm) gauges with a brass case shall be supplied for the master intake and master discharge gauges. The gauges shall have an orange indicating pointer for increased visibility.

GAUGE SCALE

The master intake gauge shall be marked for a reading from -30 to 400 PSI and the master discharge shall be marked for reading a discharge pressure of 0 to 400 PSI.

GAUGE FACE COLOR

Each gauge shall have black markings on a white face.

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TESTING PORTS

Test port connections for pressure and vacuum shall be provided at the pump operator's panel. One shall be connected to the intake side of the pump, and the other to the discharge manifold side of the pump. They shall have 0.25 in. standard pipe thread connections and be manufactured of non-corrosive polished stainless steel or brass plugs.

TANK LEVEL GAUGE

There shall be a Class 1 model #ITL-40M tank level gauge provided and installed at the pump operator's panel location.

The tank level gauge shall indicate the liquid level for water in increments of 1/20th of a tank with a visual warning at 1/4 of a tank.

The tank level gauge shall include a pressure transducer mounted on the outside of the tank, a super bright LED display with visual indication and weather resistant connectors.

CHASSIS INSTALLED TANK LEVEL GAUGE

The chassis shall include two (2) tank level gauges installed. These tank level gauges shall utilize a driver gauge installed to provide an accurate reading of the water tank level.

AIR HORN BUTTON

There shall be an air horn activation red push button furnished and installed on the pump operator's gauge panel. The air horn button shall be of weather resistance type and labeled "AIR HORN".

WATEROUS S100 2000

The pump shall have a capacity of 2000 gallons per minute, measured in U.S. Gallons. The pump shall be a Waterous model S101, single stage midship pump.

The pumps impellers shall be bronze, balanced mechanically and hydraulically for vibration-free operation and flame-plated to assure longer life despite the presence of abrasives in the water supply. The wear rings shall be bronze labyrinth-type (reverse-flow) replaceable wear rings increase pump life and keep maintenance costs to a minimum.

The pump body shall be cast in ductile iron. Double stripping edge volute minimizes radial forces at all flow rates. The impeller shaft and seal shall be stainless steel with spring-loaded mechanical shaft seal. Self-adjusting mechanical seal eliminates leakage and routine maintenance.

The entire pump shall be cast, manufactured and tested at the pump manufacturer's factory. The pump transmission housing shall be high strength aluminum, three pieces and horizontally split. Power transfer to the pump shall be through a Morse Hy-Vo drive chain. Chain shall be pressure lubricated through oil pump. Chain sprockets shall be cut from carbonized, hardened alloy steel. Spur gears will not be acceptable.

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The drive shafts shall be 2.35 inches in diameter, made of hardened and ground alloy steel. All shafts shall be ball bearing supported. Case shall be designed to eliminate the need of water cooling.

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. A certificate documenting this test shall be provided with the completed apparatus. The pump shall be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the latest (NFPA) 1901, Standard for Automotive Fire Apparatus. Pump shall be free from objectionable pulsation and vibration.

The pump shall be the Class "A" type and shall deliver the percentage of rated discharge at pressures indicated below.

100% of rated capacity at 150 PSI net pump pressure.

100% of rated capacity at 165 PSI net pump pressure.

70% of rated capacity at 200 PSI net pump pressure.

50% of rated capacity at 250 PSI net pump pressure.

PUMP SHIFT MANUAL OVERRIDE

In the event of pump shift failure, the pump can be shifted into gear by a push/pull manual override mechanism, allowing the pump to be engaged manually. The handle shall be located on the lower portion of the driver's side pump panel and shall be labeled accordingly.

AIR PRIMER SYSTEM

The priming system shall be a Trident Emergency Products compressed air powered high efficiency, multi-stage, venturi based Air Prime System.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

The system shall employ an 80 PSI (5.5 bar) pressure protection valve, located on the chassis auxiliary air tank.

The primer shall be covered by a five (5) year parts warranty.

PRIMER CONTROL

There shall be one (1) push button control to actuate the primer control valve at the operator's panel.

DISCHARGE AND INLET MANIFOLDS

A manifold shall be provided on each side of the pump. The inlets shall protrude up to 2 inches

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(50mm) away from the side panels and maintain a low connection height. The inlets should smoothly transition from the hose connection size up to, or exceeding, the inlet size of the pump. A discharge manifold shall also be added to the pressure side of the pump to feed the specified discharge waterways.

The main pump inlets shall have National Standard Threads and include removable screens designed to provide cathodic protection for reducing deterioration in the pump.

MAIN PUMP INLET-LEFT SIDE

A 6.00 inch (150 mm) pump manifold inlet shall be provided on the left side of the pump.

The main pump inlet shall have National Standard Threads and includes a removable screen designed to provide cathodic protection for reducing deterioration in the pump.

MAIN PUMP INLET-RIGHT SIDE

A 6.00 inch (150 mm) pump manifold inlet shall be provided on the right side of the pump.

The main pump inlet shall have National Standard Threads and includes a removable screen designed to provide cathodic protection for reducing deterioration in the pump.

MASTER DRAIN VALVE

A Trident manifold type drain valve shall be installed in the pump compartment. All pump drains shall be connected to the master drain valve. The drain valve shall be controlled from the left side lower pump house sill. The control shall be a hand wheel knob marked "open" and "closed".

The drain shall be located such that it shall not interfere with pumping operations or function such as soft suction hoses, etc. nor shall it protrude past the outer edge of the apparatus, to prevent damage to the valve.

In some cases, it is necessary to locate the master drain in a secondary location to ensure proper draining. If no lower or vertical sill exists, the drain shall be located below the bottom outside edge of the hose body near the forward most corner on the driver's side hose body. The drain shall not protrude past the outer edge of the body, thus preventing damage to the valve.

PUMP COOLING LINE

There shall be a 3/8 inch (9.5 mm) line running from the pump to the water tank to assist in keeping the pump water from overheating. A valve shall be installed on the operator's panel.

PUMP ANODES

Two (2) pump anodes shall be installed in the plumbing system, one (1) on the discharge side and one (1) on the suction side, to prevent damage from galvanic corrosion within the pump system.

STAINLESS STEEL PLUMBING

All auxiliary suction and discharge plumbing related fittings, and manifolds shall be fabricated with

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schedule 40 stainless steel pipe; brass or high pressure flexible piping with stainless steel couplings. Galvanized components and/or iron pipe shall NOT be accepted to ensure long life of the plumbing system without corrosion or deterioration of the waterway system. Where waterway transitions are critical (elbows, tees, etc.), no threaded fittings shall be allowed to promote the smooth transition of water flow to minimize friction loss and turbulence. All piping components and valves shall be non-painted, unless otherwise specified. All piping welds shall be wire brushed and cleaned for inspection and appearance.

The high pressure flexible piping shall be black SBR synthetic rubber hose with 300 PSI working pressure and 1200 PSI burst pressure for flexible piping sizes 1.50 inch through 4.00 inch. Sizes .75 inch, 1.00 inch and 5.00 inch are rated at 250 PSI working pressure and 1000 PSI burst pressure. All sizes are rated at 30 in HG vacuum. Reinforcement consists of two plies of high tensile strength tire cord for all sizes and helix wire installed in sizes 1.00 inch through 5.00 inch for maximum performance in tight bend applications. The material has a temperature rating of -40 degrees Fahrenheit to +210 degrees Fahrenheit.

The stainless steel full flow couplings are precision machined from high tensile strength stainless steel. All female couplings are brass. Mechanical grooved and male 3/4 inch and 1 inch couplings are brass. A high tensile strength stainless steel ferrule with serrations on the I. D. is utilized to assure maximum holding power when fastening couplings to hose.

PUMP HOUSE LINE PROTECTION

All drain lines for the discharges, suction, ABS discharge gauge lines and any other appropriate connections in the pump house area shall have a protective cover provided on the lines in the required areas of the lines to prevent the lines from rubbing on any other components in the pump house area.

All drain lines, ABS lines, high pressure discharge lines and electrical wiring in the pump house area shall be properly and neatly routed, wire tied and rubber coated "P" clamped, to keep the items secured.

DRAIN VALVES

An Innovative Controls 3/4" quarter turn drain valve shall be included on each discharge, gated intake, and steamer valve (if applicable). A side stem, long stroke chrome plated lift handle shall be provided on the drain valve to facilitate use with a gloved hand. The drain valve shall have an ergonomically designed handle with a recessed verbiage tag area easily read by the operator before opening.

The drain valve shall be connected to the valve with a flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus.

FOAMPRO 2001

The apparatus shall be equipped with an electronic, fully automatic, variable speed, direct injection, and discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrates and most Class B foam concentrates. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. System must be capable of delivering accuracy to within 5% of calibrated settings over the advertised operation range when installed according to factory

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standards. The system shall be equipped with a digital electronic control display suitable for installation on the pump panel. Incorporated within the control display shall be a microprocessor that receives input from the system flowmeter(s), while also monitoring foam concentrate pump output. This compares values to ensure that the operator's preset is proportional to the amount of foam concentrate injected into the discharge side of the fire pump.

A paddlewheel-type flowmeter shall be installed in the discharge system specified to be "foam capable". The flow meter shall be mounted in a manifold providing accurate water flow readings from 30-1150 gpm and operate up to 1380 gpm.

The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

- Provide push-button control of foam proportioning rates from 0.1% to 10.0%, in 0.1% increments
- Show current flow-per-minute of water
- Show total volume of water discharged during and after foam operations are completed
- Show total amount of foam concentrate consumed
- Simulate flow rates for manual operation
- Perform setup and diagnostic functions for the computer control microprocessor
- Flash a "low concentrate" warning when the foam concentrate tank(s) runs low
- Flash a "no concentrate" warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) empty

A 12-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 gpm (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR), shall be installed in a suitable, accessible location. The system will draw a maximum of 40 amps @ 12 VDC. A pump motor electronic driver (mounted to the base of the pump) shall receive signals from the computer control display and power the 1/2 hp (0.40 Kw) electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct proportion of concentrate preset by the pump operator is injected into the water stream.

When two types of foam concentrates are to be used, a dual tank switch over system will be installed to provide rapid changeover of foam concentrate reservoirs. The digital computer control display shall interface with the dual tank switch over system, provide dual foam calibration, and display separate totals for each foam concentrate used.

Full flow check valve shall be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank.

Components of the complete proportioning system shall include:

- Operator control and display
- Paddlewheel flowmeter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam injection check valve
- Main waterway check valve

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FOAM SYSTEM TESTING

The apparatus foam system shall be tested and the Water Flow meter shall be certified by the manufacturer prior to delivery.

FOAM SYSTEM SUPPLY

The system shall be supplied by a single foam tank that shall be monitored by the control display. The display shall flash a "low concentrate" warning for two minutes when the foam tank runs low. In the event that no additional concentrate is added to the tank, the foam concentrate pump shall be deactivated.

FOAM TANK

A 25 gallon foam tank with square hinged lid, equipped with a hold down device shall be installed and plumbed with non-corrosive piping to the foam system. The fill tower shall be approximately 10.00 inch by 10.00 inch.

A label shall be affixed to the foam tank fill indicating: "WARNING" Class A (or B) foam tank fill, do not mix brands or types of foam.

Each foam tank shall be integral with the booster water tank provided.

FOAM TANK DRAIN

There shall be a 1.00 inch (25.4 mm) quarter turn drain valve installed to drain the foam tank. The valve shall be installed in the pump house with a drain line extended to the side running board.

The drain line shall be labeled "FOAM DRAIN".

FOAM TANK LEVEL GAUGE

There shall be a Class 1 model #ITFL-40M tank level gauge provided and installed at the pump operator's panel location.

The tank level gauge shall indicate the liquid level for foam in increments of 1/20th of a tank with a visual warning at 1/4 of a tank.

The tank level gauge shall include a pressure transducer mounted on the outside of the tank, a super bright LED display with visual indication and weather resistant connectors.

FOAM PRO POWER FILL

The apparatus shall be equipped with a FoamPro Power Fill foam system. The foam fill system shall be a FoamPro Power Fill with electronic, automatic, concentrate refill system, to increase safety of firefighter personnel. The system shall operate independently of the foam proportioner allowing simultaneous use. Refill operation shall not require apparatus or fire pump to be running. The system shall be capable of handling Class A or Class B foam concentrates, emulsifiers, gels and decontamination concentrates. The apparatus shall be plumbed from the externally accessed intake/flush ports to the concentrate cell. External fill and flush connections shall be quick-connect cam-lock type. Internal piping shall incorporate check valves to prevent back flow. Concentrate

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tank inlet shall be positioned to minimize agitation. The refill operation shall be based on direct measurement of concentrate level in tank. The system must be capable of automatically stopping when cell is full and include a manual override feature. The system shall be equipped with an electronic control suitable for installation on the pump panel. Incorporated within the control shall be a microprocessor that receives input from the system while controlling foam concentrate pump output. An all-bronze three-way valve shall be included to allow the operator to flush system after use. Valve control, intake and flush ports shall be located within corresponding panel plate.

The system shall enable the operator to perform the following control/operation functions and status indicators for the refill operation:

- a) Provide push-button start/stop control of foam refill
- b) Solid green light advises operator concentrate cell is full
- c) Flashing green indicates system is running
- d) Green light off, system off
- e) Allow override of "full tank" condition
- f) Provide a means to flush the pump and intake piping

The system shall include a 12 or 24-volt electric motor driven, positive displacement concentrate pump. The pump(s) shall deliver minimum flow of 10 gpm (37.8 L/min) @ 20 psi with all concentrates currently utilized in fire apparatus. Pump body to be of all-bronze construction and other wetted components and piping to be constructed of non-corrosive materials. The system will draw a maximum of 38 amps @ 12 VDC or 19 amps @ 24 VDC. A pump/motor solenoid (mounted to the base of the pump) shall receive signals from the computer control display and power the 1/2 hp (0.4 Kw) electric motor directly coupled to the concentrate pump. The system(s) shall receive readings when the concentrate tank is full and stop operation to prevent overflow.

Components of the complete refill system shall include:

- a) Operator control and display with Weather-Pac connectors
- b) Refill/flush quick-connect cam-lock fittings and cap
- c) Check valves
- d) Pump/motor assembly and solenoid
- e) Strainer
- f) Tank level switch
- g) Three-way fill/flush valve
- h) Stainless steel pickup wand and 6 feet of reinforced suction hose, 1 inch in diameter to allow maximum flow
- i) Panel placards

LEFT SIDE INLET

There shall be one (1) gated suction inlet with .75 inch (19mm) bleeder installed on the left side of the apparatus with the following specified components.

INTAKE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series swing-out valve with stainless steel ball.

INTAKE VALVE CONTROL

The intake control valve shall be a 'swing out type' direct operation manual lever actuator at the valve.

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INTAKE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

SUCTION/INTAKE TERMINATION

The termination shall include the following components:

One (1) 2.50 inch (65 mm) NST swivel female straight adapter with screen

One (1) 2.50 inch (65 mm) self-venting plug, secured by a chain

INLET LOCATION

The inlet shall be located on the pump panel in the rearward position.

LEFT SIDE DISCHARGE

There shall be two (2) gated discharges installed on the left side of the apparatus with the following specified components.

DISCHARGE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series 'electric valve' with stainless steel ball.

STYLE 9335 NAVIGATOR PRO 2.0 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9335 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controller must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Three additional buttons shall be available to be used for preset selection, preset activation, CAFS activation (if provided), and menu activation.

The unit must be capable of being connected to a Flow Sensor or Pressure Sensor and provide an LCD display showing pressure and flow as well as valve position indication. Valve position indication must be determined from true position feedback and indicate the exact position of the valve.

The unit must be able to be programmed to GPM or LPM for flow as well as PSI, kPa, or Bar for pressure. The unit must be capable of turning on and off a solenoid used in a CAFS system (if provided). The only calibration required is to set the unit to the valve during the initial set up. No other calibration shall be required.

The display shall be a full color LCD display with a backlight. It shall have a manual adjustment of the brightness as well as an auto-dimming option.

DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping, and shall incorporate a manual drain

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control installed below the pump area for ease of access.

DISCHARGE TERMINATION

Each discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 45 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

RIGHT SIDE DISCHARGE

There shall be one (1) gated discharge installed on the right side of the apparatus with the following specified components.

DISCHARGE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series 'electric valve' with stainless steel ball.

STYLE 9335 NAVIGATOR PRO 2.0 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9335 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controller must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Three additional buttons shall be available to be used for preset selection, preset activation, CAFS activation (if provided), and menu activation.

The unit must be capable of being connected to a Flow Sensor or Pressure Sensor and provide an LCD display showing pressure and flow as well as valve position indication. Valve position indication must be determined from true position feedback and indicate the exact position of the valve.

The unit must be able to be programmed to GPM or LPM for flow as well as PSI, kPa, or Bar for pressure. The unit must be capable of turning on and off a solenoid used in a CAFS system (if provided). The only calibration required is to set the unit to the valve during the initial set up. No other calibration shall be required.

The display shall be a full color LCD display with a backlight. It shall have a manual adjustment of the brightness as well as an auto-dimming option.

DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

Each discharge termination shall include the following components:

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One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 45 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

RIGHT SIDE MASTER DISCHARGE

There shall be one (1) master discharge installed on the right side of the apparatus provided with the following specified components.

DISCHARGE VALVE

A 4.00 inch (100 mm) Akron Brass 8000 series 'electric valve' with a bronze flat ball.

STYLE 9335 NAVIGATOR PRO 2.0 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9335 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controller must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Three additional buttons shall be available to be used for preset selection, preset activation, CAFS activation (if provided), and menu activation.

The unit must be capable of being connected to a Flow Sensor or Pressure Sensor and provide an LCD display showing pressure and flow as well as valve position indication. Valve position indication must be determined from true position feedback and indicate the exact position of the valve.

The unit must be able to be programmed to GPM or LPM for flow as well as PSI, kPa, or Bar for pressure. The unit must be capable of turning on and off a solenoid used in a CAFS system (if provided). The only calibration required is to set the unit to the valve during the initial set up. No other calibration shall be required.

The display shall be a full color LCD display with a backlight. It shall have a manual adjustment of the brightness as well as an auto-dimming option.

DISCHARGE PLUMBING

The plumbing shall consist of 4.00 inch (100 mm) piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 4.00 inch (100 mm) NST adapter

One (1) 4.00 inch (100 mm) NST female by 5.00 inch (125 mm) Storz with 30 degree elbow

One (1) 5.00 inch (125 mm) Storz cap, secured by a chain

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DOUBLE STACK CROSSLAYS

The crosslay hose beds shall be located in the most forward upper portion of the body, rearward of the pump compartment. The crosslays shall be constructed with a minimum approximate depth for laying a double stack of each hose size as specified below. Each individual crosslay hose bed shall be separated by a divider constructed of .188 inch (4.76 mm) aluminum.

The crosslay area shall span the entire width of the apparatus. Removable slotted aluminum flooring shall be provided for the hose bed area.

Chicksan swivels shall be installed just below the floor of each crosslay bed just high enough for hose couplings to be accessed and tightened on to the chicksans. The chicksan swivels shall swing from left to right to allow attached hose to be deployed from either side.

FIXED CROSSLAY DIVIDERS WITH NO HAND HOLD CUTOUTS

Each crosslay divider acting as a hose bed separator shall be fabricated of .25 inch smooth aluminum and shall have a dual-action sanded finish. Each divider shall NOT have vertical hand hold cutouts provided at each end.

1 3/4" & 2 1/2" CROSSLAY

A crosslay with the following specified components shall be provided for up to 200 feet (60 m) of 1.75 inch (44.4 mm) hose.

A crosslay with the following specified components shall be provided for up to 200 feet of 2.50 inch hose.

DISCHARGE VALVE

A 2.00 inch (50 mm) Akron Brass 8000 series 'electric valve' with stainless steel ball.

A 2.50 inch Akron Brass 8000 series 'electric valve' with stainless steel ball.

STYLE 9335 NAVIGATOR PRO 2.0 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9335 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controller must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Three additional buttons shall be available to be used for preset selection, preset activation, CAFS activation (if provided), and menu activation.

The unit must be capable of being connected to a Flow Sensor or Pressure Sensor and provide an LCD display showing pressure and flow as well as valve position indication. Valve position indication must be determined from true position feedback and indicate the exact position of the valve.

The unit must be able to be programmed to GPM or LPM for flow as well as PSI, kPa, or Bar for pressure. The unit must be capable of turning on and off a solenoid used in a CAFS system (if

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provided). The only calibration required is to set the unit to the valve during the initial set up. No other calibration shall be required.

The display shall be a full color LCD display with a backlight. It shall have a manual adjustment of the brightness as well as an auto-dimming option.

DISCHARGE PLUMBING

The plumbing shall consist of 2.00 inch (50 mm) piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

There shall also be plumbing consisting of 2.50 inch piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

One discharge termination shall include the following components:

One (1) 2.00 inch (50 mm) NPT x 1.50 inch (38 mm) NST brass chicksan swivel

One discharge termination shall include the following components:

One (1) 2.50 inch NPT x 2.50 inch NST brass chicksan swivel

FOAM CAPABLE

The discharges shall be foam capable.

CROSSLAY TRIM

Brushed stainless steel trim shall be installed at the openings on each side of the crosslay hose bed area. The trim shall reduce the chaffing of the hose jacket on the edges of the bay area.

CROSSLAY HOSE BED HOSE RESTRAINTS

The Dealership shall provide a means of restraining the hose stored in the crosslays to prevent inadvertent deployment of hose during transit. A hose restraint safety label shall be affixed by the Dealership and visible to personnel at each hose storage area.

CROSSLAY HOSE BED LIGHT

There shall be two (2) 18.00 inch OnScene "Access" LED strip lights provided and installed on the front face of the body to illuminate the crosslay hose bed.

CROSSLAY LIGHT ACTIVATION

The crosslay light shall be activated when the park brake is set.

PLATFORM AERIAL FEED

There shall be a platform aerial feed waterway provided and installed on the apparatus.

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The platform aerial feed shall be supplied from the discharge valve on the water pump and the officer's side auxiliary inlet.

The following specified components shall be provided:

DISCHARGE VALVE

A 4.00 inch (100 mm) Akron Brass 8000 series 'electric valve' with a bronze flat ball.

STYLE 9335 NAVIGATOR PRO 2.0 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9335 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controller must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Three additional buttons shall be available to be used for preset selection, preset activation, CAFS activation (if provided), and menu activation.

The unit must be capable of being connected to a Flow Sensor or Pressure Sensor and provide an LCD display showing pressure and flow as well as valve position indication. Valve position indication must be determined from true position feedback and indicate the exact position of the valve.

The unit must be able to be programmed to GPM or LPM for flow as well as PSI, kPa, or Bar for pressure. The unit must be capable of turning on and off a solenoid used in a CAFS system (if provided). The only calibration required is to set the unit to the valve during the initial set up. No other calibration shall be required.

The display shall be a full color LCD display with a backlight. It shall have a manual adjustment of the brightness as well as an auto-dimming option.

AERIAL PLUMBING

The aerial feed shall be plumbed from the discharge valve on the pump and the officer's side auxiliary aerial inlet to the base of the aerial turntable.

The plumbing shall be drained with a 1.50 inch (38 mm) drain valve system.

AERIAL INLET TERMINATION

The aerial waterway inlet shall terminate with the following components:

One (1) 5" NPT-F x 5" NST-M chrome plated adapter with screen shall be provided on each waterway exterior inlet.

One (1) 5" NST-F x 5" Storz 30° Elbow adapter shall be installed on each NST adapter.

One (1) 5" Storz blind cap with cap and chain shall be provide on each inlet adapter.

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AERIAL FEED GAUGE

One (1) gauge shall be installed at the aerial inlet for reading inlet pressure.

The gauge(s) shall be Innovative Controls Inc., 2.50 inch (65 mm), unless otherwise specified.

GAUGE SCALE

Each gauge shall be marked for reading a pressure range of 0-400 PSI.

GAUGE FACE COLOR

Each gauge shall have black markings on a white face.

BEZEL FOR 2.5" PRESSURE GAUGE

There shall be a chrome finish, die cast metal bezel around the 2.50 inch (65 mm) Aerial Inlet and/or aerial discharge pressure gauge(s) as specified. The bezel shall be equipped with an easily identifiable recessed label for color-coding for the gauge and color-coding and verbiage on the handle.

There shall be a total of one (1).

TANK TO PUMP LINE

The connection between the tank and the pump shall be capable of the flow recommendations as set forth in (NFPA) 1901, Standard for Automotive Fire Apparatus, latest revision and shall be tested to those standards when the pump is being certified.

One (1) non-collapsible flexible hoses and valves shall be incorporated into the tank to pump plumbing to allow movement in the line as the chassis flexes to avoid damage during normal road operation. Three (3) inch PVC piping shall be used to complete the connection from the tank to pump valve to the water tank.

TANK TO PUMP CHECK VALVE

There shall be a tank to pump check valve, conforming to NFPA standard requirements to prevent water from back flowing at an excessive rate if the pump is being supplied from a pressurized source. The check valve shall be mounted as an integral part of the pump suction extension. A hole up to .25 inch (6.00 mm) is allowable in the check valve to release steam or other pressure buildup so that the void between the valve and check valve may drain of water that could be subject to freezing.

TANK TO PUMP VALVE

A 3.00 inch (77 mm) Akron Brass 8000 series 'electric valve' with stainless steel ball.

STYLE 9333 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9333 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controls must be of true position

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feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Two additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller must have up to three preset locations that can be user set and easily recalled upon each use. The unit must be capable of being used in conjunction with at least two additional displays to control one valve. The unit must provide position indication through a full color backlit LCD display. The display shall be a full color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. The unit must carry a five year warranty.

TANK FILL LINE

One (1) 2.00 inch (50.80 mm) tank fill/recirculating line shall be installed from the pump directly to the booster tank.

TANK FILL VALVE

A 2.00 inch (50 mm) Akron Brass 8000 series 'electric valve' with stainless steel ball.

STYLE 9333 VALVE CONTROLLER

The controller shall be an Akron Brass Style 9333 Navigator Pro™ 2.0 Valve Controller and shall be installed at the pump operator's panel location. The electric controls must be of true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well as an optional one touch full open feature to operate the actuator. Two additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller must have up to three preset locations that can be user set and easily recalled upon each use. The unit must be capable of being used in conjunction with at least two additional displays to control one valve. The unit must provide position indication through a full color backlit LCD display. The display shall be a full color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. The unit must carry a five year warranty.

FORMED ALUMINUM BODY

The apparatus body shall be a formed aluminum design, which serves as the structural skeleton to support the body and its contents. The entire formed structure shall be welded together utilizing an A.W.S. Certified welding procedure.

BODY STRUCTURE MEMBERS

The body shall have structural members in certain areas of the body. The body shall be designed for maximum strength to weight ratio, therefore the gauge of sheet metal and structural members varies from .125 inches (3.18 mm) to .250 inches (6.35 mm) throughout, dependent on the design requirement.

BODY MATERIAL TYPE

All body structural members shall be Aluminum 6061-T6 alloy material. All .125 inch (3.18 mm) sheet material and .188 inch (4.78 mm) sheet materials shall be Aluminum Alloy 5052-H32. These

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alloys are required because it provides optimum all-around performance for strength, manufacturing properties, and corrosion resistance.

ECK® ANTI-CORROSION PROCESS

Absolutely no dissimilar metals shall be used in the body and its supporting substructure without being separated by Eck®, which prevents corrosion by providing a barrier between dissimilar metals, sealing out moisture and absorbing energy created by a dissimilar metal reaction.

FRONT BODY COMPARTMENT WALLS

The front compartment walls of both forward most compartments shall be sheet finished. No overlay material shall be visible from the interior of the compartments.

REAR BODY COMPARTMENT WALLS

The rear compartment walls of both rearward most compartments shall be sheet finished. No overlay material shall be visible from the interior of the compartments. Access panels from the rear walls shall be strategically placed to ensure access to the rear taillight clusters for any servicing that may be completed.

BODY COMPARTMENT ACCESS PANELS

Removable panels shall be provided in the apparatus body, where needed, to access shut off valves and connection points within the hydraulic system.

COMPARTMENT TOP

The top of the compartments shall be an integral portion of the body. No overlay material shall be visible from the interior of the compartments.

COMPARTMENT FLOORS

The body compartments shall be enclosed with aluminum sheet metal as specified above. The compartment floors shall have a 1.00 inch (25.40 mm) lip downward at the door opening side of the compartment. This lip shall integrate with a structural member on the bottom edge and form a "sweep-out" compartment. This design shall also allow for a structural flush fitting door frame and a complete door/weather seal or a roll up type door as specified.

COMPARTMENT LOAD CAPACITY

Each compartment shall have a minimum of one additional structural compartment floor support centered on the underside of the compartment floor. This additional member shall be integral with the body. Each compartment must be designed to carry a working load of:

Full depth side compartment: 1,000 lbs (453.59 kg) per compartment

Half depth side compartment: 750 lbs (340.19 kg) per compartment

NOTE: These values are for design purposes only for individual compartment construction and are not meant to be used as an actual overall weight rating for equipment load per compartment for the specified apparatus. The apparatus shall be engineered such that the

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completed unit, when loaded to its estimated in-service weight, shall comply with the gross axle weight ratings {GAWR}, the overall gross vehicle weight rating {GVWR}, and the chassis manufacturer's load balance guidelines per NFPA.

FASTENERS

All bolts and nuts used in the finish construction of the apparatus shall be stainless steel. Any bolt extending into a compartment or into the hose bed area shall have an acorn nut attached or be protected in such manner where sharp edges are avoided.

PAINT SPECIFICATIONS

All bright metal fittings, if unavailable in stainless steel, shall be heavily chrome plated.

Critical body and sub-frame area which cannot be primed after assembly shall be pre-painted.

All welded metal surfaces shall be ground to a smooth surface prior to a degreasing and high pressure, high temperature phosphatizing process. The entire surface shall be sprayed with a non-chromate sealing compound to prevent formulation of stains or flash rust on previously phosphatized parts.

The paint applied to the apparatus shall be PPG Industries Delta® brand, applied throughout a multi-step process including at least two coats of each color and clear coat finish.

The coating shall be an infra-red, baked air dried. The coatings shall provide full gloss finished suitable for application by high-pressure airless or conventional low pressure air atomizing spray.

The coatings shall not contain lead, cadmium or arsenic. The polyisocyanate component shall consist of only aliphatic isocyanates, with no portion being aromatic isocyanates in character. The solvents used in all components and products shall not contain ethylene glycol mono-ethyl ethers or their acetates (commercially recognized as cello solves), nor shall they contain any chlorinated hydrocarbons. The products shall have no adverse effects on the health or nor present any unusual hazard to personnel when used according to manufacturer's recommendations for handling and proper protective safety equipment, and for its intended use.

The coating system, as supplied and recommended for application, shall meet all applicable federal, state and local laws and regulations now in force or at any time during the courses of the bid.

The manufacturer shall supply (upon request) for each product and component of the system, a properly complete OSHA ""Safety Data Sheet".

The following documents of the issue in effect on the date of the invitation to quote form a part of this document to the extent specified herein:

Federal Standards: Number 141A and 141B paint, varnish, lacquer and related material: methods of inspection, sampling, and testing.

Military Standard: MIL-C 83486B Coating, Urethane, Aliphatic Isocyanates, for Aerospace applications.

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Industry Methods and Standards: ASTM Method of Analysis (American Society for testing and Materials). BMS 10-72A (Boeing Material Specifications).

The entire exterior body structure (excluding roll-up doors) shall receive the primer coats and the finish coats. The apparatus body will be painted in a down draft type paint booth to reduce dust, dirt or impurities in the finish paint. The painted surfaces shall have a finish with no runs, sags, craters, pinholes or other defects. The coating will meet the following test performance properties as a minimum standard.

BODY PAINT COLOR

The apparatus body shall be painted PPG 2185 White.

LINE-X COMPARTMENT FINISH

The compartment interiors shall be coated with Line-X.

COMPARTMENT FINISH COLOR

The Line-X Color shall be Medium Gray.

UNDERCOATING

The underside of the apparatus body shall be cleaned and prepared for the application of a sprayed on automotive type undercoating for added corrosion resistance.

The undercoating is to be of a quick dry rubberized, solvent based coating that is (black) in color. Resists rust and abrasion as it seals out dust and moisture.

The application does not include any additional underbody components.

DIAMOND PLATE FRONT AND RAW ALUMINUM REAR OVERLAYS

The entire front face of the apparatus body shall have aluminum diamond plate overlays installed.

The entire rear face of the apparatus body shall have raw aluminum overlays installed for the installation of chevron striping.

All overlay materials shall be coated with 3M adhesive sealant on the back portion to provide an insulating barrier between dissimilar metals.

CATWALKS

The catwalks shall be constructed with materials of a non-slip .125 inch embossed aluminum diamond plate.

BODY ROOF COVER

The roof of the body shall be overlaid with materials of an embossed aluminum diamond plate.

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AERIAL BODY MOUNTING SYSTEM

The complete apparatus body shall be modular in construction and built separately from the chassis. The apparatus body shall be mounted to the chassis framework. The body shall be combination bolted and welded to hangers to reduce fatigue of the body material in mounting locations.

Rubber isolators, of a specific durometer to carry the necessary loads of the apparatus body, shall be provided at various points where needed to help reduce vibration and minimize the stress absorbed by the body caused from chassis frame rail flexing.

BODY STRUCTURE WIDTH

The width of the apparatus body from the outside of the left compartments to the outside of the right compartments shall be 96" excluding any attached peripherals such as rub rails, fenderettes, grab handles, etc.

COMPARTMENT DRAINS

Two (2) .50" diameter drain holes shall be provided in all exterior apparatus compartments. Drains shall be protected from dust, dirt, and moisture by the stiffener channel on the underside of the compartment.

COMPARTMENT VENTILATION

To allow for proper air circulation & flow, each compartment shall have a venting route. The venting locations shall be determined by best-fit for each body configuration. Louvered plate vents shall be installed appropriately on the compartment interior walls.

COMPARTMENTATION

The following compartments shall be supplied on the apparatus:

Compartment "L1"

There shall be one (1) compartment located ahead of the pump house on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 39.75" wide by 44.25" high with a depth of 23.25".

The compartment opening shall measure approximately 35.25" wide by 39.75" high.

Compartment "L2"

There shall be one (1) compartment above the rear wheels on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 63.25" wide by 29.50" high with a depth of 24.50".

The compartment opening shall measure approximately 55.25" wide by 26.00" high.

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Compartment "L3"

There shall be one (1) compartment above the rear wheels/rear outrigger on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 60.25" wide by 29.50" high with a depth of 24.50".

The compartment opening shall measure approximately 55.25" wide by 26.00" high.

Compartment "L4"

There shall be one (1) full height compartment located behind the rear outrigger on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 52.25" wide by 59.25" high with a depth of 24.50".

The compartment opening shall measure approximately 47.75" wide by 55.75" high.

Compartment "L5"

There shall be one (1) compartment located behind the platform access steps on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 28.50" wide by 37.25" high with a depth of 23.75".

The compartment opening shall measure approximately 21.75" wide by 33.50" high.

Compartment "R1"

The approximate interior dimensions of this compartment shall be 39.75" wide by 44.25" high with a depth of 23.25".

The compartment opening shall measure approximately 35.25" wide by 39.75" high.

Compartment "R2"

There shall be one (1) compartment above the rear wheels on the right side of the apparatus.

The approximate interior dimensions of this compartment shall be 63.25" wide by 29.50" high with a depth of 24.50".

The compartment opening shall measure approximately 55.25" wide by 26.00" high.

Compartment "R3":

There shall be one (1) compartment above the rear wheels on the right side of the apparatus.

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The approximate interior dimensions of this compartment shall be 60.25" wide by 29.50" high with a depth of 24.50".

The compartment opening shall measure approximately 55.25" wide by 26.00" high.

Compartment "R4"

There shall be one (1) full height compartment located behind the rear outrigger on the right side of the apparatus.

The approximate interior dimensions of this compartment shall be 52.25" wide by 59.00" high with a depth of 24.50".

The compartment opening shall measure approximately 47.75" wide by 55.75" high.

Compartment "R5"

There shall be one (1) compartment located behind the platform access steps on the right side of the apparatus.

The approximate interior dimensions of this compartment shall be 28.50" wide by 37.25" high with a depth of 23.75".

The compartment opening shall measure approximately 21.75" wide by 33.50" high.

ROLL-UP DOOR CONSTRUCTION

All horizontal and vertical side compartment doors shall be roll-up style doors unless otherwise specified.

R•O•M ROLL-UP DOOR

A R•O•M Corporation Series IV roll-up shutter door shall be installed. Each shutter slat, track, bottom rail, and drip rail shall be constructed from anodized 6063 T6 aluminum.

Shutter slats shall feature a double wall extrusion 0.315 inches thick with a concave interior surface to minimize loose equipment jamming the shutter door closed. Shutter slats shall feature an interlocking end shoe to prevent side to side binding of the shutter door during operation. Slat inner seal shall be a one piece PVC extrusion; seal design shall be such to prevent metal to metal contact while minimizing dirt and water from entering the compartment.

Shutter door track shall be one piece design with integral overlapping flange to provide a clean finished look without the need of caulk. Door track shall feature an extruded Santoprene rubber double lip low profile side seal with a silicone co-extruded back to reduce friction during shutter operation.

Shutter bottom rail shall be a one piece double wall extrusion with integrated finger pull. Finger pull shall be curved upward with a linear striated surface to improve operator grip while operating the shutter door. Bottom rail shall have a smooth contoured interior surface to prevent loose equipment from jamming the shutter door. Bottom rail seal shall be made from Santoprene; it will

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be a double "V" seal to prevent water and debris from entering compartment. Bottom rail lift bar shall be a one piece "D" shaped aluminum extrusion with linear striations to improve operator grip during operation. Lift bar shall have a wall thickness of 0.125 inches. Lift bar shall be supported by no less than two pivot blocks; pivot blocks shall be constructed from Type 66 Glass filled reinforced nylon for superior strength. Bottom rail end blocks shall have incorporated drain holes which will allow any moisture that collects inside the extrusion to drain out.

Shutter door shall have an enclosed counterbalance system. Counterbalance system shall be 4.00 inches in diameter and held in place by 2 heavy duty 18 gauge zinc plated plates. Counterbalance system shall have 2 over-molded rubber guide wheels to provide a smooth transition from vertical track to counterbalance system.

SIDE COMPARTMENT DOORS/TRACK/TRIM/WET PAINTED

The side compartment roll up doors, track and trim shall be wet finish painted to color match the apparatus body.

ROLL-UP DOOR PROTECTORS

There shall be a protective cover installed under Ten (10) body side compartment door roll(s) to protect the door in the rolled up position.

ROLL-UP DOOR PROTECTOR FINISH

The roll-up door protector shall be left Natural finish.

DOOR ASSIST STRAPS

There shall be nylon straps installed on Ten (10) compartment doors to assist in closing the door.

DOOR OPEN INDICATOR

Each roll up door shall have an integral door open indicator magnet in the lift bar.

If the door is not properly closed and the transmission is placed into drive or reverse mode with the parking brake released, it shall activate the "hazard light" in the cab to alert the crew.

SILL PLATES

Brushed stainless steel sill plates shall be installed at the bottom of Ten (10) body compartment door openings as specified.

ONSCENE COMPARTMENT STRIP LIGHTING

OnScene "Access" LED strip lighting shall be installed in the compartments as specified. Each light strip shall be of maximum length available to fit the opening.

The lighting in each compartment shall be on a separate circuit, and only illuminate when the compartment doors are open.

Two (2) full length "Access" LED strip lights shall be installed in two (2) mid height

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compartment(s), one (1) each side of the framed opening.

Two (2) full length "Access" LED strip lights shall be installed in four (4) over wheel compartment(s), one (1) each side of framed opening.

Two (2) full length "Access" LED strip lights shall be installed in two (2) low side compartment(s), one (1) each side of framed opening.

Two (2) full length "Access" LED strip lights shall be installed in two (2) full height compartment(s), one (1) each side of framed opening.

Two (2) full length "Access" LED strip lights shall be installed in the rear ladder compartment, one (1) each side of framed opening.

FLUSH FLAT BACK

The rear of the apparatus shall be equipped with a flush back construction with no tailboard extension.

The rear body shall be constructed such that the angle of departure shall be no less than 8 degrees at the rear of the apparatus when fully loaded (NFPA) 1901, Standard for Automotive Fire Apparatus.

WHEEL WELLS

Wheel wells shall have semicircular black polymer composite inner liners that are bolted to the wheel well panel and supported inboard by brackets that are connected to the body framework. Each wheel well shall be a continuous piece with no breaks or ledges where road grime or debris may accumulate. This liner shall be removable for access to suspension assembly for repairs. There shall be no exception to the bolted wheel well inner liner requirement.

WHEEL WELL PANELS

The body panel in the wheel well area on each side of the body shall be fabricated of same material type as the body and finish painted.

SCBA BOTTLE COMPARTMENTS

Cylindrical SCBA storage compartments shall be installed in the wheel well area above the wheel well liner, protected from dirt, rocks, and other debris.

The storage compartments shall be made of a tube that interfaces with a door and housing - fastened to the wheel well panel for a secure installation. The inside of each compartment shall be lined with material (if required) to protect the air bottles from being damaged.

The storage compartments shall be installed in the apparatus at an inclined angle and incorporate a 1" nylon safety loop to be attached to the top of the bottle, to prevent the bottles from sliding forward when stored. There shall be holes drilled in the tubes for drainage in the event that water enters the compartment. Each SCBA compartment shall be a minimum internal diameter of 7.5" and be at least 25" deep.

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There shall be three (3) compartments on each side of the apparatus; one (1) rearward and two (2) between the tandem axle wheel wells.

Each storage compartment shall be provided with a brushed finish stainless steel door with a push button latch.

FUEL FILL ASSEMBLY

There shall be a fuel fill assembly located on the driver's side rear wheel well panel accessing the chassis supplied fuel tank. The assembly shall be located in the area rearward of the axle that best suits efficient fuel filling with the space appropriated on the left side of the apparatus.

The fuel fill assembly will have a drain to allow overflow to drain on the back side of the apparatus body. The fuel fill cap shall be removable, manufactured of plastic materials, green in color.

The fuel fill cap shall be labeled "DIESEL FUEL". The fuel fill neck shall have a .375 inch inside diameter vent line installed from the top of the fuel tank to the fill tube.

Each fuel fill compartment shall be provided with a brushed finish stainless steel door with magnetic latch.

FENDERETTES

Four (4) polished stainless steel fenderettes shall be provided on body rear wheel well openings, two (2) each side. A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering. A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to resist deterioration.

REAR STORAGE AREA

A storage assembly shall be provided at the rear of the apparatus body directly below the ground ladder storage area. The storage tray assembly shall be constructed of a steel structure with a D/A finish, aluminum tray insert. The tray assembly shall be of the slide out design to allow easy access to items stored within the tray from the rear of the apparatus.

A 1/8" aluminum hinged drop-down door with a stainless steel quarter turn bent "D" ring style latch shall be provided. The door shall be equipped with dual rods with adjustable strikers. The door shall protect the storage area from dirt and water during over the road travel. Two (2) Tec-Niq model E13 series 2.75" diameter round LED lights shall be provided for illumination.

The exterior of the drop-down door shall be covered with a white Scotch-Lite Reflective Stripe.

HOSEBED

There shall be one (1) hose bed area provided and installed on the right rear side of the apparatus body. The hosebed shall be accessible from the top and rear for loading and unloading of hose.

The hosebed shall terminate with a hose chute at the rear of the apparatus and directly adjacent to the right side of the ground ladder storage area.

The hosebed floor shall be overlaid with slotted aluminum plate to provide ventilation for the hose.

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Polished stainless steel angled scuff plates shall be installed on the rear body panel around the edges of the hose bed.

The hosebed shall be capable of holding 800 feet of 5 inch hose in a flat lay.

Dealer Provided Hosebed Cover

HOSE BED LIGHTS

There shall be one (1) 8.00 inch OnScene "Access" LED strip light provided to illuminate the hose bed.

The light shall be mounted at the forward wall of the hose bed area.

HOSE BED LIGHT ACTIVATION

The hose bed light shall be activated when the park brake is set.

TANK CAPACITY

The tank shall be 275 gallons in capacity.

PRO POLY POLYPRENE TANK

The booster tank shall be constructed of .50 inch (12.70 mm) thick polypropylene sheet stock which is a non-corrosive stress relieved thermoplastic. It shall be designed to be completely independent of the body and compartments. All joints and seams are extrusion welded and/or contain the "Bent Edge" and tested for maximum strength and integrity. The top of the booster tank is fitted with lifting eyes designed with a 3 to 1 safety factor to facilitate tank removal.

COVER

The tank cover shall be constructed of .50 inch (12.70 mm) thick polypropylene and shall be recessed. A minimum of two lifting dowels shall be drilled and tapped .50 inch (12.70 mm) x 2.00 inch (50.00 mm) to accommodate the lifting eyes.

BAFFLES

The swash partitions are manufactured of .50 inch (12.70 mm) polypropylene. All partitions are equipped with vent and air holes to permit movement of air and water between compartments to provide maximum water flow. All swash partitions interlock and are welded to one another as well as to the walls of the tank.

MOUNTING

The tank shall rest on the sub-frame cross members with an unsupported area not to exceed 530 square inches on tanks up to 40.00 inches (1016.00 mm) in height. On tanks over 40.00 inches (1016.00 mm) in height, an unsupported area of not more than 400 square inches must be maintained. All tanks shall be isolated from those cross members with a minimum of 2.00 inch (50.00 mm) x .25 inch (6.40 mm) hard rubber strips that are 60 durometer in hardness. The tank shall sit cradle mounted in the under body sub-frame and shall be completely removable without

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disturbing the body side panels.

FILL TOWER

The fill tower opening shall be approximately 10.00 inches (254.00 mm) x 10.00 inches (254.00 mm). The tower will have a .25 inch (6.40 mm) thick removable polyprene screen and a polyprene hinged type cover that will open if the tank is filled at an excess rate.

There shall be a removable .25 inch (6.40 mm) thick polyprene screen to prevent debris from falling into the tank.

The fill tower shall have a 4.00 inch (100.00 mm) overflow that will discharge from the rear of the tank to the ground behind the rear wheels. The overflow shall originate above the tank water level when filled to the rated capacity.

TANK CLEANOUT

There shall be a 3.00 inch (77.00 mm) plug located at the front of the tank for use in draining and cleaning out the tank.

OUTLETS

In addition to the tank suction valve outlet located at the front of the tank, there shall be an outlet provided for the tank fill valve. If there are any additional options selected (such as direct tank inlets), there shall be additional outlets provided to accommodate these items.

REAR BODY MODULE/ LADDER STORAGE AREA

There shall be a separate body module attached to the rear center area of the apparatus. The rear module support structure structural members and exterior body panels shall be fabricated from the same materials as those used elsewhere within the apparatus body.

A .125 inch thick embossed aluminum treadplate deck surface shall be provided across the top of the rear module to enable access to the aerial platform. The underside of this deck shall be used for rear scene and warning light mounting as applicable.

There shall be a ladder storage area provided and installed in the rear center area of the apparatus. The ladder storage area shall be constructed as large as possible and utilize the area enclosed by the center of the apparatus body.

The storage area shall be divided to allow removal of each ladder independently, without disturbing the storage of any other.

Each ladder shall be stored vertically on independent slides to separate the ladders from each other. The lower slides shall be fabricated of polyester structural angles for low friction and resistance of damage to ground ladder rails. The upper slides shall be fabricated of formed aluminum, laminated with polypropylene wear pads to retain the ladders in alignment and prevent metal to metal contact between the ladders and slides. The slides shall be secured in place with hardware for ease of removal or replacement.

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Stops shall be provided and installed at the front of the ladder storage compartment area to prevent the ladders from sliding forward.

Storage for up to six (6) standard hook type pike poles shall be provided in the rear ground ladder storage area, unless otherwise noted. Each pike pole shall be stored in an individual, properly labeled, 2.25" diameter aluminum tube.

The ladder storage area shall also be utilized for storage of any other miscellaneous equipment as available space allows.

A vertically hinged double door assembly shall be provided at the rear of the apparatus to provide access and prevent dirt and road grime from entering into the ladder storage area. The doors shall be fabricated of natural finished smooth aluminum, to accept reflective striping on the rear of the apparatus.

A label shall be affixed for each item, describing the type and size of the equipment being stowed.

GROUND LADDERS

The following ground ladders shall be provided:

Two (2) Duo-Safety 35 foot (10.0 m) two (2) section aluminum extension ladder(s), model 1200.

One (1) Duo-Safety 28 foot (8.5 m) two (2) section aluminum extension ladder(s) model 1200A.

One (1) Duo-Safety 20 foot (6.0 m) aluminum roof ladder(s) with folding hooks on both ends, model 875DR.

One (1) Duo-Safety 16 foot (5.0 m) aluminum roof ladder(s) with folding hooks on both ends, model 875DR.

One (1) Duo-Safety 12 foot (3.5 m) aluminum attic ladder(s), model 585A.

One (1) Little Giant Defender model 17.00 foot aluminum ladder with patented triple-locking hinges and a 300 pound capacity.

SHOP NOTE

Will be stored on the floor of L2 under the adjustable shelf.

FIRE HOOKS UNLIMITED PIKE POLES

- one (1) Fire Hooks Unlimited 12 foot (3.6 m) solid white ash National Hook(s), model NH-12.

- one (1) Fire Hooks Unlimited 10 foot (3.0 m) solid white ash National Hook(s), model NH-10.

- one (1) Fire Hooks Unlimited 8 foot (2.4 m) aircraft steel shaft with chisel end and celtex grips (NY) Roof Hook(s), model RH-8.

- one (1) Fire Hooks Unlimited 6 foot (1.8 m) aircraft steel shaft with chisel end and celtex grips (NY) Roof Hook(s), model RH-6.

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- one (1) Fire Hooks Unlimited 10 foot (3.0 m) fiberglass with D-Handle Arson Trash Hook(s), model TRH-10.

OUTRIGGER ACCESSORIES

The outriggers shall be controlled from each side of the apparatus. A control box with a hinged door shall be provided and installed, one (1) each side, installed per NFPA, lighted for night operations. There will be a side to side indicator provided and installed at each control station to aid in leveling the unit.

The outrigger control doors shall be fabricated from brushed finish stainless steel.

AUXILLARY GROUND PAD MOUNTING

Two (2) auxillary ground pad storage slide assemblies with locking devices shall be provided. Each slide assembly shall be designed to hold two (2) auxiliary ground pads. The storage slides shall be located under the apparatus as close to the rear outrigger/stabilizer as design allows

The slides shall be constructed of U.H.M.W. nylon assemblies with body material mounting angles.

OUTRIGGER COVERS

Brushed stainless steel covers shall be installed over the front and rear outrigger areas, one on each side of the apparatus, front and rear. Each cover shall mount directly to the outrigger stabilizer arm and extend with the outrigger.

Access Steps & Handrails, (2) T/T & (2) Platform

HANDRAILS KNURLED ALUMINUM ILLUMINATED

Handrails shall be 1.25 inches in diameter, constructed of extruded aluminum with a knurled grip, full length red reflective strip and full length illuminated LED light strip. The illuminated LED light strip shall only be provided on the straight sections of handrail.

There shall be a 2.00 inch minimum clearance between the bracket and the body. The handrails shall be spaced away from the body using chrome plated ends. The light shall illuminate an area adjacent to the handrail and in accordance with (NFPA) 1901, Standard for Automotive Fire Apparatus, standard requirements.

The following handrails shall be installed at the approximate gripping lengths as noted:

FRONT HANDRAIL LOCATION

Two (2) sets of handrails shall be provided and installed at the front of the apparatus, one (1) handrail on each side of the turntable access steps. Each handrail shall be of an adequate length, as available usable space allows, to provide a suitable gripping area for personnel.

10" HANDRAILS

Two (2) 10.00 inch handrails shall be installed horizontally on the top of the apparatus body near

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the access steps.

REAR HANDRAIL LOCATION

Two (2) sets of handrails shall be provided and installed, one (1) handrail on each side of the platform access steps. Each handrail shall be of an adequate length, as available usable space allows, to provide a suitable gripping area for personnel.

10" HANDRAILS

Four (4) 10.00 inch handrails shall be installed horizontally on the top of the apparatus body near the access steps.

Each handrail LED light strip specified shall be blue in color.

ILLUMINATED HANDRAIL LIGHTING ACTIVATION

The illuminated handrail light shall be activated when the park brake is set.

TURNTABLE ACCESS

There shall be two (2) "Smart" access ladder assemblies provided and installed, one (1) each side, for access to the turntable. The access ladders shall be located rearward of the chassis cab. Each ladder assembly shall be constructed from formed stainless steel sheet material with the treads constructed of a slip resistant grating type stepping material.

The upper section of the ladder assembly shall be permanently secured to the forward body module with mechanical fasteners. When deployed, the lower section of the ladder shall pivot outward away from the apparatus body to create a safe and comfortable climbing angle. A fold down step shall be provided at the bottom of each access ladder.

A gas cylinder shall be installed on each ladder assembly to assist in deploying and stowing the ladder. A mechanical locking mechanism shall be provided to retain the fold down step in a stowed and secured position when in transit or when not in use. Access ladder illumination shall be provided during low light conditions.

If the step is not properly stowed and the transmission is placed into drive or reverse mode with the parking brake released, it shall activate the hazard light in the cab to alert the crew.

STEP LIGHTING

Eight (8) OnScene Solutions "Access" Series 8.00 inch (203.20 mm) LED light(s) with aluminum mounting bezel(s) shall be installed to illuminate the stepping surfaces.

The light(s) shall be directed towards and positioned above the stepping surface.

UNDER ACCESS STEP LIGHTING

One (1) light shall be installed to illuminate the ground beneath each of the access step areas specified. The light shall be a TecNiq model T44 series, 4" round, 8 diode LED light.

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The light shall be directed beneath and positioned below the access step area.

LIGHTING ACTIVATION

Step lighting shall be activated when the park brake is set.

PLATFORM ACCESS

There shall be two (2) "Smart" access ladder assemblies provided and installed, one (1) each side, for access to the platform. The access ladders shall be located between the two (2) rearward most side body compartments on each side of the apparatus. Each ladder assembly shall be constructed from formed stainless steel sheet material with the treads constructed of a slip resistant grating type stepping material.

The upper section of the ladder assembly shall be permanently secured to the body module with mechanical fasteners. When deployed, the lower section of the ladder shall pivot outward away from the apparatus body to create a safe and comfortable climbing angle. A fold down step shall be provided at the bottom of each access ladder.

A gas cylinder shall be installed on each ladder assembly to assist in deploying and stowing the ladder. A mechanical locking mechanism shall be provided to retain the fold down step in a stowed and secured position when in transit or when not in use. Access ladder illumination shall be provided during low light conditions.

If the step is not properly stowed and the transmission is placed into drive or reverse mode with the parking brake released, it shall activate the hazard light in the cab to alert the crew.

STEP LIGHTING

Eight (8) OnScene Solutions "Access" Series 8.00 inch (203.20 mm) LED light(s) with aluminum mounting bezel(s) shall be installed to illuminate the stepping surfaces.

The light(s) shall be directed towards and positioned above the stepping surface.

UNDER ACCESS STEP LIGHTING

One (1) light shall be installed to illuminate the ground beneath each of the access step areas specified. The light shall be a TecNiq model T44 series, 4" round, 8 diode LED light.

The light shall be directed beneath and positioned below the access step area.

LIGHTING ACTIVATION

Step lighting shall be activated when the park brake is set.

SIDE COMPARTMENT UNISTRUT

Vertically mounted Unistrut shall be installed in all apparatus body compartments, in the upper and lower sections, to accommodate the installation of shelves, trays, and or other miscellaneous equipment.

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FIXED VERTICAL COMPARTMENT DIVIDER(S)

A permanently mounted sheet metal compartment divider shall be installed in each compartment specified. There shall be vertical Unistrut tracks attached to each side of the divider to aid in equipment mounting.

The following shall be provided in each compartment:

L-3 FIXED DIVIDER

There shall be one (1) fixed divider(s) located within the L-3 compartment.

The fixed divider shall be located 20.00 inches (508.00 mm) from the compartments rear finished door opening.

SHELVING

The shelving shall be made out of .190 inch (4.83 mm) smooth aluminum sheet material with a formed 1.50 inch (38.10 mm) lip on the front and back.

The side mounting brackets shall be provided for vertical adjustment.

The following shelving shall be provided:

UPPER FULL DEPTH SHELVING

A full width x full depth shelf shall be provided and installed in the upper area of the compartment as specified.

There shall be a total quantity of one (1) provided.

- One (1) located in the L-2 compartment.

LOWER FULL DEPTH SHELVING

A full width x full depth shelf shall be provided and installed in the lower area of the compartment as specified.

There shall be a total quantity of two (2) provided.

- One (1) located in the L-4 compartment.
- One (1) located in the R-4 compartment.

ROLL OUT TRAY(S)

Each tray shall be fabricated of .190 inch (4.83 mm) thick 3003 grade or higher aluminum sheet material with four (4) 3.00 inch (76.20 mm) side flanges, corner welded for maximum strength and shall be as wide and as deep as compartment allows.

The following shall be supplied:

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ROLL-OUT ASSEMBLY/ONSCENE

The floor mounted tray shall be full width and shall be secured to an (OnScene) rollout slide system constructed of anodized aluminum extrusions and assembled using stainless steel fasteners (no welds).

The slide shall use a three extrusion rail design utilizing twelve to sixteen (12-16) urethane rollers. The roller shall contain two (2) precision roller bearings mounted in an aluminum hub with a molded on urethane cover. The slide shall have a cable operated, spring loaded latch complimented by a large hand opening and red pull handle (Pull to Release). The slide shall lock in the closed and full extension positions.

The tray shall have a 1000# capacity and 100% extension.

There shall be a total quantity of two (2) provided.

- One (1) located in the L-4 compartment.
- One (1) located in the R-4 compartment.

ROLL-OUT ASSEMBLY/AUSTIN

The adjustable tray shall be full width and shall be secured to an Austin Hardware 22.00 inch (558.80 mm) long ball bearing "heavy duty" slide assembly. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The tray shall have a 300# capacity and 100% extension and adjustable height utilizing unistrut materials.

There shall be a total quantity of four (4) provided.

- Two (2) located in the L-1 compartment.
- Two (2) located in the R-1 compartment.

ROLL OUT/TILT DOWN TRAY

The roll out/tilt mounted tray shall be full width and depth and shall be secured to a (Slide Master) roll-out system. The slide unit shall extend down 30-degrees and 90% extension with a 250# slide capacity. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a latching device to hold the tray in the stored position.

The roll out tilt tray assembly shall be mounted to the unistrut of the compartment specified so that it is vertically adjustable.

There shall be a total quantity of four (4) provided.

Each slide shall be held in the locked position by a lever actuated twist lock.

Each Slide Master slide shall be wet painted {silver} in color.

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- One (1) located in the L-3 compartment.
- One (1) located in the L-4 compartment.
- One (1) located in the R-3 compartment.
- One (1) located in the R-4 compartment.

SHELF AND TRAY FINISH

Any shelf or roll-out tray installed shall be finish coated with medium gray Line-X.

ADJUSTABLE DEPTH SWING-OUT TOOL BOARD/ALUMINUM PEG BOARD

A DA finished, aluminum peg board, swing-out tool board shall be installed in the compartment as specified. The tool board shall be fabricated within a structural tubular frame, supported on a pivot rod, seated in bearings attached to the compartment floor and upper bracket. The pivot rod shall be located at the forward edge of the tool board.

The tool board shall be mounted to unistrut channels to enable adjustment of the tool panel at various depths within the compartment.

The tool board shall be capable of swinging open to a position perpendicular to the rear wall. A thumb latch and gas shock shall be installed to keep the board in the open and or closed positions.

There shall be a total quantity of one (1).

The pull-out/swing-out style tool board shall have RED reflective striping installed making the perimeter of the tool board more readily visible.

- One (1) located in the L-2 compartment.

RUB RAILS

Protective rub rails shall be provided on each side of the apparatus, along the lower edges of the body below the compartment doors. The rub rails shall be fabricated of 1" x 1" square extruded aluminum tube with tapered UHMW end caps.

The rub rails shall protrude beyond the outer surface of the apparatus body to protect it while loading and unloading firefighting equipment.

The rub rail shall not be constructed as an integral part of the apparatus body structure, allowing the rub rail to be easily removed in the event of damage.

The rub rail shall be secured with stainless steel fasteners and spaced away from the edge of the rear step with ½" nylon spacers to help absorb moderate rear impacts and prevent the collection of water and debris for easier cleaning.

TOW EYES

There shall be two (2) tow eyes installed on the rear of the apparatus, one (1) each side. The tow

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eyes shall be connected directly to the torque box and extend down below the apparatus body. The tow eyes are to have an inside diameter of approximately 3.00 inches and shall be painted to match the torque box.

LOW-VOLTAGE ELECTRICAL SYSTEM (MULTIPLEX)

Common power distribution areas shall be located at various points on the body and pump area (if applicable). These power distribution areas shall include the multiplexing input/output modules. Additional electrical components in these areas may include, but not be limited to, common power and ground studs, ground busses, solenoids, terminal strips, relays, and circuit breakers. All circuits shall have some form of circuit overcurrent protection either internal to the multiplexing device or external in the form of fuses or circuit breakers.

Wiring shall conform to section 13.2 of NFPA 2016, including wire type, identification, and rating; sizing for voltage drop and current load; and connections and terminations. Wiring protection shall include loom and braid and also meet section 13.2 of NFPA 2016, including temperature and moisture protection. Connections shall be made using Deutsch connectors, Packard connectors, ring terminals, and terminal lugs, as well as other accepted practices. The body and pump compartment (if applicable) shall be bonded to the vehicle frame.

PERIMETER LIGHTS LOCATION

There shall be six (6) underbody perimeter lights installed on the apparatus positioned to provide illumination to the immediate ground area around the unit.

One (1) each side under the front body compartments, one (1) each side under the rear body compartments, and two (2) under the rear of the apparatus.

PERIMETER LIGHTS

The underbody perimeter lights provided will be TecNiq model T44 series, 4" round, 8 diode LED lights.

PERIMETER LIGHTS ACTIVATION

The perimeter lights under the body shall be activated with activation of the chassis ground lights.

UPPER LIGHTING PACKAGE

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the upper areas of the vehicle.

UPPER ZONE C:

There shall be two (2) Whelen model L31HRFN red beacons with 360 degree LED lights, provided and installed on the apparatus, one (1) each side on the rear upper outboard corners.

The upper ZONE C specified lights shall be mounted on top of the decking below the platform at the rear of the apparatus, one (1) each side, in the outboard position.

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UPPER REAR WARNING LIGHT SWITCH E-MASTER ONLY

The upper rear warning lights shall be controlled through the master warning switch only. There shall not be a secondary switch.

LOWER LED WARNING LIGHTING

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the lower areas of the vehicle.

LOWER ZONE B&D:

There shall be six (6) Whelen model M6 series LED lights with provided and installed on the apparatus.

SIDE WARNING LIGHTS FLASH

The side warning lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors.

SIDE WARNING LIGHTS COLOR

The lower side warning lights mounted on the outrigger panels shall be red with clear lenses.

The lower side warning lights mounted in the lower rear corner shall be blue with clear lenses.

The light bezel(s) shall be provided with a chrome finish.

SIDE WARNING LIGHTS LOCATION

The warning lights shall be mounted, one (1) on each active outrigger panel and one (1) each side on the lower rear corners on the side of the apparatus.

LOWER SIDE WARNING LIGHT SWITCH E-MASTER/VISTA

The lower side warning lights shall be controlled through the master warning switch and a secondary side warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LOWER ZONE C:

There shall be two (2) Whelen model M6 series Super-LED lights provided and installed on the rear of the body.

REAR WARNING LIGHTS FLASH

The rear warning lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors.

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REAR WARNING LIGHTS COLOR

The lower rear warning lights mounted at the rear shall be blue on the left and red on the right side with clear lenses.

MOUNTING FLANGES

There shall be individual mounting flanges provided for "Lower Level Zone C" warning lights mounted above the taillight assembly.

The light bezel(s) shall be provided with a chrome finish.

LOWER REAR WARNING LIGHT SWITCH E-MASTER/VISTA

The lower rear warning lights shall be controlled through the master warning switch and a secondary rear warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LED REAR TAIL LIGHT ASSEMBLY

There shall be Whelen M6-Series Super LED rear taillight assemblies provided and installed with the apparatus, one (1) each side at the rear.

The following shall be installed in the order as specified from top to bottom:

- One (1) #M6BTT LED red brake light
- One (1) #M6T LED series amber turn signal light
- One (1) #M6 BUW LED clear backup light

MOUNTING FLANGES

There shall be individual mounting flanges provided for each light of the taillight assembly.

The light bezel(s) shall be provided with a chrome finish.

SWITCHABLE REAR SCENE / BACKUP LIGHTS

There shall also be a switch on the pump operator's panel that shall control the backup/scene lights after the park brake has been set. The switch shall work independently of the parking brake circuit, after the park brake has been set. The lights shall shut off when the park brake is disengaged.

LED DOT LIGHTING

There shall be seven (7) red clearance lights located on the rear of the apparatus, five (5) lights shall be located on the lower portion of the platform support structure as described elsewhere within these specifications.

Two (2) lights shall also be mounted on the sides facing the side at the rear corners, for use as clearance lamps. Two (2) additional lights shall be located on the lower rear of the apparatus in the outboard locations.

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The lights shall be Weldon brand 9186-1500 series LED red markers.

LED INTERMEDIATE TURN SIGNAL LIGHTING

There shall be two (2) amber intermediate turn signal/marker lights on the sides of the apparatus (one (1) each per side) between the front and rear axles.

The lights shall be Weldon brand 9186 series LED amber markers.

INTERMEDIATE TURN SIGNALS

The intermediate turn signals will steady burn when not blinking.

BRITAX LIGHTING

There shall be two (2) LED Britax lights, model number 63-4610, with rubber stalk mounts installed on the body, one (1) each side, as far to the rear as possible.

REAR DIRECTIONAL LIGHTBAR

There shall be a Whelen model #TA4437M directional lightbar provided and installed on the rear of the apparatus.

The lightbar shall be split into two (2) sections; each section shall be 21.875" long with four (4) TIR6 Super-LED light heads.

The lightbars shall be mounted to the outside edges of the body as high as possible so as to be readily visible by approaching traffic.

RDL CONTROL HEAD MOUNTING LOCATION

Rear Directional Lightbar control head shall be recess mounted in the center rocker panel at the center location.

REAR VIEW CAMERA LOCATION

A camera shipped loose with the chassis shall be surface mounted at the center location on the rear of the apparatus body for maximum viewing capability. A protective shroud shall be installed over the system to protect against damage.

12V Scene Lighting Options - Mid Mount - SELECT LOCATIONS

SIDE SCENE LIGHT LOCATION

There shall be two (2) scene lights installed on the apparatus catwalks, one (1) on each side centered over the L4/R4 compartments.

SCENE LIGHT MODEL

FireTech Mini Brow model #FT-MB-27-FT-W LED brow mount combination flood/spot lighting shall be provided on the apparatus.

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Each lamp head shall have 27 LEDs. 35" length. 14,256 lumens. FireTech Combination 10 degree spot and 60 degree flood optic configuration. White housing.

BODY SIDE SCENE LIGHT ACTIVATION

The scene lighting shall be activated with the chassis side scene lights.

REAR SCENE LIGHT LOCATION

There shall be two (2) scene lights installed on the upper portion of the rear facing vertical surface of the body bulkhead, one (1) on each side.

SCENE LIGHT MODEL

FireTech model #FTGMSJR LED scene lighting shall be surface mounted on the apparatus with a chrome bezel.

REAR SCENE LIGHT ACTIVATION

The rear scene lighting shall be activated when the apparatus transmission is shifted into reverse and by a virtual button on the Vista display control screen in the cab and a weather resistant toggle switch at the pump operator's panel.

The switch shall be labeled as follows:

Rear Scene

LINE VOLTAGE OUTLET L-4

The L-4 and R-4 body compartments shall be equipped with one (1) each of the following receptacle(s), in a location to be determined during Pre-Construction.

A total of two (2) shall be provided.

RECEPTACLE TYPE

The receptacle(s) shall be type NEMA 5-20 120V/20A single receptacle with a cover.

RECEPTACLE POWER

The previously described outlet(s) shall be powered by the shoreline connection and shall be live when the shoreline power is provided.

FIVE (5) SECTION 93' MID-MOUNTED AERIAL LADDER/PLATFORM

GENERAL INFORMATION

The aerial ladder/platform assembly shall be a five (5) section telescoping steel ladder, platform, pre-piped waterway, steel turntable, torque box and outriggers.

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INTENT OF AERIAL SPECIFICATIONS

The intent of these specifications is to describe a telescoping elevating ladder. It shall consist of the true ladder type. It will consist of a steel **1000**-pound capacity platform, five (5) steel ladder sections, a steel turntable, torque box and four outriggers. The rated vertical height of the unit shall be **93'** and the rated horizontal reach shall be **88' 6"**.

It is the intent of the purchaser that the device must meet all the requirements of the National Fire Protection Association's (NFPA) 1901, Standard for Automotive Fire Apparatus. It is also the intent of the purchaser to secure an apparatus that will be manufactured in the U.S.A.

It is not the intent of the purchaser to deviate from this requirement; therefore, platforms attached to booms, whether solid or lattice, or articulating arms will not be considered as meeting these specifications or the intent of these specifications.

DESIGN STANDARDS

The design criteria of the unit shall be to create a structure and support system that emphasizes safety, product reliability, and ease of operation. These criteria shall be:

1. All structure load supporting elements of the aerial ladder that are made of a ductile material, shall have a design stress of not more than 50 % of the minimum yield strength of the material based on the combination of the rated capacity and the dead load. This 2:1 structural safety factor meets the American National Standards Institute (ANSI) and the current National Fire Protection Association (NFPA) 1901, Standard for Automotive Fire Apparatus, standard.
2. The aerial device shall be capable of sustaining a static load one and one-half times it's rated platform load capacity (live load), in every position in which the aerial device can be placed when the vehicle is on a firm and level surface.
3. The aerial device shall be capable of sustaining a static load one and one-third times it's rated capacity (live load) in every position in which the aerial devices can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.
4. The hydraulic system shall be designed so that if a failure of any component or assembly within the system occurs, a single point failure of the entire system will not occur.
5. The aerial device shall be capable of operating with a rated platform load in either of two of the following conditions:
 - A. Conditions of high wind up to 50 mph.
 - B. Conditions of icing, up to a coating of .25" over the entire aerial structure.

All of the design criteria must be supported by the following test data:

1. Strain gauge testing of the complete aerial device certified by **Registered Professional Engineer**.
2. Analysis of deflection data taken while the aerial device was under test load.
3. Hydraulic component operating and burst strength testing.

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MATERIAL STANDARD

All structural materials used in the aerial shall be certified by the mill of the manufactured material. Materials that are not certified shall not be acceptable.

GENERAL APPARATUS DESCRIPTION

The unit shall be designed to conform fully to the "**Aerial or Quint Fire Apparatus**" requirements as stated in the (NFPA) 1901, Standard for Automotive Fire Apparatus, shall include the general requirements as stated in Chapter 4 for Aerial or Quint Apparatus.

AERIAL PLATFORM MOUNTING

The elevating platform turntable shall be mid-ship mounted to achieve lower overall travel heights. The elevating platform turntable will be mid-mounted thus providing the following vehicle benefits:

1. Improved mobility from lower travel height.
2. Capability of vehicle fitting into lower fire stations.
3. Improved ability to position turntable for rescue operations.
4. Improved chassis driver visibility.
5. Improved handling due to lowered vertical center of gravity.

HEIGHT AND REACH

The height of the unit shall be a minimum of **93'** as measured by (NFPA) 1901, Standard for Automotive Fire Apparatus, requirements, which states, "The rated vertical height of the elevating platform assembly will be measured in a vertical plane from the top surface of the platform handrail to the ground, with the platform raised to its position of maximum elevation." The bidder will state the height of the unit as measured by (NFPA) 1901, Standard for Automotive Fire Apparatus, standards.

The horizontal reach of the unit shall be a minimum of **88' 6"** as measured by (NFPA) 1901, Standard for Automotive Fire Apparatus, requirements, which states, "The rated horizontal reach of the elevating platform shall be measured in a horizontal plane from the centerline of the turntable rotation to the outer edge of the platform handrail, with the elevating platform extended to its maximum horizontal reach." The bidder shall state the reach of the unit as measured by (NFPA) 1901, Standard for Automotive Fire Apparatus, standards.

WELDMENT FIXTURES

To ensure exact tolerances between parts and part interchangeability, all weldments shall be manufactured in fixtures. To further insure weld integrity in all weldments, all aerial device fixtures must be able to position the weldments in the number 1 flat welding position resulting in maximum weld penetration in the welded material for both the tack and final weld process of the aerial device.

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AERIAL DEVICE PAINTING

Prior to any painting, all weldments such as the outrigger beams, torque box, turntable, and aerial ladder sections shall be shot blasted, cleaned and inspected to insure the removal of any surface imperfections and to insure superior paint adhesion to the metal.

The entire painting system shall utilize a single manufacturer's paint for compatibility between primers and finished coats. The paint shall be PPG Industries Delta® brand, applied throughout a multi-step process. All painting shall be done in atmosphere controlled spray booths. The weldments will then be primed with a Ditzler PPG zinc corrosive inhibitor and a Ditzler (PPG) Epoxy Primer. All seams between adjoining pieces that are not continuously welded shall be caulked to inhibit corrosion.

Before assembly, in preparation for final painting, the aerial unit shall be thoroughly cleaned, conforming to good painting practices.

AERIAL DEVICE PAINT

The finished paint color shall be PPG 925849 (2185) white enamel, allowing easy touch-up after extended use.

AERIAL APPARATUS CERTIFICATIONS (TYPE 1)

The aerial device shall be tested in compliance with the National Fire Protection Association's (NFPA) 1901, Standard for Automotive Fire Apparatus.

The following tests shall be conducted by personnel holding a Level II certification to detect defects and improperly secured components:

1. Magnetic particle inspection shall be conducted on all ferrous welds to assure the integrity of the weldments and also detect any flaws or weaknesses. These tests shall be performed prior to paint or assembly.
2. Ultrasonic inspection shall be used to detect any flaws in pins, bolts and other critical mounting components. The bolts shall be tested after they have been torqued to ensure the bolt was not damaged.
3. All extension/retraction cables shall be tested and certified by the cable vendor.
4. Functional tests, load tests, stability tests and visual structural examination shall be performed. These tests will determine any unusual deflection, vibration, or instability characteristic of the unit.
5. Hydraulic oil shall be sample tested prior to delivery.
6. A waterway system flow/pressure test shall be performed.

Upon completion of the preceding inspections, the independent testing company shall issue a Certificate of Inspection indicating that all specified standards have been satisfied. The Type I certification shall be provided by **Underwriters Laboratories, LLC (UL, LLC)**. Aerial manufacturers not utilizing third party, independent testing companies shall not be acceptable.

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TESTS

The following test shall be conducted to the aerial device prior to delivery, all listed tests shall be witnessed and certified by Underwriters Laboratories, LLC (UL, LLC) to ensure the device meets all requirements of (NFPA) 1901, Standard for Automotive Fire Apparatus.

1. 1-1/2:1 DYNAMIC STABILITY AND LIFT TEST - A test of the apparatus shall be performed that the aerial device sections and platform are so designed and powered to support a load representing 150% of the manufacturer's rated payload capacity at maximum horizontal reach on level ground. Since this is a dynamic test, the load must be raised, lowered and rotated without evidence of instability.

2. 1-1/3:1 DYNAMIC STABILITY AND LIFT TEST - A test of the apparatus shall be performed that the aerial device sections and platform are so designed and powered to support a load representing 133% of the manufacturer's rated payload capacity at maximum horizontal reach on a five (5) degree slope. Since this is a dynamic test, the load must be raised, lowered and rotated without evidence of instability.

3. TIME TEST - A test of the apparatus shall be performed to raise the platform from a bedded position extended to full height and rotated through a 90 degree turn smoothly and without undue vibration in not over 150 seconds.

4. WATER TOWER TEST #1 - A test of the apparatus shall be performed to test its ability to discharge 1000 gallons per minute parallel to the aerial device with the unit at full extension and zero degree elevation. The unit shall be capable of performing this test with a payload of 500 pounds at the platform.

5. WATER TOWER TEST #2 - A test of the apparatus shall be performed to test the ability to discharge 1000 gallons per minute, 90 degrees to the side of the aerial device with the unit at full extension, zero degree elevation. The unit shall be capable of performing this test with a payload of 500 pounds at the platform.

6. WATER TEST #3 - A test of the apparatus shall be performed to test the ability to discharge 1000 GPM above the aerial device centerline and as many degrees above 0 degrees as the deck gun design allows. This test shall also be performed with the aerial device fully extended at 0 degree elevation with a platform payload of 500 pounds.

Bidders must state their ability to comply with all of the above tests. Failure to do so shall be grounds for rejection of their bid.

AERIAL ELECTRICAL SYSTEM

12VDC electrical power for the aerial device shall be drawn from the chassis electrical system and routed through major segregated circuits and into an electric collector ring assembly. The circuits shall provide power for the aerial device controls, indicators, and interlocks; other circuits shall power auxiliary equipment such as lights, intercom, etc.

The electric collector ring assembly shall provide power for electrical ground, aerial device control functions, 12 and 120 volt systems. The collector rings shall be enclosed in a sealed, weatherproof housing to prevent corrosion.

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All aerial device wiring shall be multi-conductor, copper 18 gauge (minimum), color-coded, with thermosetting cross-linked polyethylene insulation. All aerial device wiring shall be in pre-engineered harnesses with each circuit identified by number and color code. Harness connections shall be through locking, weatherproof, guided pin connectors.

HYDRAULIC SYSTEM

The hydraulic system shall provide power in as efficient a manner as possible. The system shall use a piston type load sensing pump and shall be capable of operating under any rated load condition and aerial position at normal engine idle (slow idle) or governor controlled fast idle. The piston pump shall be capable of generating sufficient flows to allow multiple function operation without significant loss of speed.

The system shall not be dependent upon an auxiliary cooler to control system temperature.

NO Hydraulic Generator on Apparatus

POWER TAKE OFF (PTO)

The apparatus shall be equipped with a "Hot-Shift" power take-off (PTO) driven by the chassis transmission as described elsewhere within these specifications. The PTO shall be actuated by an electric switch located inside the cab. An indicator light shall be located in the cab to show when the PTO is engaged.

The PTO shall only engage with the parking brake applied and the transmission in neutral or drive if the fire pump (if equipped) is engaged. The PTO shall be a heavy-duty pressure lubricated and cooled unit for extended operations.

A master "Aerial Power" switch shall be provided for engagement of all aerial device hydraulic functions and 12-volt power. The emergency pump circuit shall be controlled separately.

AERIAL PTO HOURMETER

An hourmeter shall be installed in the chassis cab as described elsewhere within these specifications. The hourmeter shall be wired to the PTO circuit to record hours of PTO operation for the aerial device. The hourmeter shall aid in scheduling preventative maintenance as outlined in the operator's manual.

ENGINE HIGH IDLE ACTUATOR

The high idle actuator shall be used to raise the engine RPM to a preset level for proper aerial operation. The high idle switches shall be located in the chassis cab, at the stabilizer control station and the aerial control station.

For the safety of personnel and equipment, the high idle system shall not activate unless the interlock systems have been applied, the chassis spring brake is set, and the transmission is in neutral.

AERIAL HYD. PUMP

The aerial hydraulic pump shall be driven directly from the chassis provided PTO.

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HYDRAULIC OIL RESERVOIR

A 60 gallon hydraulic oil reservoir shall be provided to supply the needs of the hydraulic system. The tank shall be constructed from 10 gauge steel, which shall be welded at all interior and exterior seams.

Gated suction and drain lines shall be provided between the oil reservoir and the primary hydraulic pump. The tank fill shall be provided with a strainer screen, vent cap and magnetic drain plug. There shall be a sight level gauge for checking fluid levels.

The tank shall be cleaned and free from all contaminants before adding any fluid.

HYDRAULIC SYSTEM FILTRATION

Outgoing and return line filtration shall be provided. The pressure and return filters shall be easily accessible for maintenance.

Outgoing filtration shall be in the form of a pressure line filter installed between the hydraulic pump and entrance to any system components. The filter shall have an absolute rating of ten (10) microns. The pressure filter shall have a bypass circuit protected by a 50-psi check valve, which shall be installed around the pressure filter. The pressure line filter shall be required even if a suction line filter is provided in the reservoir due to the suction line filter's inability to trap contaminants entering the system.

A filter condition indicator shall be provided.

The return line flow shall be filtered by means of a return line filter. This filter shall have an absolute rating of ten (10) microns.

EMERGENCY HYDRAULIC PUMP SYSTEM

In the event of failure of the main hydraulic pump or vehicle engine, the unit shall be equipped with an emergency hydraulic pump.

The pump shall be plumbed into the hydraulic system and shall be electrically driven from the chassis batteries. The emergency pump shall be capable of limited functions of the ladder and outriggers to stow the unit. The pump shall be controlled from the right and left outrigger control stations with spring loaded momentary contact switches.

The emergency pump shall have a separate hydraulic oil supply line, attached directly to the hydraulic oil reservoir. A shutoff valve shall be provided and a check valve shall be incorporated on the pressure side of the pump.

HYDRAULIC HOSE, TUBING AND FITTINGS

All hydraulic steel tubing, hydraulic rubber covered wire-braided hoses, and hydraulic fittings/adapters shall have a minimum burst pressure rating of four times the operating pressure. Hoses and tubing shall be properly sized to minimize heat buildup during extended periods of operation. Hoses and tubing shall be properly sized to minimize flow restrictions.

All hydraulic hose shall have a tube and cover constructed of Nitrile elastomers and shall have

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braided/spiral wire reinforcement capable of maintaining a 4:1 safety factor in all areas of the hydraulic system. The hose shall meet the appropriate SAE performance specifications: 100 R2 or 100R12.

OUTRIGGER/AERIAL INTERLOCK

The aerial hydraulic system shall include an interlock feature that will prevent the accidental operation of the outriggers during aerial operation. This interlock shall also prevent accidental operation of the aerial device prior to the outriggers being properly deployed.

In the event of electrical failure, the operator shall be able to override the hydraulic system to operate the aerial device or outriggers for continuous, uninterrupted operation. A 5,000 psi hydraulic oil pressure gauge shall be provided and installed at the override location to monitor the overall pressure of the hydraulic system.

LIFT, EXTENSION AND ROTATION HYDRAULIC CONTROL VALVE

A three-function hydraulic proportional valve bank shall control ladder functions. The valve shall be located at the turntable with direct linkage controls.

TORQUE FRAME

A structural steel weldment comprised of two (2) outrigger housing weldments connected by longitudinal 14" x 4" structural tubing with top and bottom plates shall be provided. The frame shall be designed to provide a high strength structure to transfer all aerial loads and torque into the four (4) outriggers during aerial operations.

An open-base structure of steel tubing and plates welded to the torque box shall provide support for the turntable bearing plate.

The frame shall provide the strength and rigidity needed to support the body during travel. The design shall include service access points for maintenance and inspection.

TORQUE FRAME PAINT

The finished paint color shall be PPG 9000 black enamel, allowing easy touch-up after extended use.

FRONT MOUNTED STABILIZERS

Two (2) swing down stabilizers shall be mounted under the front bumper of the apparatus. The assembly shall be bolted to the chassis frame rails using 1/2" diameter grade 8 bolts. Two (2) hydraulic operated cylinders shall be attached, one (1) to each of the stabilizer beam assemblies.

The stabilizers shall not extend past the ends of the front bumper and shall not protrude lower than six (6) inches below the lower flange of the bumper assembly when stowed. Self-centering, floating type ground contact pads shall be attached to the ends of the beam assemblies. Each ground contact pad shall swivel and require no adjustment during outrigger set-up.

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OUTRIGGERS

Four (4) independently controlled out-and-down type outriggers shall be provided. The front outriggers shall provide an 18' stance across the outriggers. The rear outriggers shall be capable of maximum stability within a 16' stance across the outriggers.

OUTRIGGER SYSTEM HYDRAULIC CONTROL VALVES

A directional control valve that is designed for parallel hydraulic circuit operations shall control the outrigger cylinder system. This valve shall be modular in design so that individual sections can be replaced in the field, rather than complete valve assemblies, thus reducing maintenance costs. Each valve shall be equipped with a heavy-duty electric solenoid for electric control of the outrigger from the remote operator's station.

OUTRIGGER CONTROLS

Two (2) illuminated outrigger control stations shall be provided, one (1) on each side at the front of the vehicle. For safety, ease of deployment and operational speed, the outrigger controls shall be of the electric over hydraulic proportional type with manual overrides immediately accessible.

The outrigger controls shall be enclosed in a recessed compartment to protect each control from damage or accidental movement. The controls shall be located such that the operator can see the outrigger he is operating. Body designs that block the view of the outriggers from the control station shall not be acceptable.

Each outrigger control function shall be operated independently, so that the vehicle may be set up in restricted areas or on uneven terrain.

Each outrigger control station shall incorporate the following:

- Outrigger beam and jack actuator controller
- Outrigger/Jack deployed indicator light
- Fast idle switch
- Emergency pump control switch
- Warning decals

FRONT BUMPER STABILIZER CONTROLS

At each outrigger control station, a single front bumper stabilizer control shall be provided. It shall be labeled, "Bumper Jack" and shall have a green indicator light installed below the control handle to indicate when the stabilizers are in the "down" position. The front stabilizers shall be operational only after the front and rear outriggers have been deployed. The front stabilizers shall be retracted prior to the front and rear outriggers.

EXTENSION CYLINDERS

Each extension cylinder shall have a 3.00" internal bore with a minimum 2.00" chrome plated cylinder rod.

The extension cylinders shall be fully enclosed within the outrigger beam, preventing them from

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being nicked or scored during operations on the fire ground.

JACK CYLINDERS

Each jack cylinder shall have a 5.00" internal bore with a 3.50" chrome plated cylinder rod. The jack cylinders shall be equipped with integral (on the cylinder) holding valves, which shall hold the jack cylinder in either the stowed position or the deployed position should a hydraulic line be severed at any point within the hydraulic system.

To minimize side loading and subsequent seal failure of the vertical jack cylinder, a 1.62" wide load bearing UHMW wear band shall encircle the jack cylinder barrel, providing load distribution over a 360 degree plane. Designs which could allow load concentration on one side of the vertical jack cylinder shall not be acceptable.

In order to provide faster setup time for the aerial on the fire ground, and to eliminate the possibility of damage to the housing should the outriggers be retracted with the jack pins left in, designs that require the use of jack pins shall not be acceptable.

For ease of maintenance, the outer jack tube shall be designed so that the cylinder can be removed from the top. Designs that require the outrigger beams to be removed or the jack cylinder positioned over a pit for jack cylinder removal, shall not be acceptable.

OUTRIGGER BEAM PAINT

The finished paint color shall be PPG 925849 (2185) white enamel, allowing easy touch-up after extended use.

OUTRIGGER PADS

A permanently attached self-centering floating type 1/2" thick, 154 sq. inch steel pad shall be provided on each outrigger. The pad shall swivel and require no adjustment during outrigger set-up.

The outrigger pad shall be attached without the use of a bearing type swivel due to maintenance required on this design. Outrigger pads that pivot in only one plane shall not be acceptable due to their inability to distribute loading over the total pad surface on uneven terrain.

AUXILIARY OUTRIGGER PADS

Four (4) auxiliary outrigger ground pads shall be provided for additional load distribution. Each ground pad shall be fabricated of 6061-T6 high strength aluminum alloy and shall measure 3/8" x 24" x 24". Each ground pad shall be equipped with a handle for easy use.

AERIAL/OUTRIGGER INTERLOCK SYSTEM

An interlock system shall be provided between the outriggers and aerial device that prevents the operation of the aerial until the operator places all jacks in the load-supporting configuration. All jacks shall be equipped with a ground force sensitive switch that closes only when the jack is firmly in contact with the ground.

Until all the switches close, electrical and hydraulic power shall not be transmitted to the turntable,

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hence preventing aerial operation. Green indicator lights shall be provided on the outrigger control panel to indicate that the outrigger foot is in firm contact with the ground and in a load supporting position.

OUTRIGGER/STABILIZER DEPLOYMENT WARNING ALARM

An audible warning device shall be provided to warn personnel in the vicinity of the apparatus that the outriggers/stabilizers are in motion.

Whenever an outrigger/stabilizer control handle is utilized, the device shall produce a pulsing tone, separate and distinctive from that of other audible warning systems provided on the apparatus. When the control handle is released to its neutral position, the signal shall cease.

The warning device shall automatically enable the dB level to be raised or lowered by measurements of the ambient noise level.

OUTRIGGER LIGHTING AND REFLECTIVE STRIPING

Each outrigger shall be equipped with the following light and reflective striping package:

OUTRIGGER REFLECTIVE STRIPING

Retro-reflective Chevron striping shall be provided and installed on both sides of the horizontal outrigger beams. White reflective striping shall be provided on the vertical jack towers.

OUTRIGGER LIGHTING

There shall be an LED ground illumination light located at each outrigger or downrigger location to illuminate the footpad area.

The lights provided shall be TecNiq model T44 series, 4" round, 8 diode LED lights.

Grote model 77462 rectangular LED red flashing lights shall be provided as warning lights when the outrigger beams are extended.

Each stabilizer beam shall be equipped with a total of two (2) lights, one (1) facing forward and one (1) facing rearward. The lights shall be mounted inboard of vertical jack tubes.

Both the foot pad illumination lights and the flashing outrigger warning lights shall be activated by the aerial power switch.

TURNTABLE/TURNTABLE DECK

The turntable shall be a fabricated steel weldment designed for the rotation and elevation of the ladder sections and platform. It shall consist of the following:

A steel bearing plate and matching top plate shall be machined to insure proper fit to the rotation bearing. Manufactures that do not mill both bearing surfaces shall not be acceptable.

Embossed aluminum diamond plate deck shall cover the entire turntable frame, providing a walking surface.

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An embossed aluminum diamond plate access step shall be mounted at heel of the ladder.

All handrails shall be a minimum of 42" high. For ease of grip, the handrail shall be manufactured from 1-1/4" O.D. knurled stainless steel material.

Turntables with the drive motor or breathing air bottles mounted in any walking areas (front or rear) of the turntable shall not be acceptable.

A full size turntable deck shall be provided to maximize the safe work area around the control console and to allow unimpeded access to and from the aerial ladder and the ground.

TURNTABLE ACCESS SAFETY BAR

Two (2) Fire Research "ManSaver" turntable safety bars shall be installed. The safety bars shall open either upward or inward and be spring loaded to automatically return to the horizontal closed position. The safety bar assembly shall be made of aluminum and stainless steel with foam padding and a bright yellow cover on the bar. The cover shall be waterproof, mildew resistant, and made of reinforced rip stop vinyl.

CRADLE ALIGNMENT INDICATOR ARROWS

Aluminum arrows with red Scotch-Lite coating shall be provided on the turntable surface, and on the apparatus body to indicate the alignment of the aerial device with the travel cradle. The indicators shall be suitably illuminated for night time operation.

Mechanical fasteners shall be used for installation.

AERIAL CONTROL STATIONS

There shall be two (2) aerial control stations, one known as the platform control station and the other known as the turntable control station. All elevation, extension and rotation operational controls shall operate from both of these positions. These controls shall be arranged to permit the operator to regulate the speed of these operations within the safe limits as determined by the manufacturer. The control devices shall be grouped in an identical manner at both stations for similarity of operation and to meet (NFPA) 1901, Standard for Automotive Fire Apparatus.

Platform load instruction plates shall be located at both control stations to indicate the recommended safe load ratings of the platform. The control devices shall be clearly marked and suitably lighted.

The controls shall be so designed to allow the turntable control station to override the platform controls even if the ladder is being operated by the platform controls.

TURNTABLE CONTROL STATION

The control station shall be located on the right side of the turntable, as the operator is facing the tip of the nested aerial ladder (Driver's side of the apparatus), in order to provide increased visibility of the ladder tip while operating the controls. The lower part of the console shall be angled away from the operator, to provide as much foot room as possible for the operator.

The pedestal shall be constructed from an aluminum framework with an aluminum diamond plate

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wrapper. Access to the electrical and hydraulic components mounted inside the console shall be provided by either hinged doors or removable access panels. A hinged, black powder coated aluminum cover shall be provided over the console to protect the panel and controls. The top of the console shall be angled to face the operator for ease of ladder operation.

The console and turntable working areas shall be illuminated for night operations, and shall have all controls and indicators clearly marked.

Controls and indicators provided shall include, but not be limited to;

Three (3) ladder function control levers.

A foot operated **"dead man switch"**, which shall protect against accidental movement of the control handles.

Master electrical power switch with emergency shutdown capabilities.

Rung alignment indicator light for ladder climbing operations.

Cradle alignment indicator light on base section near console.

Engine fast idle control switch.

Emergency pump power switch.

Intercom controls on console.

Bubble type angle indicator on base section near console.

Illuminated load chart.

Hinged console cover over controls.

Aerial Override Switch for Short Jack Situations.

Short Jack Indicator Lights.

Tracking Light Switch.

Tip Light Switch.

Monitor/Nozzle Control Switches.

A 5000 psi hydraulic oil pressure gauge shall be provided and installed to indicate the overall pressure of the hydraulic system.

Any additional switches and/or displays required by other options described elsewhere within these specifications, as available space permits.

NOTE: If the AL-11 system is selected, any above items that appear on the AL-11 display will not be replicated on the turntable control console overlay.

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AIR HORN BUTTON

An air horn button shall be provided at the turntable control console.

HYDRAULIC, ELECTRIC AND WATER SWIVEL

Hydraulic power to the turntable hydraulic circuits shall be provided through a three-port, high pressure hydraulic swivel permitting 360 degrees continuous rotation of the turntable.

Water shall be transferred to the aerial waterway by means of a 5" internal diameter water swivel, permitting 360 degree continuous rotation.

Electric power to the turntable electric circuits shall be provided through a sealed, multiple electrical collector ring assembly permitting 360 degree continuous rotation of the turntable.

ELEVATION SYSTEM

Two (2) double-acting lift cylinders shall provide smooth, precise elevation from minus 10 degrees to plus 78 degrees. Lift cylinders shall be attached to a triangulated lifting configuration which distributes equal force to each side of the ladder base section. The triangulated lifting configuration shall apply all lifting forces in a plane parallel to the vertical center line of the base and side rails.

The elevation cylinders shall be pinned to the front structure of the turntable weldment and within the upper section of the triangulated lifting structure one (1) each side of the ladder.

Elevation cylinders shall have a 7" internal diameter (bore); 3-3/4" cylinder rod diameter. The elevation cylinders shall be equipped with integral (on the cylinder) holding valves to prevent the unit from falling should the charge lines be severed at any point within the hydraulic system. A hydraulic holding valve shall be provided in the elevation circuit to retain the aerial ladder in its bed when the vehicle is in motion.

The elevation cylinders shall be provided with both rod and piston "hydraulic cushions". The cushions shall serve to decelerate the cylinder near the end of its stroke resulting in a smooth stop at full cylinder stroke.

AERIAL INTERLOCK SYSTEM

A limit switch at the aerial travel support shall be provided to prevent operation of the outriggers/stabilizers once the aerial device has been elevated from the nested position.

EXTENSION/RETRACTION SYSTEM

A dual system of hydraulic cylinders and cables shall provide full power operation of the extension and retraction modes. Each system shall be capable of supporting the ladder in the event of failure of one of the systems. The cylinders shall be used to extend and retract the inner mid-section and the outer mid(s) and fly section.

The extension cylinders shall be provided with "hydraulic cushions" to decelerate the cylinder near the end of its stroke resulting in a smooth stop at full cylinder extension.

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Cables shall be attached to the base and mid ladder sections and shall be routed over sheave wheels on the base section and cylinder rod. The cables shall be sized to have a minimum safety factor based on a breaking strength of 5:1.

A stroke multiplier cable system shall be provided because it reduces cylinder weight, shifts the ladder center of gravity toward the heel pin during extension, improves overall vehicle stability and does not subject the cylinder to buckling forces caused by normal deflection and compression loads.

EXTENSION INDICATORS

Reflective numerals shall be affixed to the inside of the handrail of the base section opposite the turntable control console. The numerals shall be at appropriate intervals indicating total aerial extension in 10-foot increments. A band on the first fly section shall align with these marks at the appropriate extension distance. An additional stripe shall be provided between the numbered stripes to indicate each 5 feet of aerial extension.

The extension indicator color shall provide a high contrast with the color of the ladder section to which it is applied.

This shall make the length of aerial extension easily readable by the operator by merely glancing at the indicators.

The extension markers shall be provided in black reflective material.

LADDER SLIDE MECHANISM

UHMW slide pads shall be provided on each ladder section for load transfer between sections. Slide pads shall be used on both upper and lower bearing surfaces and to control side sway of the sections.

The pads shall utilize low coefficient of friction materials to reduce the resistance between the pads and ladder sections. The ladder rails shall be sprayed with a rust prohibitive paint designed to ride on a set of pads which require no greasing of the rails.

In order to maintain a high "in service" level of operation, the ladder shall be designed to require minimum amounts of lubrication.

AIR/ELECTRIC LADDER TRACK

All air and electric line routing from the turntable to the tip of the aerial device shall be accomplished using a flexible conduit system. Routing shall be such that cables shall be fully enclosed except at points of transition between sections.

The conduit shall run along the handrail uprights, between the ladder sections, so the conduit does not decrease the interior width of the ladder.

ROTATION SYSTEM

An external tooth monorace bearing shall be provided for 360 degree continuous rotation in either direction. To ensure proper bearing installation and long service life, surfaces of both the open

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base bearing plate and the turntable bearing plate shall be milled. Units that do not have milled bearing surfaces shall not be acceptable.

The bearing shall be bolted to the turntable and bolted to the open base support plate, using 7/8" diameter Grade 8 bolts. A planetary drive, powered by a hydraulic motor, shall provide precision rotation control throughout 360 degrees of rotation. A spring-applied, hydraulically-released disc type brake shall be furnished to provide positive braking of the turntable assembly against reactionary forces such as water flow and gravity.

The turntable rotation bearing shall be easily accessible for lubrication and retorquing of bolts from the turntable side, for ease of access.

Access to the turntable bearing bolts which requires the removal of the ground ladders and/or the ground ladder slide assemblies, during bolt retorquing process, shall not be acceptable.

ROTATION SAFETY SYSTEM

The Rotation Safety System shall be designed to prevent the operator who has primary operational responsibility from rotating the aerial device into an overturning mode. This system senses outrigger and outrigger jack positioning in conjunction with the aerial device movement.

If any outrigger beam is not fully extended, the "Outrigger Short Set" indicator light on the control console shall remain illuminated. The aerial device operator will then be required to engage the "Outrigger Short Set Override" switch in order to lift the aerial device from the travel rest.

If the aerial device operator attempts to rotate the aerial device (in excess of approximately 5 degrees beyond vehicle center) towards the side of the vehicle in which the outriggers are not fully deployed, the Rotation Safety System shall sense this fault and prevent the aerial from rotating further in said direction. At this point, only rotation to the fully deployed outrigger side shall be allowed.

COLLISION PROTECTION INTERLOCK

The apparatus shall be equipped with a cab collision protection interlock. This interlock shall be enabled while rotating the aerial device at elevations as low as, or lower than the cab of the apparatus.

Should the operator accidentally rotate the aerial device toward the cab at an elevation low enough to cause a collision with the cab, the interlock shall automatically stop rotation of the aerial at a point that is within a few degrees of the cab.

A manual override shall be provided to override the interlock system.

APPARATUS BODY DAMAGE CONTROL INTERLOCK SYSTEM

A safety feature shall be included in the aerial operational system that minimizes the possibility of damage to the apparatus body at all angles for all standard (non-override) operational modes.

The system shall automatically stop the downward movement of the aerial at a preset angle of elevation unless the aerial has been rotated at least 80-degrees, left or right, from the center of

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the ladder support. Once this rotation point is reached, full range downward movement (to -8 degrees) shall be allowed.

The aerial manufacturer shall determine and set the angle of elevation where downward aerial movement is stopped. The highest point of an apparatus, in relation to the distance from the turntable, shall be used to determine the pre-set elevation angle stopping point.

The system shall also minimize the possibility of accidental damage to the apparatus body from aerial rotation whenever the aerial elevation is below the preset elevation angle stopping point.

Rotational speed shall be reduced and Aerial rotation shall automatically stop before the aerial contacts the body of the apparatus.

The body damage interlock system shall have no effect on aerial operation when the aerial is raised above the preset downward movement stopping point.

The body damage interlock system shall not eliminate the possibility of damage to components such as telescopic lights that are in a raised position.

A manual override shall be provided that will override the interlock system.

AERIAL LOAD SENSING SYSTEM

A Loadminder shall be installed at the operator's pedestal indicating the load(s) on the aerial device. The display shall be in the form of a LED illuminated bar graph. The instrument shall be readable in day and night conditions. The display shall be a "real time" display, thereby giving immediate readings to the operator. Additionally, a color-coded bar shall be above and below the actual LED bar graph, to surround the actual reading given to the operator; thereby making the display easier and faster to read. The color coded bars shall progress from green to yellow, and finally to red. When the LED bar graph illuminates, representing a load on the aerial ladder, the operator need only glance at the display to determine the load applied to the aerial device - in relation to 100% rated aerial device capacity.

The readout given by the display shall be continuous relative to the NFPA compliant aerial device rated capacity as stated in these specifications, and shall include (but not be limited to) the following items:

Accumulated equipment on any and all ladder sections, or at the tip including manufacturer installed items or customer installed items

Accumulated personnel on any and all ladder sections or at the tip

Accumulated ice buildup on any and all ladder sections or at the tip

The total load suspended from any load lifting / rappelling eye installed by the manufacturer

Any load reaction from dynamic loads placed on or realized by the aerial structure

Any water weight or reactionary force realized by the aerial structure

Any combination of the above items

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The Loadminder as described shall be designed in such a manner that the operator will not have to refer to an angle indicator, extension tape, or load chart; or be required to guess at, or try to calculate the loads or forces applied to, or interacting with the aerial device at any given time, and in any situation. This shall be in compliance with NFPA 1901. Systems that require the use of a load chart, angle indicator or extension tape shall not be acceptable for safety reasons.

The Loadminder shall be connected to a 100 dB. alarm at the operator's control station that shall sound when the ladder load is above the rated capacity. This alarm system shall also be connected to two (2) LED lights on the end of the base section, one on each side, to provide further notice to the operator of an unsafe condition.

AERIAL TRAVEL SUPPORT

A heavy-duty rest shall be provided to support the aerial in the travel position. The ladder rest shall be attached to the torque frame as close to the rear axle as design allows.

Stainless steel bedding plates shall be attached to the aerial base section to protect the aerial when the unit is in the travel position. The travel rest shall be painted to match the torque frame.

LADDER SECTION CONSTRUCTION

The elevating platform shall consist of five (5) steel ladder sections referred to as the base section, inner mid-section, mid-section, outer mid-section and fly section.

The primary load support members of the ladder shall be constructed using a range of certified 50,000 - 80,000 PSI yield strength (minimum) steel tubing. Each section shall be trussed diagonally, vertically, and horizontally using welded steel rectangular tubing. All critical points shall be reinforced for extra rigidity and to provide a high strength to weight ratio.

All ladder rungs shall be constructed of A606 Type 4 certified steel tested per ASTM A370 standards. A606 Type 4 exhibits superior corrosion resistance over regular carbon steel as a result of the development of a protective oxide film on the surface. A606 Type 4 shall meet a minimum 6.0 Atmospheric Corrosion Factor. The ladder rungs shall be round and welded to each section utilizing "K" bracing for torsional rigidity.

Each rung shall be equipped with a heavy duty serrated, replaceable rubber sheath to provide an anti-slip surface for firefighting personnel. For additional safety, the covers shall be constructed from rubber to allow ice buildup to easily break off when the rung is stepped on by firefighting personnel. This shall be an added safety feature during water tower operation in cold weather conditions.

Ladder designs that do not utilize rubber covers shall not be acceptable due the high cost and difficulty to replace the anti-slip surface and the inability to provide a safe surface during icing conditions.

Ladder handrails and diagonal material are to be constructed from square or rectangular tubing, which provide a larger welding surface were the materials are attached to each other. Use of round material for ladder bracing is not desired due to the reduced amounts of weld associated with round materials.

The bottom rung rails of the base and middle ladder sections shall be of double-wall construction.

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Flat stock shall be welded to the top of the tubular rung rails to increase their thickness, thus preventing damage and fatigue to the rung rails caused by road hammer while being driven and heavy loads during ladder operation. The flat stock shall act as the load transfer surface between telescoping sections, thus providing greater load transfer from section to section.

LADDER SECTION DIMENSIONS

All bidders shall state in the space provided below their dimensions on the unit proposed. Dimensions proposed must equal or exceed those specified.

Handrail Dimensions

	H	W
Base Section	32.50"	44.50"
Inner Mid	29.25"	38.00"
Mid	27.00"	32.00"
Outer Mid	24.25"	26.50"
Fly	21.75"	21.25"

OVERLAP AREAS

The overlap areas of the ladder shall have added stiffness by utilizing a combination of diaphragm plates and tubing. Overlaps between each section at full ladder extension shall not be less than eighty two (82) inches for maximum ladder section support.

PLATFORM SPECIFICATIONS

The aerial platform shall be constructed of high strength steel tubing, angles, and formed channels. The handrails, floor and support structure shall be assembled to enable each component to be unbolted from each other for ease of replacement should a component of the platform be damaged.

SUPPORT STRUCTURE FRAMEWORK

The support structure framework of the platform shall be a steel weldment consisting of formed channel and tubing for strength and rigidity. The slave leveling cylinders shall attach to this structure from the ladder fly section, thus keeping the platform level at all times.

Heavy-duty rubber bumpers shall be installed under the platform to prevent damage to the platform when the unit is placed on the ground or the edge of a building. The bumpers shall be bolted directly to the structural framework of the platform.

PLATFORM SUB STRUCTURE PAINT

The finished paint color shall be PPG 925849 (2185) white enamel, allowing easy touch-up after extended use.

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PLATFORM COVERINGS

For maximum safety, stainless steel protective shields shall be provided and installed to protect the operator inside the platform. Rigidized shields shall be provided on the front and sides of the platform and the entire underside portion of the platform.

Brushed finish stainless steel protective shields shall be provided on the outside surfaces of each of the corner gates. The corner gate shields shall provide a smooth surface for the application of graphics, lettering or unit number designation as described elsewhere within these specifications.

FLOOR

The floor of the platform shall have a total internal working area of 18.80 square feet. The floor shall extend 9 inches to the front and 8 inches to each side beyond the handrails to provide protection to the main platform should it come into contact with a building or other hard surface. The two (2) front corners of the floor shall be cut at a 27 degree angle, allowing the platform to be maneuvered closer to buildings.

The floor shall be an open-type non-slip non-grating, thus preventing the accumulation of water and or ice on the platform floor.

HANDRAIL STRUCTURE

In compliance with the NFPA Standard, a forty-two inch (42") high continuous, unbroken handrail shall be provided on all four sides of the platform to prevent personnel from falling from the platform.

The railing shall be constructed so that no opening below it is wider than 24"

A four-inch (4") high kick plate shall be provided around the entire inside perimeter of the platform floor except at the gate openings.

Each front corner of the platform shall be equipped with an inward swinging spring loaded gate assembly for access to the platform. The gate openings shall have a minimum size of 19.75" wide by 40.50" high.

Handrail extensions shall be provided off the rear of the platform to bridge the gap between the platform and the ladder to a safe transition to/from the platform when the ladder is raised to high elevations. The handrails shall be designed to pivot within 10" of the fly section handrails.

PLATFORM HANDRAIL PAINT

The finished paint color shall be PPG 925849 (2185) white enamel, allowing easy touch-up after extended use.

PLATFORM/ LADDER ACCESS GATE

A gate shall be provided between the platform and the fly ladder section. The gate shall be spring-loaded and shall automatically return to the closed position at all times. The gate shall push upward and or inward to the platform from the fly section. The gate shall not move if pushed

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against from the inside the platform. A tethered pin type lock assembly shall be installed which shall lock the gate in the stored position for additional safety.

PLATFORM LEVELING SYSTEM

A platform leveling system shall be provided and so designed that the platform, together with its rated payload, can be supported and maintained level in relation to the turntable, regardless of the elevation of the ladder.

Platform leveling shall be accomplished by hydraulic circuitry that is independent from the main hydraulic system with an interconnecting control valve.

The platform leveling shall be accomplished by the following two (2) systems working together.

1. Dual master/slave hydraulic cylinders- The leveling of the platform shall feature a dual master/slave system with each capable of maintaining the platform level. Two (2) 3" bore master cylinders shall be mounted between the turntable and the ladder base section; and two (2) 3" bore slave cylinders shall be mounted between the ladder fly section and the platform. Master/Slave cylinders shall be equipped with spherical swivel bushings on both ends to extend cylinder seal life, provide proper alignment and a non-rigid, cushioned suspension between the ladder and platform. As the platform is raised and lowered, hydraulic fluid shall be transferred from the master cylinder to the slave cylinders, thus maintaining the platform level. The slave cylinder shall be mounted outside of the platform for maximum platform space utilization.

2. Auto-leveling system- An automatic level-sensing inclinometer, located in the platform shall be provided to ensure that the platform is always level with respect to the horizon.

A. The leveling system shall be designed that with the platform raised to its maximum elevation, the platform slave cylinders shall be fully retracted thus making tipping of the platform impossible should a hydraulic failure occur.

B. Leveling cylinders shall have hydraulic holding valves to prevent the platform from tipping should the hydraulic lines be severed.

C. The slave cylinders shall be mounted outside the platform for maximum utilization of space and for safety of personnel from moving cylinders.

PLATFORM MOUNTING

The platform shall suspend from the tip of the fly section with the steel platform support weldment pinned to the end of the fly section in a manner that provides a cushioning effect when the vehicle encounters road irregularities.

The hydraulic cylinders shall be attached to the platform at a point below the pinning point and to the fly section behind the pinning point to create a load absorbing triangle which utilizes the cushioning effect of the cylinders in the design.

PLATFORM STORAGE COMPARTMENTS

A large aluminum diamondplate storage compartment shall be provided and installed at each rear exterior corner of the aerial platform. The compartments shall have capacity for storage of hose,

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forcible entrance tools and/or other miscellaneous equipment.

Access to the top and front of the compartments shall be through hinged aluminum diamond plate doors complete with latches. The bottom of the compartments shall have holes for drainage.

PLATFORM LADDER CONTROLS

The platform control console shall be located in the front of the platform and shall be mounted on a slide rail which allows the operator to reposition the control console to the left side, center or right side of the platform. Controls shall be widely spaced to allow for easy operation with a gloved hand.

Three (3) ladder directional controls shall be mounted on the platform control console. They shall control extend/retract, rotation, and elevation. These controllers are part of a microprocessor based CAN-Bus control system, which has the following features:

1. Soft start (**ramp up**) for smoother and safer starting of the platform.
2. Soft stop (**ramp down**) provide smoother and safer stopping of the platform.
3. Multiplex CAN-Bus signaling transmitted through two wires to reduce the chance of electrical failures since fewer wires and terminals shall be utilized. Additionally, voltage sensitivity is eliminated thus providing superior motion control.
4. **"Ultra feathering operation"** which allows precise placement of the platform in critical areas.

Ladder function controllers shall be grouped in an identical manner as those at the turntable console for simplicity of operation. The controls shall be so designed that the turntable controls shall override those at the platform even if the aerial device is being operated from the platform console. All features shall be clearly identified and suitably illuminated for easy of operation.

The following controls shall be located on the illuminated console.

- Extend/Retract Control Lever.
- Elevation Control Lever.
- Left/Right Control Lever.
- Fast Idle Control Switch.
- Rung Alignment Indicator.
- (2) LED Panel Lights.
- Bubble Type Angle Indicator mounted on handrail of ladder.
- Cradle Alignment Indicator.
- Outrigger Short Set Override Switch with Indicator.

NOTE: If the AL-11 system is selected, any above items that appear on the AL-11 display will not be replicated on the platform control console overlay.

PLATFORM CONTROL CONSOLE PAINT

The finished paint color shall be PPG 925849 (2185) white enamel, allowing easy touch-up after extended use.

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PLATFORM WATER SYSTEM

The aerial waterway system shall be capable of being supplied externally or by a truck mounted pump.

The piping from the pump and the auxiliary side aerial inlet to the riser pipe below the turntable swivel shall be 5" stainless steel pipe. A 5" water swivel shall be located in the riser pipe beneath the turntable permitting 360-degree continuous rotation of the aerial device.

A 2-1/2" adjustable relief valve preset at 250 psi shall be located beneath the turntable to protect the water system from excessive pressures.

A 5" swivel piped waterway connection between the aerial device waterway and the turntable rotation swivel permitting water tower operations thru full aerial elevation range shall be provided.

TELESCOPIC WATERWAY

An anodized aluminum telescopic waterway shall be mounted beneath the center of the aerial ladder. The waterway shall have a 6" base section tube, 5.5" inner mid-section tube, 5" mid-section tube, 4.5" outer mid tube and a 4" fly section tube.

An automatic drain shall be provided in aerial waterway to automatically drain the system for freezing conditions. This valve shall also act as a vacuum relief valve for the waterway when extending the aerial device with the discharges in the closed position.

WATER SYSTEM FRICTION LOSS

As per NFPA, the friction loss (total system loss less head loss) shall not exceed 100 psi at 1000 GPM flow with the aerial device at full horizontal extension. The pressure reading for friction loss measurement shall be taken at the base of the monitor and at a point below the waterway swivel.

AERIAL WATERWAY FLOWMETER AND PRESSURE GAUGE

The apparatus shall be equipped with a Class 1 Flowminder, model FMS, and digital pressure display, model PSIS, at the aerial discharge waterway to give the aerial operator an indication of actual volume of water (in gallons per minute) being discharged through the line and the actual line pressure. Display shall be located in the aerial platform.

Flowminder system shall consist of:

1. A digital display shall be wired to the flow transmitter to show waterway discharge flow.
2. A flow transmitter mounted in the discharge line piping between the pump/inlet and the discharge outlet. The transmitter shall consist of a weather resistant black composite housing with a stainless steel, durable paddle wheel. The only part inserted into the water flow path shall be the paddle wheel.

The flowmeter shall be checked and calibrated prior to delivery of the apparatus.

An additional digital flowminder and digital pressure display shall be located at the turntable control console.

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PLATFORM WATER SYSTEM (DUAL MONITORS)

A minimum 5" water swivel shall connect from the aerial waterway supply piping to the telescopic aerial waterway. A minimum 4" water swivel shall connect from the telescopic aerial waterway to the platform manifold. These water swivels shall permit full operation at any elevation of the aerial device. Two (2) 3" pipes will be provided to transfer water from the platform waterway manifold to the monitors. The platform waterway pipes shall be designed to reduce friction loss in the waterway.

All platform waterway piping will be completely removable for service or replacement. Platform designs in which the waterway is welded or utilized for the structural integrity of the platform will not be acceptable.

A 100 GPM shower nozzle shall be located beneath the platform to provide additional heat protection for platform personnel. A direct linkage control shall be provided inside the platform.

ELECTRICALLY CONTROLLED MONITOR

Task Force Tips Monsoon electrically controlled monitor shall be provided.

The monitor shall have the following capabilities: full horizontal rotation with 360 degree travel, 135 degrees of vertical travel with field changeable stops at 90 degrees above horizontal and 45 degrees below horizontal, field changeable rotation stops shall be provided at 45, 90 and 135 degrees left and right of center, flow capability up to 2000 GPM.

For resistance to corrosion the monitor shall be constructed from hardcoat anodized aluminum with a silver powder coat interior and exterior finish. A threaded port for an optional pressure gauge shall be provided.

The monitor and nozzle functions shall be controlled from the platform and from any aerial control station(s) as specified. Each monitor and nozzle control station shall consist of three (3) individual spring loaded, self-centering, and weather resistant toggle switches.

NOZZLE

Task Force Tips Master Stream 2000 automatic nozzle with electrically operated pattern control shall be provided. The nozzle design shall allow for straight stream through dense wide fog patterns.

The electric drive unit shall be enclosed in a waterproof cast aluminum housing and include a manual override device in the event the power source fails. The unit shall be 12 volt and require no more than a 3 amp power draw.

For corrosion resistance and durability the nozzle and actuator shall be constructed from hardcoat anodized aluminum alloy, include a protective rubber bumper with fog teeth, laser engraved serial number, and reflective labeling.

The nozzle shall have a swivel rocker lug coupling and a flow range of 150-2000 GPM at 100 PSI.

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MANUALLY CONTROLLED MONITOR

Task Force Tips Monsoon manually controlled monitor shall be provided.

The monitor shall have the following capabilities: full horizontal rotation with 360 degree travel, 135 degrees of vertical travel with field changeable stops at 90 degrees above horizontal and 45 degrees below horizontal, field changeable rotation stops shall be provided at 45, 90 and 135 degrees left and right of center, flow capability up to 2000 GPM.

For resistance to corrosion the monitor shall be constructed from hardcoat anodized aluminum with a silver powder coat interior and exterior finish. A threaded port for an optional pressure gauge shall be provided.

NOZZLE

Task Force Tips Master Stream 2000 automatic master stream nozzle shall be provided. The nozzle shall be designed for use on monitors, ladder pipes, deluge guns and aerial platforms. For corrosion resistance the nozzle shall be constructed for lightweight hardcoat anodized aluminum.

The nozzle shall have a flow capability of 300 to 2000 GPM at a user adjustable pressure rating of 80 PSI to 120 PSI. A UV resistant rubber bumper with integral teeth designed to produce a finger free fog pattern shall be included. A halo ring shall be included to assist with stream shape control. The nozzle shall be suitable for foam solution application. The nozzle shall be configured with a swivel rocker lug coupling.

PLATFORM MOUNTED STACK TIPS

One (1) set of stacked tips shall be installed in the platform.

MASTER STREAM STACK TIP SET

A Task Force Tips model # YST-4NN smooth bore stacked tip set shall be provided. For corrosion resistance the tip set shall be constructed from hardcoat anodized aluminum alloy. The set shall consist of four (4) tips with the base tip having a 3-1/2" female swivel rocker lug inlet, integral stream straightener and 2-3/4" outlet. The other tip sizes shall be 2-1/2", 2-1/4" and 2". Each tip shall be laser engraved with a flow/pressure chart, orifice size, and thread size. A screw type mounting plate shall be installed to hold the tips when not in use.

PLATFORM DISCHARGE CONNECTIONS

V.U.M (VALVE UNDER MONITOR)

There shall be two (2) TFT VUM (Valve Under Monitor) connections provided on the platform. One (1) electric and one (1) manual VUM shall be installed, one (1) below each respective platform monitor.

Each VUM shall include a 2 1/2" NST male discharge outlet in the outboard position. Blind caps shall be provided on the three (3) remaining ports of each VUM.

Each connection shall terminate with a 2-1/2" NST male outlet with a 2 1/2" NST cap, which shall be secured by a provided chain or cable.

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LADDER CAPACITIES

The following ladder/platform load capacities shall be established with the truck level and the outriggers fully extended and lowered to relieve the chassis weight from the axles. Capacities are based upon full extension and 360 degree rotation.

LADDER/PLATFORM CAPACITIES IN POUNDS

(Uncharged Waterway)

Elevation in Degrees

SECTION	-10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 78
Base	---	250	250	250	250	250
Inner Mid	---	---	250	250	250	250
Mid	---	---	---	250	250	250
Outer Mid	---	---	---	250	250	250
Fly	---	---	---	---	250	500
Platform	1000	1000	1000	1000	1000	1000

LADDER/PLATFORM CAPACITIES IN WATER TOWER OPERATION

Elevation in Degrees

SECTION	-10 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 78
Base	---	250	250	250	250	500
Inner Mid	---	---	250	250	250	250
Mid	---	---	---	250	250	250
Outer Mid	---	---	---	---	---	250
Fly	---	---	---	---	---	250
Platform	500	250	250	250	250	500

Due to the demand of firefighting situations, units that do not allow these aerial and water tower capacities shall not be acceptable.

WATER TOWER OPERATION

The ladder/platform and water system shall be designed to permit the following total flows of a single monitor.

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The following capacities shall be based upon continuous 360 degree rotation and up to full extension. The aerial device shall be designed to permit the following load capacities while flowing up to 1,500 gpm with the water stream 90 degrees to ladder centerline and operating 45 degrees above horizontal to as far below horizontal as nozzle design allows.

The aerial device shall be designed to permit the following load capacities while flowing up to 2,000 gpm with the water stream 0 degrees to ladder centerline and operating 45 degrees above horizontal to as far below horizontal as nozzle design allows.

OPERATIONS ON GRADES

The aerial unit shall be capable of operating with 100% of rated capacity on a slope of up to 3.5 degrees. Operating capacity shall be reduced to 50 % capacity for operating on a slope of 3.6 degrees to 8 degrees. Operation beyond a 8 degree slope shall be at operator's discretion.

COMMUNICATION SYSTEM

A Fire Research ICA900 Series (ACT) communication system shall be provided and installed between the platform and the turntable operator's position. The communication speaker at the platform shall require no operator attention to transmit or receive. The transmitting receiving volume controls shall be located at the turntable operator's position. These control modules shall have an LED volume display and push-button volume control.

PLATFORM LOCATOR LIGHTS

The aerial device shall be equipped with two (2) Whelen WIONSM* series, LED lights with black surface mount housings to help locate the platform during fire ground operations. The lights shall be installed on the lower rearward facing portion of the platform, one (1) each side.

The light(s) shall be blue in color.

PLATFORM WARNING LIGHTS

Four (4) LED lights, 3" x 7", shall be provided below the platform deck surface in addition to the (NFPA) 1901, Standard for Automotive Fire Apparatus, warning light package. Two (2) of the lights shall be located on the front face of the platform floor structure and two (2) lights shall be located on the angled side portion of the platform floor structure, one (1) each side. The lights shall be activated with the ladder power circuit.

Four (4) Whelen model Whelen model M7 series Super-LED lights with chrome bezels shall be provided.

PLATFORM WARNING LIGHTS COLOR

The platform warning lights shall be red with clear lenses.

PLATFORM CLEARANCE LIGHTS

Five (5) red LED clearance lights shall be provided on the lower platform structure. The lights shall be installed, three (3) on the center of the platform and one (1) on each of the side sections

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of the platform. The lights shall be wired to the clearance light switch or the headlight switch in the cab dash panel.

PLATFORM SPOTLIGHTS

All 12VDC aerial spotlights shall be mounted below handrail height, so as not to increase the overall height of the vehicle.

TRACKING LIGHTS

Two lights shall be mounted at the lower front portion of the base ladder section, forward of the lift cylinders, one (1) each side.

FireTech Ultimate Adjustable Work Lights model #FT-WL-X-9-FT-W-SH2 shall be provided.

PLATFORM LIGHT(S)

Scene lighting shall be mounted at the front of the platform. The light(s) shall be capable of swiveling 180 degrees.

FireTech LED Mini Brow Trunnion Mount model #FT-MB-18-TR-FT-W shall be provided.

PLATFORM INTERIOR WORK LIGHTS

The interior work area of the platform shall be illuminated utilizing four (4) TecNiq model E03 series LED work lights. Two (2) lights shall be installed on the interior portion of the front heat shield and one (1) light shall be installed on the interior portion of each side top heat shield, rearward of the side access doors.

TURNTABLE WORK LIGHTS

Five (5) TecNiq, model #E03-W000-1, LED turntable work lights shall be installed in the turntable step cover to illuminate the turntable area.

WALKWAY ILLUMINATION

The climbing area of the ladder shall be continuously illuminated utilizing a series of light emitting diodes (LED's). The LED's shall be located on both sides of each ladder section and shall be positioned near the ladder rails to maintain a clear walking area. A switch shall be provided on the turntable control console to activate the rung illumination lighting.

The LED lighting shall be Blue.

EQUIPMENT

AERIAL SPECIAL LABELS

Legible, permanent signs shall be installed in positions readily visible to the operator to provide operational directions, warnings, and cautions. The signs shall describe the function of each control and provide operating instructions.

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Warning and caution signs shall indicate hazards inherent in the operation of the aerial device. These hazards shall include, but shall not be limited to:

Electrical hazards involved where the aerial device does not provide protection to the personnel from contact with, or near proximity to, an electrically charged conductor.

Electrical hazards involved where the aerial device does not provide protection to ground personnel who might contact the vehicle when in contact with energized electrically charged conductors.

Hazards from stabilizer motion.

Hazards that can result from failure to follow the manufacturer's operating instructions.

AERIAL DEVICE SPECIFICATION PLACARD

A permanent label shall disclose the following information relative to the aerial device:

Make

Model

Serial number

Date of manufacture

Rated capacity (s)

Rated vertical height

Rated horizontal reach

Maximum hydraulic system pressure

Hydraulic oil type and capacity

All other appropriate labels to ensure safe operation of the aerial device shall be permanently affixed in conspicuous locations.

APPARATUS LEVEL INDICATOR

Two (2) bubble type level indicator(s) shall be provided at the rear of the apparatus, visible to the operator setting the outriggers, to assist in the aerial device setup. The leveling indicator(s) shall be backlit and color coded indicating the following conditions:

"Green"	Safe Operating Zone.
"Yellow"	Caution Operating Zone.
"Red"	Do Not Operate Zone – Reposition Apparatus.

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FORE/AFT LEVEL

An additional backlit leveling indicator shall be provided and installed to measure fore and aft level of the vehicle. The indicator shall be mounted near the left main outrigger control panel.

AERIAL SIGN PANEL

A single aerial sign panel shall be provided and installed on the outside of the aerial base section for fire department lettering. The sign panel shall be installed on the opposite side of the base section from where the Stokes Storage Box is located. The sign panel shall have a lettering surface of approximately 22" wide x 104" long.

SIGN PANEL PAINT

The finished paint color shall be PPG 925849 (2185) white enamel, allowing easy touch-up after extended use.

AERIAL FILTER & LUBE SET

The following Filters and Lube shall be shipped loose to assist in maintenance of the aerial device as described by the manufacturer:

- One (1) Pressure Filter element
- One (1) Return Filter element
- Four (4) Tubes, Amsoil GPTR2CR grease
- One (1) Can, "Ultra Green" Wire Rope grease.

AXE MOUNTING

Space shall be provided inside the platform storage compartment(s) that will allow the storage of an axe.

PIKE POLE MOUNTING

There shall be one (1) mount(s) provided and installed in the fly section of the aerial for a pike pole. The mount shall include restraints for both ends of the pike pole.

ROOF LADDER MOUNT

Mounting brackets shall be installed on the outside of the aerial base section to store a single roof ladder. The mounting brackets shall be constructed from aluminum, be easily accessible from the inside of the ladder section or from the top of the body and shall be painted to match the aerial ladder paint color. The aerial sign plate (if specified) shall be mounted to the outside of the brackets.

ROOF LADDER MOUNT

The mounting brackets shall be designed and located to accommodate a 14' roof ladder.

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STOKES BASKET STORAGE BOX (PAINTED)

A stokes basket storage box shall be provided and installed on the outside of the aerial ladder base section.

The storage box shall be totally enclosed and include a hinged lid with latches. The lid shall be provided with a switch that is tied in to the "Door Open" circuit inside the chassis cab to indicate if the lid is not secured for travel. The storage box shall be fabricated from 1/8" smooth aluminum sheet, be approximately 12" D x 27" H x 90" L and be painted to match the aerial sign panel on the opposite side of the base section.

The storage box shall be easily accessible from the ladder or body.

The side facing, outside painted surface of the storage box shall serve as the aerial sign panel on that side of the apparatus.

The storage box shall be located on the side of the aerial ladder opposite from the turntable control console in order to provide maximum visibility for the operator.

RESCUE STRETCHER HOLDERS

Two detachable rescue stretcher holders shall be provided in the platform to place and secure a stretcher across the platform handrails. The stretcher holders shall be painted to match the platform handrail. The rescue stretcher holders shall slide into storage brackets at either the lower rear platform area or the platform storage compartment.

POMPIER SAFETY BELT TIE-OFFS (FALL RESTRAINT)

Four (4) fall restraint tie-off points shall be provided on the inside of the platform. Two (2) shall be located rearward of the front corner platform entrance gates, one on each side. Two (2) shall be located at the rear of the platform, one (1) on each side of the ladder/platform entrance.

These attachment points are not designed or approved for use as rappelling or lifting anchors. The combined use of these attachments points shall not exceed the rated capacity of the platform.

LIFTING RINGS

Two (2) welded steel lifting eyes shall be provided under the platform, which shall be welded directly to the platform support arms. The rings shall be rated at 500 lbs each.

Any weight attached to the lifting eyes must be subtracted from the capacities indicated in the platform capacity load chart located in the platform.

LIFTING ARMS

Lifting arms shall be provided for the aerial platform to raise and lower items such as stokes baskets, tools, equipment utilizing a hoist/descent device while allowing the aerial to remain stationary. Maximum lifting capacity shall be 500 lb. (250 lbs/arm). Combined lifting capacity of the lifting arms and "in platform" personnel and equipment shall not exceed the total rated capacity. The lifting arms shall be painted to match the platform handrail color.

WINDCREST VOL FIRE DEPARTMENT

PARAPET LADDER MOUNTING

A mounting assembly shall be provided on both the left and right side of the platform for attaching a straight roof ladder vertically to the platform to access the roof of a structure with a parapet wall.

The parapet mounts shall require no tools to place a ladder into service and shall place no excessive stress on any part of the aerial device.

REFLECTIVE STRIPING

The reflective striping shall be supplied and installed by the Dealer.

REAR RETRO-REFLECTIVE CHEVRON STRIPING

A minimum of 50 percent of the rear-facing vertical surface, visible from the rear of the apparatus, shall be equipped with Diamond Grade, retro-reflective striping in a chevron pattern, sloping downward and away from the centerline of the vehicle at an angle of 45-degrees.

The stripe shall be 6.00 inches (152.40 mm) wide alternating in colors in compliance with (NFPA) 1901, Standard for Automotive Fire Apparatus.

RETRO-REFLECTIVE STRIPING-SEVERE DUTY STEEL FRONT BUMPER

The vertical surfaces of the steel front bumper shall be equipped with Diamond Grade, retro-reflective striping in a chevron pattern, sloping downward and away from the centerline of the bumper at an angle of 45-degrees. The stripe shall be 6.00 inch (152.40 mm) wide alternating in colors.

LADDER STORAGE DOOR CHEVRON STRIPING

The storage door shall be equipped with Diamond Grade, retro-reflective striping in a chevron pattern, sloping downward and away from the centerline of the door at an angle of 45-degrees.

The stripe shall be 6.00 inches (152.40 mm) wide alternating in colors in compliance with (NFPA) 1901, Standard for Automotive Fire Apparatus.

CHEVRON COLOR

The retro-reflective chevron striping shall be _____ in color.

DEALER SUPPLIED LETTERING

The apparatus lettering shall be provided and installed by the Dealership before final delivery of the completed apparatus.

DEALER SUPPLIED AERIAL LETTERING

The aerial lettering shall be provided and installed by the servicing dealership before final delivery of the completed apparatus.

WINDCREST VOL FIRE DEPARTMENT

DEALER SUPPLIED DECALS

The apparatus decals shall be provided and installed by the Dealership prior to the apparatus being placed into service.

LICENSE PLATE MOUNTING

A Cast Products, model LP0004-1-B, cast aluminum fully enclosed license plate bracket shall be installed. The bracket shall incorporate a clear LED light (WL0501) to illuminate the license plate and meet DOT requirements.

MISCELLANEOUS EQUIPMENT

The following equipment list shall be provided with the completed apparatus.

WHEEL CHOCKS

One (1) set of NFPA compliant Ziamatic folding wheel chocks model # SAC-44-E shall be supplied with the apparatus.

ZICO WHEEL CHOCK MOUNTING BRACKETS

One (1) set of Ziamatic folding wheel chock underbody horizontal mounts, model # SQCH-44-H, shall be installed on the apparatus under the body in front of the rear wheels on the left side.

RECHARGEABLE FLASHLIGHTS

All NFPA required portable hand lights will be supplied and installed by the Fire Department before the truck is placed into service.

LADDER BELTS

Gemtor Pompier Ladder/Escape life belt(s) model #531-540 with 18.00 inch extension shall be provided with the apparatus.

Each belt shall be made of nylon specially woven to meet the rigorous, texture and strength, intended for use as a positioning and emergency self-rescue device. Each belt shall be fitted with a double tongue buckle and Pompier hook enabling fast engagement and release.

The webbing shall have a minimum breaking strength of 9,000 pounds and an assembled capacity withstanding up to 2,000 pounds. There shall be a 3.00 inch wide buckle strap sewn with high tenacity nylon threads and a 5.00 inch wide riveted body strap.

The following shall be supplied:

One (1) #531-1 (Small) belt(s) with #540 extension.

One (1) #531-2 (Medium) belt(s) with #540 extension.

One (1) #531-3 (Large) belt(s) with #540 extension.

WINDCREST VOL FIRE DEPARTMENT

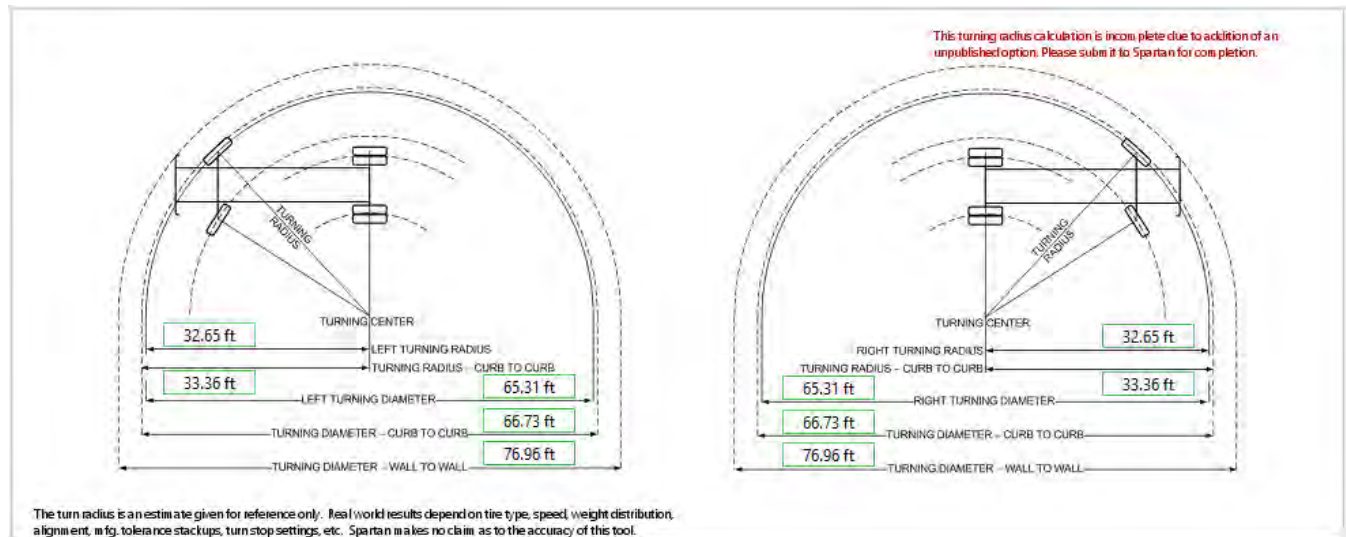
One (1) #531-4 (X-Large) belt(s) with #540 extension.

DEALER SUPPLIED AND/OR INSTALLED EQUIPMENT

The following will be supplied and/or installed by the apparatus dealer:

1	EA	FIRECOM-5100D	DIGITAL INTERCOM, 1 RADIO
1	EA	FIRECOM-MR-52X	MOBILE RADIO INTERFACE CABLE
3	EA	FIRECOM-UHW503	CREW HEADSET
2	EA	FIRECOM-UHW505	HEADSET
2	EA	MET-MR-CROSSLAY FLAP	D&S RED VINYL CROSSLAY COVER
2	EA	MET-MR-EMS CABINET WEBBING	D&S EMS CABINET WEBBING
1	EA	MET-MR-FC HOOK ASSEMBLY	FIRECOM HOOK ASSEMBLY
1	EA	MET-MR-FLASHLIGHTS	INSTALL FLASHLIGHTS IN CAB
1	EA	MET-MR-HOSE BED COVER	D&S VINYL HOSE BED COVER
1	EA	MET-MR-RADIO INSTALL	INSTALL CUSTOMER SUPPLIED RADIO

Turning Radius



End User Name	Windcrest Fire Department 93' MMP Quint
Chassis Model	0100-012 Gladiator
Wheelbase	255.00 in
Bumper Extension	21.00 in
Bumper Width	104.40 in
Left hand outside tire turn angle	42.70 deg
Right hand outside tire turn angle	42.70 deg
Left hand Curb-to-Curb turning radius	33.36 ft, 10.17 m
Right hand Curb-to-Curb turning radius	33.36 ft, 10.17 m
Left hand Wall-to-Wall turning radius	38.48 ft, 11.73 m
Right hand Wall-to-Wall turning radius	38.48 ft, 11.73 m

April 2020							June 2020						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
5	6	7	8	9	10	11	7	8	9	10	11	12	13
12	13	14	15	16	17	18	14	15	16	17	18	19	20
19	20	21	22	23	24	25	21	22	23	24	25	26	27
26	27	28	29	30			28	29	30				

May 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Holidays:

May 25: Memorial Day

DRAFT 5/14/2020. City of Windcrest Budget Calendar 2020:

[illegible]

May 2020								July 2020							
S	M	T	W	T	F	S		S	M	T	W	T	F	S	
					1	2					1	2	3	4	
3	4	5	6	7	8	9		5	6	7	8	9	10	11	
10	11	12	13	14	15	16		12	13	14	15	16	17	18	
17	18	19	20	21	22	23		19	20	21	22	23	24	25	
24	25	26	27	28	29	30		26	27	28	29	30	31		
31															
June 2020															
Sun	Mon	Tue	Wed	Thu	Fri	Sat									
	1	2	3	4	5	6									
7	8	9	10	11	12	13									
14	15	16	17	18	19	20									
21	22	23	24	25	26	27									
28	29	30													

City of Windcrest Budget Calendar 2020:

June 2020							August 2020						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6							1
7	8	9	10	11	12	13	2	3	4	5	6	7	8
14	15	16	17	18	19	20	9	10	11	12	13	14	15
21	22	23	24	25	26	27	16	17	18	19	20	21	22
28	29	30					23	24	25	26	27	28	29
							30	31					

July 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Holidays:

Jul 03: Independence Day Holiday

Jul 04: Independence Day

City of Windcrest Budget Calendar 2020:[illegible]

August 2020							October 2020						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1					1	2	3
2	3	4	5	6	7	8	4	5	6	7	8	9	10
9	10	11	12	13	14	15	11	12	13	14	15	16	17
16	17	18	19	20	21	22	18	19	20	21	22	23	24
23	24	25	26	27	28	29	25	26	27	28	29	30	31
30	31												

Holidays:

Sep 07: Labor Day

City of Windcrest Budget Calendar 2020:

Sec. 14-69. - Required in city.

It shall be unlawful for any person to operate a food or temporary food establishment without a valid food establishment permit issued by the city.

(Code 1986, § 12.301; Ord. No. 117, 3-8-1976; Ord. No. 420, 6-16-2003)

Sec. 14-70. - Application.

Every person desiring a permit to establish, maintain, or operate a food establishment within the city shall make written application, stating the name and residence of the applicant if an individual, or all the members of the firm if an association or partnership, or the name or residence of the applicant, its officers and directors if a corporation, and the location and description of the premises where such food establishment is to be conducted, and file such application with the city secretary.

(Code 1986, § 12.302; Ord. No. 117, 3-8-1976; Ord. No. 420, 6-16-2003)

Sec. 14-71. - Health official's recommendations.

It shall be the duty of the city health official, upon the filing of such application, to make or cause to be made an investigation of the premises and equipment and appliances to be used in connection therewith for the purpose of determining the fitness and suitability of such premises for a food establishment from a sanitary standpoint, and when such inspection shall have been completed, the city health official shall file with the city manager his recommendation for or against the issuance of a permit.

(Code 1986, § 12.303; Ord. No. 420, 6-16-2003)

Sec. 14-72. - Issuance.

If the city health official shall be satisfied that the applicant or its chief officers, if it is a corporation, is or are of good character and reputation, and that the premises, equipment and appliances where such food establishment is to be located, are proper and suitable from a sanitary standpoint, and meet all the requirements of the laws of the state or of the chapters of this Code relating to the conduct and operation of the business named in such application, he shall issue or cause to be issued a permit in accordance with such application, upon receipt of the permit fee provided by ordinance.

(Code 1986, § 12.304; Ord. No. 117, 3-8-1976; Ord. No. 420, 6-16-2003)

Sec. 14-73. - Form; expiration.

Such permit shall be issued under the corporate seal of the city, signed by the city health official and shall authorize the person therein named to establish, maintain and operate a food establishment at the place designated in such permit. Such permit shall expire a year from the date of issuance, except for temporary permits which are valid for two weeks; and thereafter shall be due and payable annually in advance no later than 12:00 midnight of the day which any prior permit expires.

(Code 1986, § 12.305; Ord. No. 117, 3-8-1976; Ord. No. 420, 6-16-2003)

Sec. 14-74. - Display of permit.

Every person authorized to operate in accordance with the provisions of this division shall post such permit, or cause it to be posted, in a conspicuous place within the premises of the facility.

(Code 1986, § 12.306; Ord. No. 420, 6-16-2003)

Sec. 14-75. - Revocation of permit.

All permits issued under this division may be suspended or revoked by the city health official upon the violation by the holder of any of the terms of this division. Revocation of a permit is accomplished by the removal of the permit from the establishment by the city health official at which time he shall indicate on the inspection blank which is issued to the establishment at the time of the inspection the reasons for the revocation. If the city health official fails to or is unable to remove the permit for any reason whatsoever, the revocation is still affected by the issuance of a statement on the inspection sheet, a copy of which is left at the establishment to the effect that the permit has been revoked and stating the reasons therefor.

(Code 1986, § 12.307; Ord. No. 117, 3-8-1976; Ord. No. 420, 6-16-2003)

Sec. 14-76. - Reinstatement.

Where a permit has been revoked or suspended, an application for the reinstatement of the permit may be filed which shall have included therewith a statement signed by the applicant certifying therein that the violated provision of this division has been corrected or complied with. Within one week after the receipt of this application, the city health official shall make a reinsertion, and thereafter as many re-inspections as he may deem necessary to assure himself that the applicant has complied with the requirements herein. In the event the city health official's findings indicate compliance herewith, the city health official shall reinstate the permit after collection of reinstatement fees as established by ordinance.

(Code 1986, § 12.308; Ord. No. 117, 3-8-1976; Ord. No. 420, 6-16-2003)

Sec. 14-77. - Fees.

- (a) *Amounts.* The annual permit fee and reinstatement after revocation fee to cover the city's costs incurred in conjunction with the inspection of food establishments located within the city shall be established by ordinance and shall be paid in advance upon issuance of such permit.
- (b) *Effect of hiring additional employees.* If, at any time during the period of validity of any license issued under this division, additional persons are employed by the establishment operating under such license, it shall be the duty of the persons in charge of such establishment to immediately notify the city health official of such increase and if such increase brings that establishment into a higher fee bracket, such persons shall pay to the city secretary the additional sum required. This charge shall be prorated by month.

(Code 1986, §§ 12.309.1, 12.309.2; Ord. No. 420, 6-16-2003)

Sec. 14-78. - Transferability of permit.

Permits, as required by this division, shall not be transferable from either one food establishment at a different location or from one person to another person who may subsequently own a certain food establishment, except that a permit holder who operates a food establishment, may, upon his closing of that food establishment, for the purpose of continuing the business at another food establishment, apply to the city health official for a transfer of his permit to the new location. Such application shall be accompanied by an inspection fee in the amount established by ordinance. The city health official may

affect such transfer either by endorsement of the address of the new location on the permit, or by cancellation of the permit and issuance of a new permit for the new food establishment.

(Code 1986, § 12.309.3; Ord. No. 420, 6-16-2003)

Sec. 14-79. - Posting.

The permit required by this division shall be posted in a conspicuous place.

(Code 1986, § 12.309.3; Ord. No. 420, 6-16-2003)

ARTICLE VI. - FIREWORKS^[5]

Footnotes:

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State Law reference— Fireworks, V.T.C.A., Occupations Code ch. 2154.

Sec. 24-146. - Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Fireworks means as provided in V.T.C.A., Occupations Code § 2154.001.11.

(Code 1986, § 11.101; Ord. No. 13A, 3-9-1981)

Sec. 24-147. - Penalties.

Any person, firm or corporation who shall violate any provision of this article shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined in accordance with section 1-5, for each offense. If the fireworks are separately wrapped or packed, the doing of any act prohibited by this article shall be a separate offense as to each such separately wrapped or separately packaged fireworks. Each day that a violation of this article shall continue with respect to any package of fireworks shall constitute a separate offense.

(Code 1986, § 11.106)

Sec. 24-148. - Public nuisance.

The presence of any fireworks within the jurisdiction of the city in violation of this article is hereby declared to be a common and public nuisance. The fire chief and chief of police are directed and required to seize and cause to be safely destroyed any fireworks found within the jurisdiction in violation of this article.

(Code 1986, § 11.105; Ord. No. 13A, 3-9-1981)

Sec. 24-149. - Exceptions.

This article shall not apply to signal flares of the type commonly used as signal flares by the public or for police use, nor shall this article apply to any marine signal flare or rocket of the type commonly carried by a vessel at sea; provided such signal flares or rockets as above described are carried or used for their intended purposes.

(Code 1986, § 11.103; Ord. No. 13A, 3-9-1981)

Sec. 24-150. - Prohibited.

Except as otherwise specifically provided in this article, it shall be unlawful for any person to sell, give away, offer for sale, exhibit for sale or possess any fireworks, or to use, discharge, cause to be discharged, ignite, detonate, fire or otherwise set in action any fireworks.

(Code 1986, § 11.102)

Sec. 24-151. - Permits for public displays.

Any person may give a public fireworks display; provided a permit is secured from the city council as herein provided. Application for a permit shall be in writing, addressed to the city council, and shall state the name and residence of the applicant, the time and place of the proposed exhibition, and a description of the kind, character and quantity of the fireworks intended to be displayed. The city council shall pass upon such application and may grant it, with or without the requirement of a bond, or reject the permit at its discretion.

(Code 1986, § 11.104; Ord. No. 13A, 3-9-1981)

Secs. 24-152—24-170. - Reserved.