

Instructions for Public Comment

If you would like to speak before the Canaveral Port Authority's ("CPA") Board of Commissioners, please complete a Public Comment Request Card. Public Comment Request Cards are located near the Commission Room's entry doors or are available upon request. Please return the completed card to the recording secretary who is located near the dais. Public comment unrelated to the Consent Agenda may be addressed during general Public Comment. All persons providing public comment are allotted three minutes to speak. In addition to the conduct requirements set forth by CPA Policy No. POL-2016-001-EXE-3, "Public Participation and Conduct at Board Meetings", please be aware of the following:

1. Prior to approaching the podium, please ensure to silence or turn off your cell phone and remove any hats or sunglasses.
2. When your name is called by the Commission Chairman, proceed to the podium and state your name, business affiliation, and city of residency.
3. All statements are to be directed to the Commission Chairman. You may not address or question Board members or CPA employees unless permitted to do so by the Chairman.
4. No action will be taken on requests during Public Comments unless determined by the Commission Chairman to be an emergency matter. Any other requests for Board action may be placed on the agenda for a subsequent meeting.

CANAVERAL PORT AUTHORITY BOARD OF COMMISSIONERS

June 28, 2023

Commission Room

Port Canaveral, Florida 32920

AGENDA

This meeting is open to the public.

9:00 AM

Call to Order and Pledge of Allegiance

Approval of Agenda

Approval of Minutes

Approval of the minutes from the May 24, 2023, Commission Meeting
[Minutes 05242023.pdf](#)

Personal Appearances and Presentations

Employee Service Awards (John Murray/Amanda Brailsford-Urbina)

Presentation on the Inlet Management and Sediment Budget Review by Dr. Kevin Bodge. Introduction by Bob Musser.

Reports

CEO Report

Consideration of Accepting the Financial Memo for May 2023 (Michael Poole).

[REPORTS_FIN_MEMO STATEMENTS MAY_06282023.pdf](#)

Consideration of Approving the List of Disposals, Legal Bills and Commissioner Minor Expenses for May 2023. (Pat Poston)

[REPORTS_FIN_DISPOSALS_06282023.pdf](#)

[REPORTS_FIN_LEGAL BILLS_06282023 Public.pdf](#)

Consideration of Accepting the Statistical Report, the Aging Report, and the List of Bills for May 2023 (Pat Poston).

[REPORTS_FIN_STATISTICAL_06282023.pdf](#)

[REPORTS_FIN_LIST OF BILLS_06282023.pdf](#)

[REPORTS_FIN_AGING 06.28.23.pdf](#)

June 2023 Capital Project Update

[June 28 2023 Capital Project Update.pdf](#)

Public Comment on Consent Agenda

Consent Agenda

1.Engineering, Construction, and Facilities

- 1.A. Consideration of authorizing staff to issue a purchase order to Finrock Construction, LLC, for Cruise Terminal 8 precast repairs with a not to exceed amount of \$136,000.00. (AJ Jendroch/Bill Crowe)
[1A Cover Page.pdf](#)
[Finrock Repair Proposal- Precast Repairs REV1_6.20.23.pdf](#)
- 1.B. Consideration of authorizing staff to issue a purchase order to RUSH Marine LLC, pursuant to their continuing contract PUR-RFQ-23-2, with a not-to-exceed value of \$452,208.00 for the installation of the Continuous Monitoring and Adaptive Control equipment at the Cove stormwater pond. (Patrick Hammond/Bill Crowe)
[1B Cover Page.pdf](#)
[RUSH Marine Proposal_Cove CMAC Installation.pdf](#)
- 1.C. Consideration of approving a purchase order to BEA, with a not-to-exceed amount of \$141,931, pursuant to their continuing contract PUR-RFQ-22-3, for the design and bidding services of the CT8 elevator and escalator upgrades. (Veronica Narvaez-Lugo/Bill Crowe)
[1C Cover Page.pdf](#)
[CT-08 Elevator and Escalator Replacement 06-12-23 R-2.pdf](#)
- 1.D. Consideration of approving Change Order #1 to Canaveral Construction Co., for the George King Boulevard Bus Stop Renovations. Decrease PO P-130081 by (\$19,322.20) for unused GMP funds. (Veronica Narvaez-Lugo/Bill Crowe)

[1D Cover Page.pdf](#)
[21-007A GKB Bus Stop CO#1.pdf](#)

- 1.E. Consideration of increasing the Atkins North America, Inc., purchase order P-130318, with a not-to-exceed value of \$90,900.00 for the design of the Grills Seawall Rehabilitation project. The new purchase order value will be \$119,807.00. (Verónica Narvaez-Lugo/Bill Crowe)

[1E Cover Page.pdf](#)
[Grills Seawall ATKINS PROPOSAL GRILLS WALL REHAB OPT2--06-13-23.pdf](#)
[Grills Seawall Atkins Fee Breakdown Wall Rehab Task 2 2023-06-13.pdf](#)

- 1.F. Consideration of approving a bill of sale in the amount of one dollar (\$1.00) for the water line, water main, and appurtenances that were installed during the NCB3 construction project to the City of Cocoa, Florida. (Patrick Hammond/Bill Crowe)

[1F Cover Page.pdf](#)
[Bill of Sale_City of Cocoa_Water Line at 405 Dolphin_06-15-23.pdf](#)

2.Human Resources

- 2.A. Consideration of approving the Wage Reopener ratification to Articles 26 and 32 of the Collective Bargaining Agreement* (“CBA”) between the Canaveral Port Authority and Transport Workers Union of America, Local 525, AFL-CIO

[2A Cover Page.pdf](#)
[MOU Wage Reopener.pdf](#)

- 2.B. Consideration of approving revisions to the Pay Policy, POL-2014-008-HRO-3

[2B Cover Page.pdf](#)
[POL-2014-008-HRO-3 Pay Rev 4_Clean 06.28.2023.1 4854-9898-8139 1.2_Final.pdf](#)
[POL-2014-008-HRO-3 Pay Rev 4_Redline 06.28.2023.1 4854-9898-8139 1.2_Final.pdf](#)

3.Public Safety

- 3.A. Consideration of approving \$1,884,387 for the purchase of a Pierce Velocity 100' Ascendant Aerial Tower Model ID 1.07 fire truck to replace the existing 2012 vehicle.

[3A Cover Page.pdf](#)
[PS_Firetruck MASTER June 2023 decimals.pdf](#)
[PS_Firetruck ProposalOptionListAll_20230619082819511 6.19.23.pdf](#)
[PS_Firetruck ProposalMediaOptions_6_19_2023 8_29_57 AM.pdf](#)
[PS_Firetruck Cape Canaveral Velocity 100' Ascendant Aerial Tower 2023.pdf](#)

4.Real Estate

- 4.A. Consideration of approving a Mutual Lease Termination between Canaveral Port Authority (“CPA”) and Inboard Marine Center, LLC (“Tenant”) to terminate the lease effective June 30, 2023. This document has been reviewed and approved by

Canaveral Port Authority Board of Commissioners Meeting - June 28, 2023

General Counsel. (Mark Milisits)

[4A Cover Page.pdf](#)

Public Comment

Commissioner Reports

Adjourn to next meeting scheduled Wednesday, August 23, 2023, at 9:00 am.

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Commission
Requested Action:	Approval of the minutes from the May 24, 2023, Commission Meeting
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	Yes
Financial Review:	

Attachments:

[Minutes 05242023.pdf](#)

Minutes May 24, 2023, Commission Meeting

MINUTES OF A REGULAR COMMISSION MEETING OF THE CANAVERAL PORT AUTHORITY HELD IN THE COMMISSIONERS' MEETING ROOM OF THE CANAVERAL PORT AUTHORITY OFFICE, 445 CHALLENGER ROAD, PORT CANAVERAL, FLORIDA ON MAY 24, 2023.

The meeting was called to order by Chairman Kevin Markey at 9:00 a.m. and Micah Loyd led the Pledge of Allegiance.

Those present were Chairman Kevin Markey and Commissioners Jerry Allender, Fritz VanVolkenburgh, Wayne Justice, Micah Loyd, and Attorney Harold Bistline. Also present were CEO Captain John Murray, CFO Michael Poole, Vice President Engineering and Construction Bill Crowe and Special Assistant/Liaison Melanie Bradford.

The Ambassadors present were Mike Gautreaux, Dennis Hepburn, Robi Roberts, Janice Scott and Bob Socks. Ambassador Emeritus Mac McLouth was present.

APPROVAL OF AGENDA:

Commissioner Justice motioned to approve the agenda and Commissioner Allender seconded the motion. The motion passed 5/0.

APPROVAL OF MINUTES:

Commissioner Allender moved approval of the minutes from the April 26, 2023, regular Commission meeting. The motion was seconded by Commissioner Loyd and passed 5/0.

PERSONAL APPEARANCES AND PRESENTATIONS:

1. Commercial Fish Dealing Operations at Port Canaveral Public Hearing – State of Fisheries – Seafood Atlantic and Cape Canaveral Shrimp Company (Wild Ocean). Cinthia Sandoval, Wild Ocean gave the presentation.

2. Economic Impact of Canaveral Port Authority presentation was given by Rich Higginson with BREA.

REPORTS:

1. CEO Report (John Murray)

Cruise Update:

- FY 2023 By the Numbers (October - April)
 - 551 ship calls, 4M multi-day passengers
- Marella Discovery first sailing was May 7
 - Weekly sailings through November 5
- Carnival Magic departed May 12
 - Carnival Vista arrives November 13
- Norwegian Getaway final call June 3
 - Norwegian Escape returns November 18
- Princess Cruises to begin service in Nov. 2024
 - Caribbean Princess will offer 6- and 8-day itineraries through April 2025
- Carnival Venezia will arrive December 2024
 - Seasonal 7-day itinerary to join Carnival's 4 year-round ships
- Cruise parking facilities
 - Expanding CT1, CT5/6 and CT10
 - Revising and upgrading payment systems
- Traffic flow control
 - Coordination with BCSO and FDOT
 - Widening SR528 and replacing SR401 bridge remain priorities
- New cruise facility
 - Reviewing bulkhead at existing Blue Points Marina
 - Reviewing surrounding property usage and development
 - Solution will focus on optimizing bulkhead and minimizing community impact

Cargo Update:

- FY 2023 By the Numbers (October – April)
 - 296 ship calls
 - Cargo revenue – \$12.2M
 - Cargo tonnage – 4.2M tons
- M/V MN Colibri and M/V BBC Everest discharged project cargo for local space companies
- European satellite built in Italy and scheduled to launch this summer on SpaceX rocket
- Attended Florida Supply Chain Summit in Tampa May 15-17

Communications Update:

- Princess Cruises Press Event
 - Included executives from Princess Cruises at CT6
 - National and local media coverage
 - Over 123 million reached
- Social Media Engagement
 - Carnival Venezia announcement
 - Over 515K reached
 - Busy Weekend at Port Canaveral
 - Over 85K reached

Government Relations Update:

State Update:

- 2023 Florida Legislature officially adjourned, Sine Die, on Friday, May 5
 - Governor received budget from Legislature
 - Includes Port's \$1.02M appropriation request for new Canaveral Fire Rescue Aerial Ladder Truck
- Brevard Legislative Delegation Port Visits
 - Staff coordinating with Members' staff and calendars for individual briefings

Federal Update:

- Florida Ports Washington, DC "Fly-In" – May 15-17
 - Individual meetings with FL Members of U.S. House and U.S. Senators Rubio and Scott
 - Provided Port briefings and federal priorities overview
 - USDOT Infrastructure program funding
 - USCG Port Access Route Study
 - NOAA Right Whale Proposed Rule
 - Federal lands/assets to support Commercial Space
- Meeting with CBP Office of Field Operations Mission Support
 - Discussed Ports' partnership with CBP
- Coalition for America's Gateways & Trade Corridors (CAGTC) Board Meeting – May 16-17
 - Diverse national organization encompassing state DOTs, ports, roadbuilders, rail, and others
 - Briefings and roundtable discussions with U.S. House & Senate Committee Staff
 - Promote funding for trade corridors, gateways, intermodal connectors, and freight facilities

Recreation Update:

- Jetty Park
 - Daily average of 376 vehicles in April
 - Campground occupancy at 84%
- Supported special events and launches
 - Jetty Park open for 3 of 4 launches
 - Park reached capacity May 21 due to Axiom-2 crew launch
- Thunder on Cocoa Beach was May 18 – 21
 - Racer meet and greet hosted in The Cove
- CFOA annual offshore fishing tournament held on May 20

Public Safety Update:

- Attended Central Florida Intelligence Exchange and Domestic Security Task Force Region 5 meeting
- USCG’s Annual Heavy Weather meeting for Port tenants and users scheduled June 1 in CPA Commission Room
- Invited to attend USCG training on Crisis Management in Yorktown, VA with new Commander of Port Canaveral Marine Safety Unit

Public Comment:

Andrew Phillips, VP Port Canaveral Fisherman’s Alliance
Jamie Glasner, Fin & Fly Charters LLC

2. Consideration of Accepting the Financial Memo for April 2023 (Michael Poole)
3. Consideration of Approving the List of Disposals, the Legal Bills, the Commissioner Minor Expenses, and the CPA Tariff 16 (FY23) for April 2023 (Patricia Poston)
4. Consideration of Accepting the Statistical Report, the Aging Report, and the List of Bills for April 2023 (Patricia Poston)

After presentation of the financial reports for April 2023, Commissioner Justice made the motion to accept the Financial Memo, approve the List of Disposals, the Legal Bills, the Commissioner Minor Expenses, and the CPA Tariff 16 (FY23), and to accept the Statistical Report, the Aging Report and the List of Bills for April 2023 (#2, #3 and #4). Commissioner Allender seconded the motion. The motion passed 5/0.

5. Capital Project Update for May 2023 was given by Bill Crowe.

PUBLIC COMMENT ON CONSENT AGENDA: None

CONSENT AGENDA:

Consent Agenda Items 2A, 4A, and 4B were pulled for discussion.

Consent items 1A, 1B, 3A, 3B, 3C, 4C, 4D, 4E and 4G were motioned for approval by Commissioner Allender and seconded by Commissioner Loyd. The motion passed 5/0.

Consent Item 4F was pulled by Chairman Markey who abstained from the vote. Commissioner Allender made a motion to accept the item and Commissioner Loyd seconded the motion. The motion passed 4/0.

2.A. Consideration of approval of a three (3) year four (4) month cruise Operating Agreement with MSC Cruises SA for alternating 3-4 and 7-day itineraries from Cruise Terminal 10 (CT10) for the MSC Divina, MSC Meraviglia, MSC Seaside or MSC Seashore. (David German/John Murray)

Commissioner Justice brought this item up for a brief discussion then made the motion to approve the item. Commissioner Loyd seconded the motion and the motion passed unanimously.

4.A. Consideration of approving a Temporary Construction Easement Agreement with Blue Origin Florida, LLC, to allow for certain roadway improvements along Grouper Road to facilitate the transport of space-related equipment from the Port heading east on State Road 401, subject to the terms and conditions of the easement and obtaining all applicable permits and approvals. This document has been reviewed and approved by General Counsel. (Patrick Hammond/Michael Zeiler)

4.B. Consideration of approving a Revocable License for Non-Federal Use of Federal Real Property (“License”) between Canaveral Port Authority (“Licensee”) and the U.S. Department of Homeland Security/U.S. Coast Guard (“Licensor”), for the purpose of widening Grouper Road; and authorizing the Director, Real Estate to execute the License on behalf of Licensee. This document has been reviewed and approved by General Counsel. (Mark Milisits)

Commissioner Allender asked for a brief discussion and explanation of Items 4A and 4B which are related. Afterwards Commissioner Loyd made the motion to approve both Items 4A and 4B, and Commissioner Justice seconded. The motion passed unanimously.

PUBLIC COMMENT: None

COMMISSIONER REPORTS/DISCUSSION:

Commissioner VanVolkenburgh spoke regarding a TUI Airline jet he saw and attending the Cattleman’s Dinner.

Commissioner Justice attended the Propeller Club Southeast Regional Conference in Savannah, and the Propeller Club lunch featuring the HELM students. He recognized the good work of the staff at the recent boat show and race. Maritime Day celebrations will be held on Saturday at 9:00 am. Memorial Day celebrations will be held at the Veteran’s Memorial Center and in Cocoa.

Commissioner Loyd had nothing to add.

Commissioner Allender had nothing to add.

Chairman Markey had nothing to add.

The meeting was adjourned at 10:53 am until the next meeting scheduled for Wednesday, June 28, 2023, at 9:00 am.

CANAVERAL PORT AUTHORITY

Kevin, Markey, Chairman

ATTEST

Wayne Justice, Secretary/Treasurer

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Human Resources
Requested Action:	Employee Service Awards (John Murray/Amanda Brailsford-Urbina)
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Engineering
Requested Action:	Presentation on the Inlet Management and Sediment Budget Review by Dr. Kevin Bodge. Introduction by Bob Musser.
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Executive
Requested Action:	CEO Report
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Finance
Requested Action:	Consideration of Accepting the Financial Memo for May 2023 (Michael Poole).
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

[REPORTS_FIN_MEMO STATEMENTS MAY_06282023.pdf](#)



MEMORANDUM

TO: John Murray, CEO
FROM: Michael Poole, CFO
DATE: June 20, 2023
SUBJECT: Unaudited financial results – FY 2023 May

The following is a summary of the financial results through May for FY 2023 as compared to the amended budget.

REVENUES

Operating Revenues

For the Fiscal Year, Operating Revenues are \$132.4 m, which is \$6.7 m above budget. May Revenues of \$15.9 m are \$2.1 m above budget.

Cruise Revenue:

For the fiscal year, total cruise revenue (including parking) is \$110.3 m and is \$4.2 m above budget. There have been 626 cruise calls (Home Port & Port of Call) and 4,569,352 multi-day passengers. Cruise calls are on budget and passengers are ahead of budget.

In May, there were 79 cruise calls and 553,488 passengers.

Cargo Revenue:

The Port generated cargo revenue (port fees and rent) of \$13.8 m which is \$1.7 m above budget. For the fiscal year, there were 334 cargo calls and 4,800,545 tons. Fuel, lumber, granite, limestone, slag, salt, and frozen goods are above budget.

In May, there were 38 cargo calls and 608,671 tons.

Leases/Recreation/Misc. Revenue:

Lease revenue of \$3.4 m is \$313 k above budget. Recreation revenue (Jetty Park) of \$2.8 m is \$66 k below budget. Miscellaneous revenue of \$2.1 m is \$643 k above budget.

EXPENSES

Operating Expenses:

Operating expenses are \$72.5 m and are \$2.3 m below the budget with savings in service contracts, salaries, promotions, engineering, and insurance.

Operating Income (Loss):

Operating Income is \$59.9 m which is \$8.9 m above the budget.

Non-Operating Revenues:

Non-operating revenues consist of ARPA funds, earnings on cash balances, revenues from grant administration, and gain on capital asset disposals. Total revenues from these sources for FY 2023 are \$18 m.

Non-Operating Expenses:

Non-operating expenses consist primarily of interest expense on outstanding loans and bonds. For Fiscal Year 2023, this amount is \$8.3 m.

Addition to Net Position for Debt Reduction and Port Development:

The Addition to Net Position for Debt Reduction and Port Development is \$69.6 m.

Attachments –

Income Statement – May 2023

Statement of Net Position – May 2023



**Canaveral Port Authority
Income Statement YTD
May 2023**

	Current Month Actual	Current Month Budget	Budget Variance	Prior Year Month Actual	Current YTD Actual	Current YTD Budget	Budget Variance	Prior Year Actual
REVENUES								
Cruise	9,772,201	8,438,446	1,333,755	6,740,885	80,842,484	77,870,215	2,972,269	43,914,299
Cruise Parking	3,515,082	2,945,702	569,380	2,544,427	29,468,332	28,283,977	1,184,355	15,973,594
Cargo	1,632,776	1,688,602	(55,826)	1,484,249	13,842,305	12,156,455	1,685,850	11,856,842
Leases	419,535	344,623	74,912	365,954	3,416,390	3,103,211	313,179	2,838,596
Recreation	337,263	308,074	29,189	296,884	2,781,111	2,847,375	(66,264)	2,786,682
Miscellaneous	280,502	167,250	113,252	236,776	2,055,681	1,412,996	642,685	1,182,377
TOTAL OPERATING REVENUES	\$ 15,957,359	\$ 13,892,697	\$ 2,064,662	\$ 11,669,175	\$ 132,406,303	\$ 125,674,229	\$ 6,732,074	\$ 78,552,390
EXPENSES								
Operations	986,839	1,158,820	(171,981)	793,518	8,907,154	9,304,392	(397,238)	5,579,888
Facilities	1,083,269	1,102,585	(19,316)	983,266	8,642,972	8,769,018	(126,046)	6,996,454
Parks and Recreation	166,878	188,336	(21,458)	183,280	1,386,391	1,621,116	(234,725)	1,380,773
Public Safety	983,013	961,633	21,380	840,319	7,573,500	7,717,943	(144,443)	6,881,624
Fire Training Facility	56,044	27,047	28,997	12,048	249,664	216,375	33,289	128,004
Commission	32,561	29,240	3,321	25,197	222,365	243,556	(21,192)	199,772
Executive	166,862	167,345	(483)	138,086	1,330,797	1,331,961	(1,164)	1,155,204
Finance & Accounting	147,061	147,283	(222)	219,086	1,310,134	1,312,838	(2,704)	1,260,836
Administrative Services	790,278	859,383	(69,105)	640,716	5,833,986	6,917,678	(1,083,692)	5,183,634
Engineering & Environmental	205,551	173,425	32,126	139,942	1,391,656	1,443,335	(51,679)	1,067,215
Business Development	77,623	87,280	(9,657)	53,577	602,794	727,454	(124,660)	451,851
Tenant & Property Development	29,528	34,964	(5,436)	23,103	263,939	312,734	(48,795)	182,303
Government & Strategic Comm.	128,843	113,314	15,529	90,057	882,890	936,453	(53,563)	692,611
Depreciation	4,233,214	4,233,214	0	4,028,214	33,864,118	33,865,709	(1,591)	32,357,006
OPERATING EXPENSES	9,087,563	9,283,869	(196,306)	8,170,409	72,462,358	74,720,562	(2,258,204)	63,517,174
OPERATING INCOME (LOSS)	6,869,796	4,608,828	2,260,968	3,498,766	59,943,944	50,953,667	8,990,277	15,035,217
NON-OPERATING REVENUES	3,708,918	1,169,525	2,539,393	3,150,762	18,027,250	15,286,145	2,741,105	23,570,748
NON-OPERATING EXPENSES	1,025,719	884,025	141,694	1,023,257	8,310,607	8,411,591	(100,984)	8,201,986
ADDITION TO NET POSITION FOR DEBT REDUCTION AND PORT DEVELOPMENT	\$ 9,552,994	\$ 4,894,328	\$ 4,658,666	\$ 5,626,270	\$ 69,660,587	\$ 57,828,221	\$ 11,832,366	\$ 30,403,979



Canaveral Port Authority

Statements of Net Position

May 2023

	May 2023	May 2022
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 61,607,175	\$ 48,806,048
Cash and cash equivalents - restricted	17,678,048	17,503,001
Cash designated for capital projects	113,699,026	25,968,760
Accounts receivable, net	14,299,059	11,105,575
Prepaid expenses	825,854	674,721
Due from other governmental units	4,076,458	12,939,744
Inventory	635,077	498,033
Other receivables, current	18,631	18,631
TOTAL CURRENT ASSETS	\$ 212,839,327	\$ 117,514,514
NONCURRENT ASSETS		
Cash & cash equivalents - restricted	12,770,940	12,623,074
Other receivables and deposits, long term	5,459,117	5,459,117
Capital Assets, Net of Accumulated Depreciation	656,441,235	665,797,012
TOTAL NONCURRENT ASSETS	\$ 674,671,292	\$ 683,879,204
TOTAL ASSETS	\$ 887,510,619	\$ 801,393,718
DEFERRED OUTFLOWS OF RESOURCES	\$ 538,996	\$ 670,683
LIABILITIES AND NET POSITION		
CURRENT LIABILITIES		
Accounts payable and accrued expenses	\$ 8,453,339	\$ 5,001,352
Accrued compensated balances	2,724	3,021
Unearned Revenue	958,194	1,414,362
Payroll and sales tax payable	298,086	118,931
Revenue bonds payable, current	10,455,000	9,910,062
Line of credit	5,000,000	5,000,000
Other liabilities, current	1,853,187	1,366,043
Payable from restricted assets:		
Accrued interest payable	6,027,767	6,223,687
Revenue bonds payable, current	710,000	675,000
TOTAL CURRENT LIABILITIES	\$ 33,758,296	\$ 29,712,457
NONCURRENT LIABILITIES		
Revenue bonds payable, less current portion	\$ 357,676,974	\$ 374,464,956
Line of credit	16,000,000	32,000,000
Other noncurrent liabilities	3,830,942	4,375,388
TOTAL NONCURRENT LIABILITIES	\$ 377,507,915	\$ 410,840,345
TOTAL LIABILITIES	\$ 411,266,212	\$ 440,552,802
DEFERRED INFLOWS OF RESOURCES	\$ 1,301,323	\$ 441,257
NET POSITION		
Invested in capital assets, net of related debt	\$ 284,862,535	\$ 260,566,759
Restricted for future debt service	12,770,940	12,623,074
Unrestricted	177,848,605	87,880,509
TOTAL NET POSITION	\$ 475,482,080	\$ 361,070,342
TOTAL LIABILITIES AND NET POSITION	\$ 888,049,614	\$ 802,064,401

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Finance
Requested Action:	Consideration of Approving the List of Disposals, Legal Bills and Commissioner Minor Expenses for May 2023. (Pat Poston)
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	.

Attachments:

[REPORTS_FIN_DISPOSALS_06282023.pdf](#)

[REPORTS_FIN_LEGAL_BILLS_06282023 Public.pdf](#)

Item Description	FAM Asset ID	Fixed Asset ID	Make	Model	Remaining Book Balance	Reason	Requested By	Disposal Method
Pump Submersible Grinder	FAM003729	2019195	Zoeller	WD820-F	\$ 188.52	Damaged/Broken	AJ Jendroch	Trash
Laptop	FAM003678	2019144	Dell	Latitude 5290	\$ -	Obsolete	M. Lorusso	Recycle
Scanner	FAM00946	20120002	Fujitsu	5530C2	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003648	2019114	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003643	2019109	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003647	2019113	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003654	2019120	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003656	2019122	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM002994	2016_2	Dell	Latitude E6520	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003653	2019119	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003652	2019118	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003657	2019123	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003639	2019105	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Laptop	FAM003645	2019111	Dell	Latitude E5570	\$ -	Obsolete	M. Lorusso	Recycle
Speaker Phone	FAM002942	20150257	Polycom	IP600	\$ -	Obsolete	M. Lorusso	Recycle
Speaker Phone	FAM000996	20130253	Polycom	Soundstation	\$ -	Obsolete	M. Lorusso	Recycle
Speaker Phone	FAM002941	20150256	Polycom	IP600	\$ -	Obsolete	M. Lorusso	Recycle
Switch - Split	FAM001184	2012076E	Extreme Summit	x460-48p	\$ -	Obsolete	M. Lorusso	Recycle
Switch	FAM003891	2019357	Extreme	210-48P-GE4	\$ -	Obsolete	M. Lorusso	Recycle
Switch	FAM001265	20130172	Extreme Summit	x460-24p	\$ -	Obsolete	M. Lorusso	Recycle
Switch	FAM001264	20130171	Extreme Summit	x460-24p	\$ -	Obsolete	M. Lorusso	Recycle
Switch	FAM002259	20130203	Extreme Summit	c460-24p	\$ -	Obsolete	M. Lorusso	Recycle
Server	FAM002798	20150096B	Cisco	UCSC-C220-M3S-CH2	\$ -	Obsolete	M. Lorusso	Recycle
Server	FAM002797	20150096A	Cisco	UCSC-C220-M3S-CH2	\$ -	Obsolete	M. Lorusso	Recycle
KVM for Server Rack	FAM002669	20130208A	Atlas Sound		\$ -	Obsolete	M. Lorusso	Recycle
Battery Backup Network Hardware	FAM001302	20130049	APC		\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002678	20130299G	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002673	20130299B	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV CPA-OPS-NVR9	FAM002286	20150101	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002277	20140108	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002676	20130299E	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002672	20130299A	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
Console 17 keyboard & Mouse	FAM002648	2010055A	Avocent		\$ -	Obsolete	M. Lorusso	Recycle
NVR	FAM003628	2019094	NICE	9420 2U	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002675	20130299D	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR	FAM003627	2019093	NICE	9420 2U	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002670	20130208B	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
Switch	FAM001153	2010055	Avocent	AVO-DSR4020-001	\$ -	Obsolete	M. Lorusso	Recycle
NVR CT1 Southside Parking Lot	FAM003871	2019337	Dell		\$ -	Obsolete	M. Lorusso	Recycle
Back Up Device	FAM001133	2009000084	Quantum	LMO 20012337-001	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002674	20130299C	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV	FAM002677	20130299F	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV CPA-ET-NVR3	FAM002287	20150102	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
NVR for CCTV CPA-ET-NVR4	FAM002288	20150103	NICE	9420	\$ -	Obsolete	M. Lorusso	Recycle
CT8 CCTV Project Disney 2011	FAM002190	2011183	Dell	E01s- Server	\$ -	Obsolete	M. Lorusso	Recycle
Road Line Paint Striper	FAM001841	20140035	Titan	Powerliner 2850	\$ -	Broken	AJ Jendroch	Auction
Total					\$ 188.52			

Non-Fixed Assets								
AED (3)			Lifepak CR Plus	LPCR+A		Out of Warranty	G. Hartlage	Auction
(36) Axis Camera Mounts			APC	SMT750		Obsolete	M. Lorusso	Recycle
APC - UPS (17)			APC	SMT750C		Obsolete	M. Lorusso	Recycle
Nikon Camera			Nikon	coolpix 830		Obsolete	M. Lorusso	Recycle
Dell Computer			Dell	Optiplex 5070		Obsolete	M. Lorusso	Recycle
Dish Network Box			Dish	VIP211k		Obsolete	M. Lorusso	Recycle
APC - UPS			APC	SMT750		Obsolete	M. Lorusso	Recycle
Wireless Transmission			Nyrius	NAVS502-TX		Obsolete	M. Lorusso	Recycle
Box of Computer Mounts						Obsolete	M. Lorusso	Recycle
Dell Multiport Adaptor			Dell	DA310U		Obsolete	M. Lorusso	Recycle
Dell Monitor (14)			Dell	P2414HB		Obsolete	M. Lorusso	Recycle
Acer Monitor			Acer	B223W		Obsolete	M. Lorusso	Recycle
Polycom Speaker System (5)			PolyCom	Sound Station IP 6000		Obsolete	M. Lorusso	Recycle
ClearOne Wireless Conference Phone (2)			Clearone	910-158-030		Obsolete	M. Lorusso	Recycle
Polycom Speaker System			PolyCom	Sound Station IP 6000		Obsolete	M. Lorusso	Recycle
(1) Keyboard						Obsolete	M. Lorusso	Recycle
MagTek Credit Card Scanner			Magteck			Obsolete	M. Lorusso	Recycle
Sierra Wireless			ClearOne	AirLink GX400		Obsolete	M. Lorusso	Recycle
ClearOne Wireless Conference Phone			ClearOne			Obsolete	M. Lorusso	Recycle
Box of Monitor Mounts & Extreme Switch Mounts			N/A	N/A		Obsolete	M. Lorusso	Recycle
Box of Cords			N/A	N/A		Obsolete	M. Lorusso	Recycle
(4) APC Batteries			APC			Obsolete	M. Lorusso	Recycle
Water Meter Bracket						Obsolete	M. Lorusso	Recycle
CT10 Fiber Optic Box						Obsolete	M. Lorusso	Recycle
MIS with Cords						Obsolete	M. Lorusso	Recycle
(2) Port Panels			N/A	N/A		Obsolete	M. Lorusso	Recycle
Antenas						Obsolete	M. Lorusso	Recycle
Communications Cercuit Accessory (3)			N/A	N/A		Obsolete	M. Lorusso	Recycle
Extreme Wireless Access Point (6)			Extreme	AP510i		Obsolete	M. Lorusso	Recycle
Verlink Box			Verlink			Obsolete	M. Lorusso	Recycle
NWS Message Switch			NWS			Obsolete	M. Lorusso	Recycle
Box of Axis Mounts			Axis			Obsolete	M. Lorusso	Recycle
Extreme Wireless Access Point			Extreme	AP510i		Obsolete	M. Lorusso	Recycle
Transition Networks - Switch			Transition Networks	SISPM1040-382-LRT		Obsolete	M. Lorusso	Recycle
Transition Networks - Switch			Transition Networks	SISPM1040-382-LRT		Obsolete	M. Lorusso	Recycle
Lanolinx - Switch			Lanolinx	LNP-1002GN-T		Obsolete	M. Lorusso	Recycle
CT10 AC Power						Obsolete	M. Lorusso	Recycle
Dell Monitor			Dell			Obsolete	M. Lorusso	Recycle
Samsug Monitor			Samsung	mj17cskb		Obsolete	M. Lorusso	Recycle



CANAVERAL
PORT AUTHORITY

**Canaveral Port Authority
Summary of Legal Bills for approval
Commission Meeting 06/28/2023**

Invoice#	Firm	Amount
May 1st - May 31st 2023	Stromire Bistline & Miniclier	\$ 8,825.00
888950	Ford Harrison	\$ 738.50
890825	Ford Harrison	\$ 602.00
118501	Wright Fulford Moorhead & Brown	\$ 522.23
18151	White Bird	\$ 110.00
5891040	Littler	\$ 4,830.00
5811974	Littler	\$ 2,874.00
5811850	Littler	\$ 17,500.00
5862079	Littler	\$ 5,370.00
5848849	Littler	\$ 5,730.00
5697391	Littler	\$ 226.80
5872008	Littler	\$ 4,560.00
	Total	\$ 51,888.53

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Finance
Requested Action:	Consideration of Accepting the Statistical Report, the Aging Report, and the List of Bills for May 2023 (Pat Poston).
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

[REPORTS_FIN_STATISTICAL_06282023.pdf](#)

[REPORTS_FIN_LIST OF BILLS_06282023.pdf](#)

[REPORTS_FIN_AGING 06.28.23.pdf](#)

**CANAVERAL PORT AUTHORITY
STATISTICAL REPORT FOR MAY 2023**

SHIP CALLS:	YTD FY2023		YTD FY2022		May 2023		May 2022	
Cargo	334	266	25.56%	38	36	5.56%		
Layberth / Other	97	85	14.12%	14	6	133.33%		
Cruise & Gaming	985.5	877.5	12.31%	129.5	108.5	19.35%		
TOTAL SHIP CALLS:	1,416.5	1,228.5	15.30%	181.5	150.5	20.60%		
SHIP DAYS ON BERTH:	3,396.0	3,342	1.62%	408.0	436	-6.42%		
CARGO TONNAGE (short tons):								
Aggregate / Limestone	317,168	325,310	-2.50%	50,380	47,897	5.18%		
Granite / Rock	404,575	299,425	35.12%	65,526	39,045	67.82%		
Gypsum	0	-						
Aggregate	721,743	624,736	15.53%	115,906	86,942	33.31%		
Empty Containers	1,807	1,267	42.61%	55	89	-37.98%		
Loaded 20' Containers	6,241	1,477	322.46%	133	12	964.04%		
Loaded 40' Containers	1,235	3,251	-62.02%		593	-100.00%		
Containers	9,282	5,995	54.84%	188	694	-72.94%		
Cement	0	-						
Fertilizer - Bulk	47,306	41,474	14.06%	6,064	3,537	71.44%		
Salt	159,374	166,819	-4.46%		45,522	-100.00%		
Sand	0	-						
Slag	477,385	495,394	-3.64%	54,509	48,292	12.87%		
Dry Bulk Cargo	684,065	703,686	-2.79%	60,573	97,352	-37.78%		
Concentrate	0	10,562	-100.00%		2,212	-100.00%		
General Miscellaneous	7,810	19,145	-59.21%	24	10,186	-99.76%		
Gen. Misc. - Canned Goods	945	-	100.00%					
Gen. Misc. - Frozen Goods	35,067	-	100.00%	3,134		100.00%		
Dry Cargo - Bagged/Palletized	0	2,756	-100.00%					
Hardboard, Plywood, Veneers, Fence, Posts, etc.	0	6,302	-100.00%					
Kraft Liner Board / Pulp / Fiber	0	14,145	-100.00%					
Steel & Iron Products	1,495	418	257.42%					
Supersacks	51,335	17,867	187.31%		1,325	-100.00%		
Used Cars - Export (4 / 9)	21	26	-20.81%					
Used Cars - Import (1 / 0)	3	-	100.00%					
Used Trucks - Export (31 / 10)	1,280	104	1130.17%					
Used Trucks - Import (9 / 0)	173	-	100.00%	27		100.00%		
Break Bulk Cargo	98,130	71,326	37.58%	3,186	13,723	-76.78%		
Lumber (484,153 1000'sBF / 385,288 1000'sBF)	727,730	585,071	24.38%	59,742	78,386	-23.78%		
Machinery, Equipment (W/M)	490	259	88.77%	40	43	-6.12%		
Space Program (Boosters: 29/21; Fairings: 64/38)	948	667	42.16%	166	134	24.12%		
Machinery, Equipment (W/M)	1,438	926	55.21%	206	176	16.78%		
Liquefied Natural Gas (LNG)	7,281	-	100.00%					
Petroleum - North Side	2,109,931	1,921,097	9.83%	295,535	224,809	31.46%		
Petroleum - Other	440,946	380,902	15.76%	73,335	53,225	37.78%		
Petroleum & LNG	2,558,158	2,301,999	11.13%	368,870	278,034	32.67%		
TOTAL CARGO TONNAGE:	4,800,545	4,293,740	11.80%	608,671	555,306	9.61%		
CARGO REVENUE:	\$ 10,234,646	\$ 8,065,656	26.89%	\$ 1,180,226	\$ 1,045,812	12.85%		
LAYBERTH/OTHER REVENUE:	\$ 668,037	\$ 689,004	-3.04%	\$ 77,651	\$ 82,840	-6.26%		
GRAND TOTAL CARGO / OTHER REVENUE:	\$ 10,902,683	\$ 8,754,660	24.54%	\$ 1,257,877	\$ 1,128,652	11.45%		
	<u>Units</u>	<u>TEU'S</u>		<u>Units</u>	<u>TEU'S</u>		<u>Units</u>	<u>TEU'S</u>
CONTAINERS-# LOAD	258	327		364	478		35	58
CONTAINERS-# EMP'Y	539	1704		473	499		17	34

CANAVERAL PORT AUTHORITY
STATISTICAL REPORT FOR MAY 2023

	YTD FY2023		YTD FY2022			May 2023		May 2022		
	PSGRS	VOY'G	PSGRS	VOY'G		PSGRS	VOY'G	PSGRS	VOY'G	
* CRUISE PASSENGERS	* Rev. Psgrs. = embarking, debarking, Intransit passengers					* Rev. Psgrs. = embarking, debarking, Intransit passengers				
MULTI-DAY CRUISE PASSENGERS:										
<u>Carnival Cruise Lines</u>										
Conquest - POC			2,400	1	-100.00%			2,400	1	-100.00%
Ecstasy - POC				4						
Elation - HP			131,066	43.0	-100.00%					
Freedom - HP	339,218	55.0	36,253	7.5	835.70%	33,471	6.0	24,348	5.0	37.47%
Liberty - HP	459,210	69	146,589	40.5	213.26%	61,471	9	37,031	9.0	66.00%
Magic - HP	225,380	28.5	206,539	34	9.12%	11,955	1.5	18,189	2.5	-34.27%
Mardi Gras - HP	408,545	35.5	334,041	35.5	22.30%	47,062	4.0	43,386	4	8.47%
Paradise				7						
Sensation - HP				1						
Costa Deliziosa (CCL Affiliate) - POC	1,643	1			100.00%					
Nieuw Statendam (CCL Affiliate) - POC	2,236	1			100.00%					
Queen Elizabeth (CCL Affiliate) - POC			1,348	1	-100.00%			1,348	1	-100.00%
Ventura (CCL Affiliate) - POC	2,391	1			100.00%					
<u>Disney Cruise Lines</u>										
Dream - HP			271,268	70.0	-100.00%			45,300	9.0	-100.00%
Fantasy - HP	240,779	35.0	135,169	36.0	78.13%	28,017	4.0	19,392	4.0	44.48%
Wish - HP	496,793	69.5			100.00%	64,899	9.5			100.00%
<u>MSC Cruises</u>										
Divina - HP	7,713	2.0	46,871	22.5	-83.54%			16,083	7.0	-100.00%
Meraviglia - HP & POC	313,187	43.5	59,803	26.5	423.70%	17,483	4.0			100.00%
Seaside - HP	79,348	9.5			100.00%	50,706	6.0			100.00%
<u>Norwegian Cruise Lines</u>										
Escape - POC	197,609	21.0	65,500	21.5	201.69%					
Gem - POC	4,050	2	4,539	4	-10.77%					
Getaway - HP & POC	131,750	22.5	13,314	7	889.56%	34,483	4.0			100.00%
Joy - HP	3,058	0.5			100.00%					
Prima - HP	97,531	15.0			100.00%					
Riviera (NCL Affiliate) - POC	1,002	1			100.00%					
Seven Seas Navigator (NCL Affiliate) - POC	464	1	536	2	-13.43%	464	1	421	1	10.21%
<u>Other Cruise Lines - POC</u>										
Ocean Voyager			338	5	-100.00%					
<u>Royal Caribbean Int'l</u>										
Allure of the Seas - POC			29,097	5.5	-100.00%					
Anthem of the Seas - POC	87,462	19	44,593	15	96.13%					
Enchantment of the Seas - HP	35,035	15.5	13,652	10	156.63%					
Harmony of the Seas - HP	62,579	5.5	217,961	29.0	-71.29%			51,695	5.0	-100.00%
Independence of the Seas - POC	499,476	58.0	347,310	59.5	43.81%	80,577	9.0	69,613	9.0	15.75%
Jewel of the Sea - HP	118,086	26.5			100.00%					
Mariner of the Seas - HP	307,855	43.0	231,234	52.0	33.14%	36,857	5.0	28,398	5.0	29.79%
Oasis of the Seas - HP	42,086	7.5	37,191	9	13.16%	19,088	3.5	25,041	5	-23.77%
Wonder of the Seas - HP	385,673	31			100.00%	52,568	4			100.00%
<u>TUI Cruises</u>										
Marella Discovery - HP & POC	14,387	5			100.00%	14,387	5			100.00%
Mein Schiff 1 (RCI Affiliate) - POC	4,806	2			100.00%					
TOTAL MULTI-DAY PASSENGERS:	4,569,352	626.5	2,376,612	548.5	92.26%	553,488	75.5	382,645	67.5	44.65%
GAMING VESSEL PASSENGERS:										
Victory 1	94,608	359	90,780	329	4.22%	13,000	54	12,670	41	2.60%
TOTAL GAMING VESSEL PASSENGERS:	94,608	359	90,780	329	4.22%	13,000	54	12,670	41	2.60%
TOTAL CRUISE/GAMING PASSENGERS:	4,663,960	985.5	2,467,392	877.5	89.02%	566,488	129.5	395,315	108.5	43.30%
TOTAL MULTI-DAY CRUISE REVENUE:	\$ 109,553,058		\$ 59,159,884		85.18%	\$ 13,182,912		\$ 9,183,993		43.54%
TOTAL GAMING VESSEL REVENUE:	\$ 757,759		\$ 728,009		4.09%	\$ 104,371		\$ 101,319		3.01%
ND TOTAL CRUISE / GAMING REVENUE:	\$ 110,310,816		\$ 59,887,893		84.20%	\$ 13,287,283		\$ 9,285,312		43.10%
GRAND TOTAL CARGO/CRUISE/GAMING REVENUE:	\$ 121,213,499		\$ 68,642,553		76.59%	\$ 14,545,160		\$ 10,413,964		39.67%

Canaveral Port Authority
CPA List of Bills
May 1, 2023 - May 31, 2023

Date	Document #	Type	Name	Memo	Amount
5/4/2023	152659	Bill Payment	Atkins North America Inc	19-006 SR401 & Payne Way Intersection Improvements	(\$5,879.78)
5/4/2023	152660	Bill Payment	CH2M Hill Engineers Inc	NCP3 Design & Permitting / CN-15-005	(\$754.75)
5/4/2023	152661	Bill Payment	Jacobs Engineering Group Inc	23-009 NCP1/2 & NCB8 Dredging Design	(\$83,147.08)
5/4/2023	152662	Bill Payment	RUSH Marine LLC	21-028 SCP1/2 & CT2 Repairs	(\$51,420.86)
5/4/2023	152663	Bill Payment	Fortiline Inc	NCB3 Rehab RUSH Marine ODP	(\$1,380.00)
5/4/2023	152664	Bill Payment	Ivey's Construction Inc	CT1 PBB Cylinder Replacement	(\$12,611.63)
5/4/2023	152665	Bill Payment	Heidelberg Materials	Refund Security Deposit	(\$6,804.07)
5/4/2023	152666	Bill Payment	Ace Hardware of Cape Canaveral		(\$19.99)
5/4/2023	152667	Bill Payment	ADP LLC		(\$920.00)
5/4/2023	152668	Bill Payment	American Guard Services Inc		(\$4,584.00)
5/4/2023	152669	Bill Payment	Atlantic Southern Paving & Sealcoating		(\$4,910.00)
5/4/2023	152670	Bill Payment	UniFirst Corporation		(\$1,103.73)
5/4/2023	152671	Bill Payment	NAPA Auto Parts		(\$583.89)
5/4/2023	152672	Bill Payment	DynaFire LLC		(\$840.00)
5/4/2023	152673	Bill Payment	Rockledge Winsupply Inc		(\$1,137.60)
5/4/2023	152674	Bill Payment	Harbour Mastery Inc		(\$2,520.00)
5/4/2023	152675	Bill Payment	GO Signs		(\$15.00)
5/4/2023	152676	Bill Payment	Paradise Ford		(\$135.67)
5/4/2023	152677	Bill Payment	Raybro Electric Supplies		(\$9,086.29)
5/4/2023	152678	Bill Payment	A1A Lawnmowers Inc		(\$143.38)
5/4/2023	152679	Bill Payment	Advance Auto Parts		(\$704.17)
5/4/2023	152680	Bill Payment	Archive Management Solutions LLC	Records Storage and Document Destruction 100122-093023	(\$381.13)
5/4/2023	152681	Bill Payment	Southern Lock & Supply		(\$2,782.01)
5/4/2023	152682	Bill Payment	Brevard County Sheriffs Office	Special Security Detail wks 4/15/23 -4/28/23	(\$26,881.25)
5/4/2023	152683	Bill Payment	The Vernon Company		(\$1,098.82)
5/4/2023	152684	Bill Payment	Amazon Business		(\$1,002.19)
5/4/2023	152685	Bill Payment	Glover Oil Co Inc		(\$7,897.57)
5/4/2023	152686	Bill Payment	R.E. Michel Company LLC		(\$197.30)
5/4/2023	152687	Bill Payment	Richard's Paint Mfg Co Inc		(\$1,009.93)
5/4/2023	152688	Bill Payment	Grainger Industrial Supply		(\$3,501.40)
5/4/2023	152689	Bill Payment	Iron Mountain Records Management	R491D/Canaveral Port Authority	(\$3,632.67)
5/4/2023	152690	Bill Payment	Gattos Tires and Auto Service		(\$2,991.88)
5/4/2023	152691	Bill Payment	Florida High Speed Internet		(\$75.00)
5/4/2023	152692	Bill Payment	City of Cocoa Beach	Lift Station Service Contract	(\$14,565.60)
5/4/2023	152693	Bill Payment	TPH Holdings LLC dba The Parts House		(\$361.10)
5/4/2023	152694	Bill Payment	Bond Plumbing Supply Inc		(\$111.69)
5/4/2023	152695	Bill Payment	TWU-Local 525	April 2023 Union Dues	(\$2,130.86)
5/4/2023	152696	Bill Payment	Nationwide	Nationwide Employee Pet Insurance Deductions	(\$491.58)
5/4/2023	152697	Bill Payment	Lake Doctors Inc, The		(\$446.00)
5/4/2023	152698	Bill Payment	Facilities Management Express LLC		(\$5,788.12)
5/4/2023	152699	Bill Payment	Digital Media Innovations LLC	FY23 Press Release Distribution Services 100122-093023.	(\$1,012.50)
5/4/2023	152700	Bill Payment	All-Rite Fence Services Inc		(\$5,992.18)
5/4/2023	152701	Bill Payment	Flags Unlimited Inc		(\$2,798.20)
5/4/2023	152702	Bill Payment	IM Solutions Inc	Technical Support for Charter Review Committee Meetings	(\$593.75)
5/4/2023	152703	Bill Payment	Humana Insurance Company	Humana Retiree Medical Insurance Premium	(\$1,807.05)
5/4/2023	152704	Bill Payment	Aflac Group	April 2023 AFLAC Employee Insurance Deductions	(\$1,270.32)
5/4/2023	152705	Bill Payment	Florida Power & Light Co	Electric Invoices 03/16-04/17	(\$218,945.21)
5/4/2023	152706	Bill Payment	Colonial Life & Accident Insurance	BCN# E9219049 Colonial Insurance Plans April 2023	(\$83.00)
5/4/2023	152707	Bill Payment	Your Laundry Butler		(\$2,548.58)
5/4/2023	152708	Bill Payment	Beck Auto Sales Inc		(\$80,697.88)
5/4/2023	152709	Bill Payment	Bobbs Fire Equipment Inc		(\$1,152.00)
5/4/2023	152710	Bill Payment	Cliff Berry Inc	Payment for Spill Clean Up at CT1	(\$3,356.50)
5/4/2023	152711	Bill Payment	Waste Pro of Florida	Waste Removal Account #013370	(\$9,830.66)
5/4/2023	152712	Bill Payment	Hershey's Ice Cream		(\$511.32)
5/4/2023	152713	Bill Payment	Marine AC of Central Florida Inc		(\$9,190.00)
5/4/2023	152714	Bill Payment	Alerion Door & Glass Inc		(\$920.00)
5/4/2023	152715	Bill Payment	Leland's Tree Service Inc		(\$1,800.00)
5/4/2023	152716	Bill Payment	Marie's Coffee Service	Meeting insurance brokers	(\$88.50)
5/4/2023	152717	Bill Payment	Fastenal		(\$2,484.34)
5/4/2023	152718	Bill Payment	Safety Shoe Distributors LLC	FY 2023 Employee Safety Shoes	(\$388.27)
5/4/2023	152719	Bill Payment	Florida Mulch Inc		(\$2,435.00)

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5/4/2023	152720	Bill Payment	Home Depot (Store)		(\$33.98)
5/4/2023	152721	Bill Payment	The Sherwin Williams Company		(\$1,040.92)
5/4/2023	152722	Bill Payment	Boggs Fire Equipment Inc		(\$53.99)
5/4/2023	152723	Bill Payment	Uline Inc		(\$1,046.87)
5/4/2023	152724	Bill Payment	United Parcel Services		(\$110.94)
5/4/2023	152725	Bill Payment	Color Card Administrator Corp		(\$58.33)
5/4/2023	152726	Bill Payment	Ford & Harrison LLP	Services rendered - file number 019092-0004:	(\$2,835.00)
5/4/2023	152727	Bill Payment	Safety Products Inc		(\$673.90)
5/4/2023	152728	Bill Payment	Stromire Bistline Miniclier	Legal Services rendered March 2023	(\$7,725.00)
5/4/2023	152729	Bill Payment	Junior Achievement of the Space Coast	Table Sponsorship	(\$3,500.00)
5/4/2023	152730	Bill Payment	Ferguson Enterprises Inc		(\$708.46)
5/4/2023	152731	Bill Payment	Anderson Rentals Inc		(\$309.50)
5/4/2023	152732	Bill Payment	Hutman Marketing Corp	Advertising - Seatrade March 2023 - FP4C	(\$3,880.00)
5/4/2023	152733	Bill Payment	SiteOne Landscape Supply LLC		(\$954.50)
5/4/2023	152734	Bill Payment	Momar Inc		(\$686.30)
5/4/2023	152735	Bill Payment	Little Mendelson PC	Legal Services rendered June 2023	(\$9,392.40)
5/4/2023	152736	Bill Payment	Aon Consulting Inc		(\$3,210.00)
5/4/2023	152737	Bill Payment	NXTurn LLC		(\$350.00)
5/4/2023	152738	Bill Payment	Cody Talbert Distribution		(\$114.36)
5/4/2023	152739	Bill Payment	Bostel, Nathen		(\$2,494.78)
5/4/2023	152740	Bill Payment	PFM Asset Management LLC		(\$2,984.98)
5/4/2023	152741	Bill Payment	Florida Bulb and Ballast		(\$984.40)
5/4/2023	152742	Bill Payment	Kool Breeze Ice Co		(\$157.00)
5/4/2023	152743	Bill Payment	East Coast Lumber & Supply Co		(\$1,018.75)
5/4/2023	152744	Bill Payment	UPS Freight		(\$17.48)
5/4/2023	152745	Bill Payment	Gulf Coast Panama Jack		(\$772.20)
5/4/2023	152746	Bill Payment	Bergeron , Peter		(\$610.90)
5/4/2023	152747	Bill Payment	Langley , Craig		(\$56.86)
5/4/2023	152748	Bill Payment	Harrison , Marie		(\$35.79)
5/4/2023	152749	Bill Payment	Crowe, Bill		(\$351.46)
5/4/2023	152750	Bill Payment	German, David		(\$77.18)
5/4/2023	152751	Bill Payment	Murray, John		(\$117.25)
5/4/2023	152752	Bill Payment	Foxhoven, Thomas		(\$519.10)
5/4/2023	152753	Bill Payment	Musser , Robert	Seamist OSHA 8 Hour Hazwoper	(\$69.96)
5/4/2023	152754	Bill Payment	Loyd , Micah		(\$1,487.70)
5/4/2023	152755	Bill Payment	VanVolkenburgh, Robert		(\$1,103.40)
5/4/2023	152756	Bill Payment	Howard , Robert	Special Event Detail LNG for Disney Wish	(\$412.50)
5/4/2023	152757	Bill Payment	Palmer, Randall A	Spec Event Det-Clean Canaveral LNG Bunkering-Mardi Gras	(\$437.50)
5/4/2023	152758	Bill Payment	Landreville , Pete	Spec Event Det-Clean Canaveral LNG Bunkering-Mardi Gras	(\$231.00)
5/4/2023	152759	Bill Payment	Kennedy, Jason	Spec Event Detail-Air Show FB2 Training	(\$210.00)
5/4/2023	152760	Bill Payment	Reynolds, Michael E	Spec Event Detail-Air Show FB2 Training	(\$198.00)
5/4/2023	152761	Bill Payment	Stromquist, Kyle	Spec Event Detail-Air Show FB2 Training	(\$198.00)
5/4/2023	152762	Bill Payment	W & J Construction Corporation	Retainage Paid	(\$38,099.99)
5/9/2023	152763	Bill Payment	Arthur J Gallagher (UK) Limited	VOIDED	(\$30,000.00)
5/9/2023	152764	Bill Payment	Ambassador Services International LLC		(\$2,915.00)
5/9/2023	152765	Bill Payment	Amazon Business		(\$1,155.39)
5/9/2023	152766	Bill Payment	ABC Home And Commercial Services		(\$1,072.17)
5/9/2023	152767	Bill Payment	Ace Hardware of Cape Canaveral		(\$3,413.10)
5/9/2023	152768	Bill Payment	American Guard Services Inc		(\$6,504.00)
5/9/2023	152769	Bill Payment	Leland's Tree Service Inc		(\$900.00)
5/9/2023	152770	Bill Payment	Bonanno, Christopher L	Copywriting	(\$105.00)
5/9/2023	152771	Bill Payment	Toppertown Inc		(\$5,402.00)
5/9/2023	152772	Bill Payment	UniFirst Corporation		(\$509.61)
5/9/2023	152773	Bill Payment	Kool Breeze Ice Co		(\$105.00)
5/9/2023	152774	Bill Payment	Anderson Rentals Inc		(\$703.75)
5/9/2023	152775	Bill Payment	Brevard Achievement Center Enterprises LLC	April 2023 Services	(\$158,720.95)
5/9/2023	152776	Bill Payment	Glover Oil Co Inc		(\$1,991.35)
5/9/2023	152777	Bill Payment	R.E. Michel Company LLC		(\$62.12)
5/9/2023	152778	Bill Payment	Grainger Industrial Supply		(\$1,947.03)
5/9/2023	152779	Bill Payment	Boggs Fire Equipment Inc		(\$69.00)
5/9/2023	152780	Bill Payment	Raybro Electric Supplies		(\$707.63)
5/9/2023	152781	Bill Payment	Lisa Cullen Tax Collector	Tourist Tax - April 2023	(\$10,903.62)
5/9/2023	152782	Bill Payment	Fastenal		(\$1,801.15)
5/9/2023	152783	Bill Payment	Bond Plumbing Supply Inc		(\$660.25)

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5/9/2023	152784	Bill Payment	SiteOne Landscape Supply LLC		(\$834.13)
5/9/2023	152785	Bill Payment	Business Research & Economic Advisors LLC (BREA)		(\$26,500.00)
5/9/2023	152786	Bill Payment	TPH Holdings LLC dba The Parts House		(\$127.28)
5/9/2023	152787	Bill Payment	Inspire Placemaking Collective Inc	Port Canaveral - Marina District Development Guidelines	(\$1,995.00)
5/9/2023	152788	Bill Payment	Paradise Ford		(\$1,215.98)
5/9/2023	152789	Bill Payment	Home Depot (Store)		(\$12,910.04)
5/9/2023	152790	Bill Payment	Sun Bum LLC		(\$787.80)
5/9/2023	152791	Bill Payment	Overhead Door Company of Central Florida		(\$250.00)
5/9/2023	152792	Bill Payment	Power Systems Inc of Florida		(\$15,744.73)
5/9/2023	152793	Bill Payment	Mercury Hydraulics LLC		(\$2,400.00)
5/10/2023	152794	Bill Payment	Furry, Sherry		(\$100.00)
5/10/2023	152795	Bill Payment	Adelman, Eric		(\$1,104.99)
5/10/2023	152796	Bill Payment	Foster, Clayton		(\$1,225.80)
5/11/2023	152797	Bill Payment	Johnson , Judith	Claim for Damages	(\$500.00)
5/11/2023	152798	Bill Payment	Mercury Hydraulics LLC		(\$915.00)
5/11/2023	152799	Bill Payment	Sills , Kari	Ground Transportation Security Deposit Refund Request	(\$379.82)
5/11/2023	152800	Bill Payment	Millar , Eric	Ground Transportation Security Deposit Refund Request	(\$500.00)
5/11/2023	152801	Bill Payment	Dupell, Douglas	Ground Transportation Security Deposit Refund Request	(\$500.00)
5/11/2023	152802	Bill Payment	Cortrans Shuttle Service	Ground Transportation Security Deposit Refund Request	(\$1,500.00)
5/11/2023	152803	Bill Payment	Pimentel , William	Ground Transportation Security Deposit Refund Request	(\$64.34)
5/11/2023	152804	Bill Payment	Morse Communications Inc		(\$1,363.89)
5/11/2023	152805	Bill Payment	Ace Hardware of Cape Canaveral		(\$6.99)
5/11/2023	152806	Bill Payment	Advance Auto Parts		(\$45.98)
5/11/2023	152807	Bill Payment	Amazon Business		(\$40.53)
5/11/2023	152808	Bill Payment	SiteOne Landscape Supply LLC		(\$3,395.42)
5/11/2023	152809	Bill Payment	Jones Walker LLP		(\$12,500.00)
5/11/2023	152810	Bill Payment	Kennedy, Jason	Spec Event Det-Clean Canaveral LNG Bunkering-Disney Wish	(\$393.75)
5/11/2023	152811	Bill Payment	Newell, Allie	Spec Event Detail-Q-Ocean LNG Bunkering-Mardi Gras	(\$198.00)
5/11/2023	152812	Bill Payment	James Taylor Lewis , Zachari	Spec Event Det-Clean Canaveral LNG Bunkering-Disney Wish	(\$173.25)
5/11/2023	152813	Bill Payment	Color Card Administrator Corp	Business Cards - Tom Self and Anna Taylor	(\$89.50)
5/11/2023	152814	Bill Payment	King Distributing & Concessions LLC		(\$1,195.00)
5/11/2023	152815	Bill Payment	NAPA Auto Parts		(\$41.48)
5/11/2023	152816	Bill Payment	Home Depot (Store)		(\$879.50)
5/11/2023	152817	Bill Payment	Florida Today	Legal & Package Advertising Acct 123919	(\$1,954.29)
5/11/2023	152818	Bill Payment	X-Treme Enterprises LLC		(\$4,065.00)
5/11/2023	152819	Bill Payment	Paradise Ford		(\$2,655.49)
5/11/2023	152820	Bill Payment	The Vernon Company		(\$959.47)
5/11/2023	152821	Bill Payment	Atkins North America Inc	FY23-Port's Green Marine House Gas	(\$11,729.45)
5/11/2023	152822	Bill Payment	Terracon Consultants Inc	Asbestos & Lead Paint Survey for Jetty Park Camp Store & Pavilion	(\$5,435.65)
5/12/2023	152823	Bill Payment	Destination Luxury Service	Ground Transportation Security Deposit refund request	(\$434.90)
5/12/2023	152824	Bill Payment	Sanchez , Daruma	Ground Transportation Security Deposit refund request	(\$479.97)
5/12/2023	152825	Bill Payment	UPS Freight		(\$13.10)
5/12/2023	152826	Bill Payment	Reyes, Fernando	Ground Transportation Security Deposit Refund Request	(\$494.99)
5/12/2023	152827	Bill Payment	Waste Pro of Florida	Waste Removal Account #008872 JP Campgrounds	(\$1,434.64)
5/12/2023	152828	Bill Payment	City of Cocoa	Water Sewer Utility Invoices 04/02-05/03	(\$107,937.59)
5/18/2023	152829	Bill Payment	Brevard County Sheriffs Office		(\$622,686.00)
5/18/2023	152830	Bill Payment	Brevard County Sheriffs Office		(\$27,720.00)
5/18/2023	152831	Bill Payment	Canaveral Fire Rescue		(\$13,196.59)
5/18/2023	152832	Bill Payment	Canaveral Fire Rescue		(\$192,206.84)
5/18/2023	152833	Bill Payment	PCMTA		(\$10,416.67)
5/18/2023	152834	Bill Payment	PCMTA		(\$1,383.17)
5/18/2023	152835	Bill Payment	Bluepoints Marina at Port Canaveral		(\$707.14)
5/18/2023	152836	Bill Payment	PFM Financial Advisors LLC		(\$2,207.62)
5/18/2023	152837	Bill Payment	City Electric (WTP)		(\$2,064.24)
5/18/2023	152838	Bill Payment	UniFirst Corporation		(\$378.67)
5/18/2023	152839	Bill Payment	East Coast Lumber & Supply Co		(\$787.50)
5/18/2023	152840	Bill Payment	Raybro Electric Supplies		(\$6,635.38)
5/18/2023	152841	Bill Payment	IM Solutions Inc	Technical Support for Charter Review Committee Meetings	(\$356.25)
5/18/2023	152842	Bill Payment	DynaFire LLC		(\$4,412.47)
5/18/2023	152843	Bill Payment	Gray Robinson PA	FY23 State Lobbying Consultant - 100122-093023	(\$7,333.33)
5/18/2023	152844	Bill Payment	GO Signs		(\$605.00)
5/18/2023	152845	Bill Payment	Schindler Elevator Corporation		(\$223.50)

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5/18/2023	152846	Bill Payment	Ferguson Enterprises Inc		(\$481.27)
5/18/2023	152847	Bill Payment	Imperial Towing of Brevard LLC		(\$85.00)
5/18/2023	152848	Bill Payment	City Electric (WTP)		(\$546.17)
5/18/2023	152849	Bill Payment	Hershey's Ice Cream		(\$435.12)
5/18/2023	152850	Bill Payment	Kool Breeze Ice Co		(\$184.80)
5/18/2023	152851	Bill Payment	Trane U.S. Inc		(\$8,879.00)
5/18/2023	152852	Bill Payment	Glover Oil Co Inc		(\$2,010.38)
5/18/2023	152853	Bill Payment	Bond Plumbing Supply Inc		(\$4,529.94)
5/18/2023	152854	Bill Payment	Color Card Administrator Corp		(\$55.31)
5/18/2023	152855	Bill Payment	ASSA ABLOY Entrance Systems US Inc fka Door Control Inc		(\$5,463.80)
5/18/2023	152856	Bill Payment	Arthur J Gallagher Risk Management Services Inc	Storage Tank Liability coverage June 23-Jun 24	(\$3,710.72)
5/18/2023	152857	Bill Payment	American Guard Services Inc		(\$6,480.00)
5/18/2023	152858	Bill Payment	Southern Lock & Supply		(\$868.65)
5/18/2023	152859	Bill Payment	Amazon Business		(\$2,337.07)
5/18/2023	152860	Bill Payment	NAPA Auto Parts		(\$291.16)
5/18/2023	152861	Bill Payment	Grainger Industrial Supply		(\$179.93)
5/18/2023	152862	Bill Payment	Advance Auto Parts		(\$368.07)
5/18/2023	152863	Bill Payment	Most Dependable Fountains Inc		(\$6,075.00)
5/18/2023	152864	Bill Payment	Gallagher Benefit Services Inc		(\$12,083.33)
5/18/2023	152865	Bill Payment	Paradise Ford		(\$52.69)
5/18/2023	152866	Bill Payment	Boulevard Tire Center		(\$485.00)
5/18/2023	152867	Bill Payment	Amerigas	Natural Gas Delivery	(\$200.05)
5/18/2023	152868	Bill Payment	ADP LLC		(\$1,104.44)
5/18/2023	152869	Bill Payment	Mercury Hydraulics LLC		(\$3,401.83)
5/18/2023	152870	Bill Payment	Environmental Research & Design Inc	FY23 Water Quality Monitoring	(\$4,617.12)
5/18/2023	152871	Bill Payment	Waste Pro of Florida	Waste Removal Account #013370	(\$367.77)
5/18/2023	152872	Bill Payment	Staples Inc	Computer Sup/Office Sup/Small Equipment/Sm Furniture	(\$2,372.23)
5/18/2023	152873	Bill Payment	North America Fire Equipment Co Inc dba NAFECO		(\$2,831.81)
5/18/2023	152874	Bill Payment	Flanders Electric Motor Service LLC		(\$4,175.00)
5/18/2023	152875	Bill Payment	Fluid Power of Florida LLC		(\$3,160.00)
5/18/2023	152876	Bill Payment	Stan Weaver & Company		(\$550.00)
5/18/2023	152877	Bill Payment	Bears Playgrounds		(\$7,632.00)
5/18/2023	152878	Bill Payment	All-Rite Fence Services Inc		(\$4,549.33)
5/18/2023	152879	Bill Payment	Anderson Rentals Inc		(\$619.00)
5/18/2023	152880	Bill Payment	SAFEbuilt LLC		(\$149.25)
5/18/2023	152881	Bill Payment	Vickery and Company		(\$6,221.00)
5/19/2023	152882	Bill Payment	Hoffmann, Michael		(\$211.83)
5/19/2023	152883	Bill Payment	Murray, John		(\$6,034.48)
5/19/2023	152884	Bill Payment	Cornelius , Samantha		(\$102.99)
5/19/2023	152885	Bill Payment	Hammond , Patrick		(\$291.40)
5/19/2023	152886	Bill Payment	Luensmann , Diane		(\$306.22)
5/19/2023	152887	Bill Payment	NIGP		(\$480.00)
5/19/2023	152888	Bill Payment	Jackson, Marlisa	Reimburse Damages	(\$254.67)
5/19/2023	152889	Bill Payment	Palmer, Randall A	Special Event Detail Mardi Gras Filling Q-LNG 4000	(\$192.50)
5/19/2023	152890	Bill Payment	James Taylor Lewis , Zachari	Special Event Detail Mardi Gras Filling Q-LNG 4000	(\$181.50)
5/19/2023	152891	Bill Payment	Reynolds, Michael E	Special Event Detail LNG Bunkering for Disney Wish	(\$157.50)
5/19/2023	152892	Bill Payment	Howard , Robert	Special Event Detail LNG Bunkering for Disney Wish	(\$148.50)
5/19/2023	152893	Bill Payment	Canaveral Fire Rescue	Service Contract-800 MHz Radio System	(\$1,053.00)
5/19/2023	152894	Bill Payment	PCMTA	Adj Instructors Payroll (2 months) March 1 - April 30,	(\$22,153.28)
5/19/2023	152895	Bill Payment	Anamar Environmental Consulting Inc	Sediment Characterization for Maint. Dredging	(\$28,414.25)
5/19/2023	152896	Bill Payment	Construction Engineering Group	George King Blvd Bus Stop Improvements	(\$1,000.00)
5/19/2023	152897	Bill Payment	Ivey's Construction Inc	Storm Repairs	(\$1,904.22)
5/19/2023	152898	Bill Payment	Land & Sea Surveying Concepts Inc	CPA Berth Hydrographic Surveying Services	(\$23,220.00)
5/19/2023	152899	Bill Payment	Olsen Associates Inc	FY23 CPA Inlet Management Plan	(\$7,998.36)
5/19/2023	152900	Bill Payment	Paul Bridges & Associates LLC	2022 Mobile Harbor Crane - Owner Rep	(\$4,222.50)
5/19/2023	152901	Bill Payment	RUSH Marine LLC	20-008-NCB3 Rehab & Modernization	(\$2,959,975.88)
5/24/2023	152902	Bill Payment	Kings III Emergency Communications		(\$259.19)
5/24/2023	152903	Bill Payment	Advance Auto Parts		(\$414.75)
5/24/2023	152904	Bill Payment	Raybro Electric Supplies		(\$12,401.26)
5/24/2023	152905	Bill Payment	Central Brevard Humane Society	Sponsorship	(\$2,500.00)
5/24/2023	152906	Bill Payment	Palm Bay Septic Inc		(\$720.00)
5/24/2023	152907	Bill Payment	Keep Brevard Beautiful	Sponsorship	(\$2,000.00)
5/24/2023	152908	Bill Payment	East Coast Lumber & Supply Co		(\$3,227.12)

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5/24/2023	152909	Bill Payment	Beck Auto Sales Inc		(\$30,803.02)
5/24/2023	152910	Bill Payment	Southeast Services of CFL Inc		(\$13,424.05)
5/24/2023	152911	Bill Payment	American Guard Services Inc		(\$4,032.00)
5/24/2023	152912	Bill Payment	Amazon Business		(\$1,169.57)
5/24/2023	152913	Bill Payment	Bobbs Fire Equipment Inc		(\$1,520.00)
5/24/2023	152914	Bill Payment	R.E. Michel Company LLC		(\$382.98)
5/24/2023	152915	Bill Payment	Packer Norris Parts LLC		(\$900.00)
5/24/2023	152916	Bill Payment	Glover Oil Co Inc		(\$1,494.03)
5/24/2023	152917	Bill Payment	Kool Breeze Ice Co		(\$205.80)
5/24/2023	152918	Bill Payment	Vickery and Company		(\$6,091.00)
5/24/2023	152919	Bill Payment	UniFirst Corporation		(\$557.66)
5/24/2023	152920	Bill Payment	Ferguson Enterprises Inc		(\$25.33)
5/24/2023	152921	Bill Payment	TPH Holdings LLC dba The Parts House		(\$1,943.28)
5/24/2023	152922	Bill Payment	Lake Doctors Inc, The		(\$446.00)
5/24/2023	152923	Bill Payment	Trane U.S. Inc		(\$3,940.46)
5/24/2023	152924	Bill Payment	Grainger Industrial Supply		(\$1,248.47)
5/24/2023	152925	Bill Payment	GO Signs		(\$330.00)
5/24/2023	152926	Bill Payment	Gattos Tires and Auto Service		(\$845.78)
5/24/2023	152927	Bill Payment	NAPA Auto Parts		(\$160.24)
5/24/2023	152928	Bill Payment	ASSA ABLOY Entrance Systems US Inc fka Door Control Inc		(\$602.90)
5/24/2023	152929	Bill Payment	Paradise Ford		(\$136.34)
5/24/2023	152930	Bill Payment	Hayes Pipe Supply Inc		(\$2,504.00)
5/24/2023	152931	Bill Payment	Rockledge Winsupply Inc		(\$2,431.69)
5/24/2023	152932	Bill Payment	GreatAmerica Financial Services Corporation		(\$4,492.45)
5/24/2023	152933	Bill Payment	Dobbs Equipment LLC		(\$6,978.53)
5/24/2023	152934	Bill Payment	Color Card Administrator Corp		(\$169.17)
5/24/2023	152935	Bill Payment	The Sherwin Williams Company		(\$562.18)
5/24/2023	152936	Bill Payment	Uline Inc		(\$2,220.82)
5/24/2023	152937	Bill Payment	Cypress Mulch, Fence & Sod Inc		(\$10,658.00)
5/24/2023	152938	Bill Payment	Ace Hardware of Cape Canaveral		(\$93.95)
5/24/2023	152939	Bill Payment	ABC Home And Commercial Services		(\$198.00)
5/24/2023	152940	Bill Payment	Florida High Speed Internet		(\$950.00)
5/24/2023	152941	Bill Payment	Sea Turtle Preservation Society	Sponsorship	(\$3,000.00)
5/24/2023	152942	Bill Payment	Baker Distributing Co LLC		(\$862.76)
5/24/2023	152943	Bill Payment	Power & Systems Innovations		(\$13,245.32)
5/24/2023	152944	Bill Payment	The Integration Factory Inc		(\$6,965.00)
5/24/2023	152945	Bill Payment	Applicant Insight Inc		(\$262.92)
5/24/2023	152946	Bill Payment	Landscape Forms Inc		(\$10,230.25)
5/24/2023	152947	Bill Payment	Quadient Inc	VOIDED	(\$229.00)
5/24/2023	152948	Bill Payment	Atkins North America Inc	19-006 SR401 & Payne Way Intersection Improvements	(\$2,240.17)
5/24/2023	152949	Bill Payment	Ivey's Construction Inc		(\$160,121.28)
5/25/2023	152950	Bill Payment	Aegir Port Property Advisers		(\$2,838.00)
5/25/2023	152951	Bill Payment	SiteOne Landscape Supply LLC		(\$124.24)
5/1/2023	ACH#2231	Bill Payment	Windcave Inc		(\$1,442.50)
5/8/2023	ACH#2231	Bill Payment	The Lincoln National Life Insurance Co		(\$19,712.53)
5/16/2023	ACH#2231	Bill Payment	SunTrust Bank		(\$58,557.00)
5/18/2023	ACH#2231	Bill Payment	The Lincoln National Life Insurance Co		(\$9,241.84)
5/23/2023	ACH#2231	Bill Payment	CIGNA Health and Life Insurance		(\$336,357.22)
5/30/2023	ACH#2231	Bill Payment	The Lincoln National Life Insurance Co		(\$19,673.53)
5/5/2023	WT#20235	Bill Payment	Arthur J Gallagher (UK) Limited	Reissue of check 152763	(\$30,000.00)
5/10/2023	JE-12578	Journal		Void Of Bill Payment #152763	\$30,000.00
5/16/2023	JE-12612	Journal		Void Of Bill Payment #152364	\$1,355.00
5/31/2023	JE-12695	Journal		Void Of Bill Payment #152947	\$229.00
Total					(\$5,974,141.24)
			Balanced to the GL & AP Register		
			Marina Davis 05/31/23		

05.31.2023

PAYROLL ACCOUNT

05.05.2023	Net Payroll (AXW WK - 18)	\$	470,471.20
	FICA & Federal Taxes	\$	161,976.31
	Third Party Payments made by ADP	\$	1,110.66
05.19.2023	Net Payroll (AXW WK - 20)	\$	469,290.53
	FICA & Federal Taxes	\$	160,263.87
	Third Party Payments made by ADP	\$	960.66
	TOTAL:		<u><u>\$ 1,264,073.23</u></u>



INTERNAL MEMORANDUM

TO: Commissioners of Canaveral Port Authority
John Murray, CEO

FROM: Pat Poston, Sr. Director of Finance

DATE: June 20, 2023

SUBJECT: Account Receivable Update

The following is a brief update of the Accounts Receivable billing and collection process. Staff continues to work with our customers to ensure collection and credit of accounts.

Staff has been working closely with our customer and business partners to maintain a current billing and account balance status. Most of our accounts are in line as evidenced by the 97.9% with balances in less than 30 days. We are working with all others to bring accounts current.

Attached is the aging report as of June 20, 2023. The Current accounts are 97.9% of total Accounts Receivable of \$15,620,032.54. We will send any necessary notices. The updated aging results will be provided at the meeting on June 28, 2023.

The following accounts are due to/have been sent notices of action and/or late fee assessments.

Atlantic Frozen Foods, LLC
Beyel brothers, INC
HM Southeast Cement LLC
Intercruises Port Operations
Q-LNG Transport, LLC
Seven Seas Academy
Tropic Oil Co
Vitol / Seaport Canaveral Corp.

CANAVERAL PORT AUTHORITY

A/R Aging Summary

6/20/2023

Customer	0-30	31-60	61-90	90+	Total
888 Taxi LLC	\$37,500.00	\$0.00	\$0.00	\$0.00	\$37,500.00
A.R. Savage & Son LLC	\$17,199.71	\$0.00	\$0.00	\$0.00	\$17,199.71
AAEA Investments, LLC	\$1,304.10	\$0.00	\$0.00	\$0.00	\$1,304.10
Ambassador Services, INC	\$382,056.19	\$0.00	\$0.00	\$0.00	\$382,056.19
Ambassador Services, LLC	\$194,766.22	\$75,019.90	\$0.00	\$0.00	\$269,786.12
Atlantic Frozen Foods, LLC	\$0.00	\$0.00	\$1,814.05	\$0.00	\$1,814.05
Aviara Boats, LLC	\$1,427.50	\$0.00	\$0.00	\$0.00	\$1,427.50
Beyel Brothers, Inc.	\$5,351.16	\$2,966.16	\$0.00	\$0.00	\$8,317.32
Brevard Achievement Center Enterprises, LLC	\$4,000.00	\$0.00	\$0.00	\$0.00	\$4,000.00
Canaveral Port Properties	\$1,202.77	\$0.00	\$0.00	\$0.00	\$1,202.77
Carnival Cruise Line/Seabourn	\$3,974,135.59	\$0.00	\$0.00	\$0.00	\$3,974,135.59
Fillette Green Shipping Services (USA) Corp	\$75,190.03	\$0.00	\$0.00	\$0.00	\$75,190.03
GAC Shipping (USA) Inc	\$28,895.53	\$0.00	\$0.00	\$0.00	\$28,895.53
Glover Oil Co.	\$605.92	\$0.00	\$0.00	\$0.00	\$605.92
GOV CBP Cape Canaveral, LLC	\$6,494.77	\$0.00	\$0.00	\$0.00	\$6,494.77
GT USA LLC	\$45,396.91	\$0.00	\$0.00	\$0.00	\$45,396.91
HM Southeast Cement LLC (L002)	\$4.67	\$4.67	\$329.84	\$0.00	\$339.18
HM Southeast Cement LLC (L043's)	\$20,465.13	\$0.00	\$16,237.05	\$0.00	\$36,702.18
Host Agency	\$23,011.53	\$0.00	\$0.00	\$0.00	\$23,011.53
Inboard Marine Center LLC	\$3,002.64	\$0.00	\$0.00	\$0.00	\$3,002.64
Inchcape Shipping Service	\$90,785.93	\$0.00	\$0.00	\$0.00	\$90,785.93
Intercruises Port Operations USA Inc	\$501,413.84	\$27,914.57	\$0.00	\$0.00	\$529,328.41
Magical Cruise Company dba DCL Port Facilities, LLC	\$1,351,103.21	\$0.00	\$0.00	\$0.00	\$1,351,103.21
Martin Marietta Materials	\$56,323.70	\$0.00	\$0.00	\$0.00	\$56,323.70
MLSBC Cruises Ltd Cape Canaveral	\$2,586,054.93	\$165,539.51	\$0.00	\$0.00	\$2,751,594.44
Moran Gulf Shipping	\$91,928.84	\$0.00	\$0.00	\$0.00	\$91,928.84
Morton Salt, Inc.	\$79,803.84	\$0.00	\$0.00	\$0.00	\$79,803.84
Norfolk Dredging	\$4,295.33	\$0.00	\$0.00	\$0.00	\$4,295.33
Norton Lilly International	\$180,236.18	\$0.00	\$0.00	\$0.00	\$180,236.18
Pirates Best Marine, Inc.	\$4,614.58	\$0.00	\$0.00	\$0.00	\$4,614.58
Polaris New Energy LLC	\$15,072.84	\$0.00	\$0.00	\$0.00	\$15,072.84
Q-LNG Transport, LLC	\$21,618.02	\$6,539.08	\$3,162.30	\$0.00	\$31,319.40
Royal Caribbean Group	\$4,822,460.36	\$0.00	\$0.00	\$0.00	\$4,822,460.36
Sea Ray Division of Brunswick Corporation	\$2,397.34	\$0.00	\$0.00	\$0.00	\$2,397.34
Seven Seas Academy	\$12,874.26	\$9,866.72	\$0.00	\$0.00	\$22,740.98
Sims Crane & Equipment Co., Inc.	\$2,925.00	\$0.00	\$0.00	\$0.00	\$2,925.00
Smith & Associates Enterprises, Inc.	\$2,943.55	\$0.00	\$0.00	\$0.00	\$2,943.55
SpaceX	\$19,936.00	\$0.00	\$0.00	\$0.00	\$19,936.00
SSI Lubricants, LLC (dba) SSI Petroleum	\$282.51	\$0.00	\$0.00	\$0.00	\$282.51
TransMontaigne Terminals LLC	\$80,398.15	\$0.00	\$0.00	\$0.00	\$80,398.15
Tropic Oil Co	\$0.00	\$964.16	\$0.00	\$0.00	\$964.16
United States Coast Guard	\$6,877.10	\$0.20	\$0.20	\$0.00	\$6,877.50
Valls Shipping Company	\$109,647.72	\$0.00	\$0.00	\$0.00	\$109,647.72
Victory Casino Cruise	\$14,014.72	\$0.00	\$0.00	\$0.00	\$14,014.72
Vitol Inc / Seaport Canaveral Corp.	\$411,440.69	\$0.00	\$14,951.69	\$0.00	\$426,392.38
Waters Edge Bait and Tackle	\$3,263.43	\$0.00	\$0.00	\$0.00	\$3,263.43
Total	\$15,294,722.44	\$288,814.97	\$36,495.13	\$0.00	\$15,620,032.54
	97.9%	1.9%	0.2%	0.0%	100%

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	
Department:	Engineering
Requested Action:	June 2023 Capital Project Update
Summary Explanation & Background:	
Financial Impact:	No
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

[June 28 2023 Capital Project Update.pdf](#)

PROJECT: CT1 West Flounder Street Parking Improvements

DESCRIPTION: Project designs and constructs a new parking lot west of Flounder Street to accommodate additional parking. The project includes pay on entry parking equipment, CCTV, lighting, etc.

PROJECT STATUS:

Canaveral Construction has begun onsite construction activities. The contractor has cleared the existing site and is working on cutting the overall site down to the initial grade. Electrical and stormwater material have been ordered. Initial electrical work has begun. Increased parking is required by fall of 2023 with the arrival of a larger vessel at CT1; the work associated with this project will be completed before the vessel arrives.

PROJECT: 1130-23047	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME		Canaveral Construction		TOTAL PROJECT BUDGET	\$ 4,138,833
BUDGET				GRANT PROGRAM	N/A
ORIGINAL CONTRACT		\$ 185,586		GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ 3,953,247		PORT FUNDS	\$ 4,138,833
AMENDED CONTRACT	\$ -	\$ 4,138,833	\$ -	PENDING ITEMS	
PAID TO DATE		\$ 97,437			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

March 1, 2023 - Commission approved award to Canaveral Construction for pre-construction services for CT1 Parking Expansion, Flounder Parking Lot.
April 5, 2023 - Commission approved award to Canaveral Construction for construction services.

PHOTOS



PROJECT: CT1 West Parking Expansion

DESCRIPTION: This project will expand the parking on the west side of CT1 through the consolidation of new and existing parking lots, reroute the bus loop along Flounder Road, and modify Flounder Road to accommodate the expanding parking capacity and bus traffic.

PROJECT STATUS:

Ivey's Construction has mobilized to the project site to begin construction activities. The contractor has begun work on phase 1 of 3 which includes the realignment of the bus loop and the new asphalt parking areas. The contractor has begun to cut and fill the overall site to the initial grade in preparation for the base material installation. Stormwater structures have been ordered and are expected early July. Increased parking is required by fall of 2023 with the arrival of a larger vessel at CT1; the work associated with this project will be completed before the vessel arrives.

PROJECT: 1100-23033	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME		Ivey's Construction	RS&H	TOTAL PROJECT BUDGET	\$ 3,977,922
BUDGET				GRANT PROGRAM	N/A
ORIGINAL CONTRACT		\$ 98,500	\$ 40,385	GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ 3,839,037		PORT FUNDS	\$ 3,977,922
AMENDED CONTRACT	\$ -	\$ 3,937,537	\$ 40,385	PENDING ITEMS	
PAID TO DATE		\$ 138,248	\$ -		
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

March 1, 2023 - Commission approved change order no. 1 for the CT1 parking lot expansion GMP, \$3,839,037.

PHOTOS



PROJECT: CT10 Canopy Design

DESCRIPTION: During recent storm events, a substantial portion of the fabric on the CT10 canopies was destroyed and a post-storm review of the area revealed that structural steel beneath canopies was rusted beyond repair. The design phase of this project will evaluate a hardened roof system, which meets the requirements of the Florida Building Code wind load, along with a structural evaluation to determine what, if any, of the existing structural components can be reused and integrated into the new design.

PROJECT STATUS:

The design team has incorporated in the drawings an extension of the canopies at two locations: the bus parking on the west side of the terminal and the passenger drop-off south of the terminal. CPA staff is coordinating this project with the location of the new parking garage at CT10 since the canopy design may require a modification due to the preferred location of the garage which is East of the existing garage.

PROJECT: 2042-23006	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	BEA	TBD		TOTAL PROJECT BUDGET	\$ 250,000
BUDGET	\$ 250,000			GRANT PROGRAM	
ORIGINAL CONTRACT	\$ 248,420	\$ -		GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE	\$ -	\$ -		PORT FUNDS	\$ 250,000
AMENDED CONTRACT	\$ -	\$ -		PENDING ITEMS	
PAID TO DATE	\$ 71,163	\$ -			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

September 28, 2022 - Commission approved awarding BEA for the design of the CT10 Canopies, \$248,420.

PHOTOS



PROJECT: Cruise Parking System Upgrades

DESCRIPTION: This project includes upgrades to the current parking systems located at each cruise terminal; current focus on CT1 and CT10. The new upgraded equipment will allow for greater flexibility and added efficiencies with the use of license plate readers. The new equipment will require IT infrastructure enhancements with some minor modifications to garage entry and exit locations.

PROJECT STATUS:

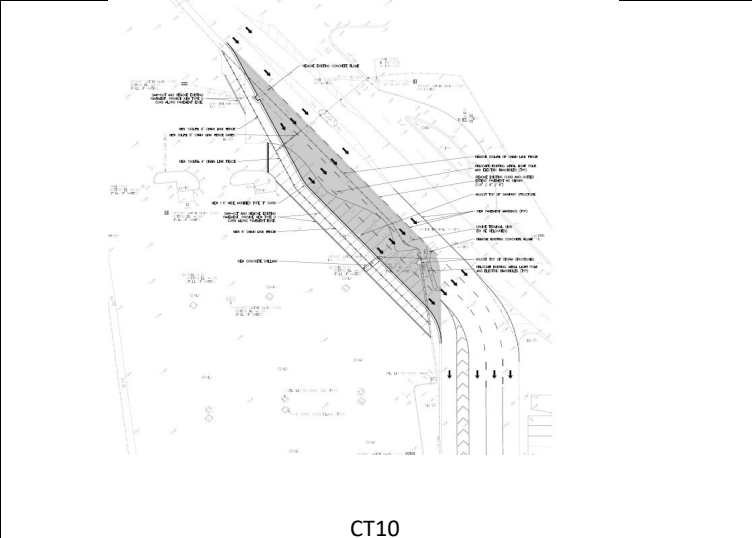
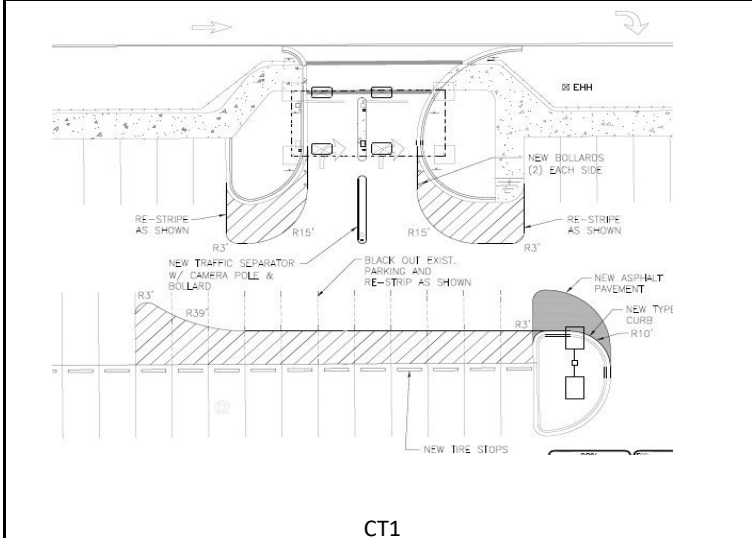
Ivey's Construction, in conjunction with the CT1 West Parking Expansion project, has mobilized to the project site to begin civil improvements. CPA Staff continues to coordinate with Flash Parking regarding the delivery of the new parking system equipment. Installation of equipment is expected to begin in July.

PROJECT: 1130-21018	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	N/A	Ivey's Construction		TOTAL PROJECT BUDGET	\$ 3,459,178
BUDGET				GRANT PROGRAM	
ORIGINAL CONTRACT		\$ 51,650		GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ 3,407,528		PORT FUNDS	\$ 3,459,178
AMENDED CONTRACT		\$ 3,459,178		PENDING ITEMS	
PAID TO DATE		\$ 393,017			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

- October 27, 2021** - Commission approved change order no. 1 to incorporate Auto Terminal lot as CT-1 overflow parking, \$261,527.00
- December 7, 2022** - Commission approved change order no. 2 to incorporate CT1 Garage, CT1 Cove Lot, CT1 Valet Lot, Lumber Lot and the Southside overflow parking, \$2,057,300.00
- March 1, 2023** - Commission approved change order no. 3 to incorporate CT10 parking upgrades, \$1,088,701.

PHOTOS



PROJECT: Northside Garages Design Criteria Package

DESCRIPTION: This project is to provide a design criteria package for two garages located on the Northside of the Port; one garage will be located at CT6, and one garage will be located at CT10.

PROJECT STATUS:

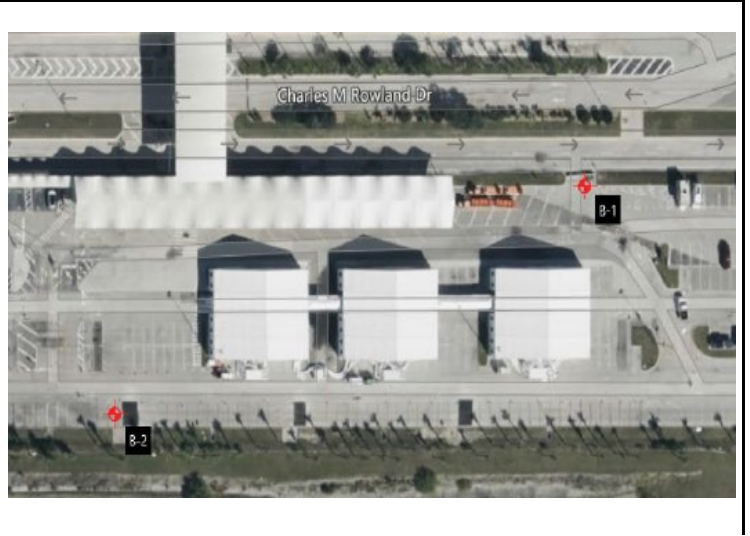
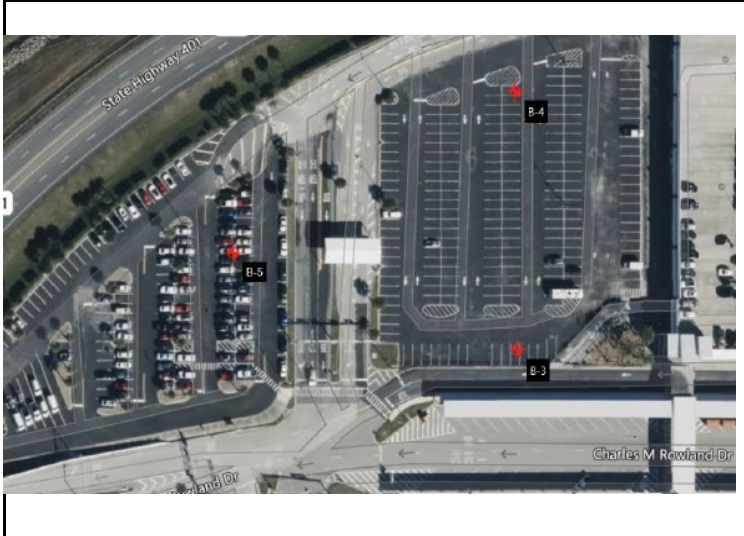
Stakeholder meetings are underway. BA-RS&H are working to prepare a design criteria solicitation package for the parking garage structures only. The consultant will continue to work on the site improvements design-criteria package to be released to the awarded contractor on a later day. The geotechnical investigation is expected to be completed this month and coordination with the new parking system supplier are ongoing.

PROJECT: 1130-23058	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME		Bermello Ajamil & Partners		TOTAL PROJECT BUDGET	\$ 695,851
BUDGET				GRANT PROGRAM	N/A
ORIGINAL CONTRACT		\$ 50,000		GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ 645,851		PORT FUNDS	\$ 695,851
AMENDED CONTRACT	\$ -	\$ 695,851	\$ -	PENDING ITEMS	
PAID TO DATE		\$ -			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

April 26, 2023 - Commission approved issuing a PO for the preliminary concept and scope definition.
 May 24, 2023 - Commission approved issuing a change order to complete the DCP.

PHOTOS





CAPITAL PROJECTS UPDATE

June 2023

PROJECT: George King Blvd and Flounder Intersection Improvements Design

DESCRIPTION: This project will provide a design that incorporates the increase in passenger parking associated with the cruise parking lot upgrades, evaluate potentially widening George King Boulevard, adding or modifying the existing signalization, and pedestrian crosswalks. A solicitation for competitive bids will follow the completion of the design documents.

PROJECT STATUS:

PROJECT: 1130-23054	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	RS&H	TBD		TOTAL PROJECT BUDGET	\$ 292,890
BUDGET				GRANT PROGRAM	N/A
ORIGINAL CONTRACT	\$ 292,890			GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE				PORT FUNDS	\$ 292,890
AMENDED CONTRACT	\$ 292,890	\$ -	\$ -	PENDING ITEMS	
PAID TO DATE		\$ -			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

May 24, 2023 - Commission approved issuance of PO for design of GKB and Flounder Intersection Improvements.

PHOTOS

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PROJECT: North Cargo Berth 3

DESCRIPTION: This project is to construct a replacement berth at NCB3 to a deep wall berth to replace the current over water pier. This will allow for wider ships in the channel and replace the current sheet pile wall in desperate need of replacement. Total length is ~880 feet with berth dredge depth of -43 MLLW

PROJECT STATUS:

Project is substantially complete and RUSH Marine is working through final minor punch list items.

PROJECT: 2241-15074	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Jacobs	Rush Marine		TOTAL PROJECT BUDGET	\$ 49,909,282
BUDGET	\$ 1,838,835	\$ 48,070,447		GRANT PROGRAM	FDOT & MARAD
ORIGINAL CONTRACT	\$ 585,256	\$ 48,070,447	\$ -	GRANT AMOUNT	\$ 47,207,000
CHANGE ORDERS TO DATE	\$ 1,253,579	\$ -		PORT FUNDS	\$ 2,702,282
AMENDED CONTRACT	\$ 1,838,835	\$ 48,070,447	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 1,544,535	\$ 43,394,171	\$ -		
SUBSTANTIAL COMPLETION DATE					

- July 29, 2015 - Approval of purchase order to CH2M under continuing contract for design and permitting, \$585,256
- December 16, 2015 - Increase to CH2M's purchase order, \$5,046
- April 27, 2016 - Increase to CH2M's purchase order for design and permitting, \$338,791
- January 22, 2020 - Increase to Purchase Order for modify NCB3 as base bid, \$89,966.00
- March 24, 2021 – NCB3 Final Design and Bid Support, \$215,671.00
- September 29, 2021 – Project award to RUSH Marine.
- September 29, 2021 - Approval of change order to CH2M for Engineer of Record CA services, \$154,105.00
- October 27, 2021 - Jacobs awarded contract for Construction Administration Services, \$450,000.00

PHOTOS



PROJECT: North Cargo Berth 4

DESCRIPTION: This project is to construct a replacement berth at NCB4 with a deep wall berth to replace the current over water pier. This will allow for increased vessel beam and replace the current sheet pile wall. Total length (including NCB3) is ~1,800 feet with berth dredge depth of -43 MLLW

PROJECT STATUS:

CPA continues to coordinate with FPL since they have an important role in this project. FPL will work with the contractor to convert a section of an overhead line located west of the Cemex silos to underground. In addition, FPL will install the new subaqueous power line at a deeper elevation to allow the installation of the pipe piles at a tip elevation of -120'.

Orion has submitted the EPP draft, SWPPP and NOI to comply with the Environmental requirements and the agencies pre-construction meeting will be held the last week of June. CPA conducted the pre-construction meeting with the various CPA departments and began coordination the beginning of construction. A total of 158 piles were delivered mid-June as well as the trailer and heavy equipment.

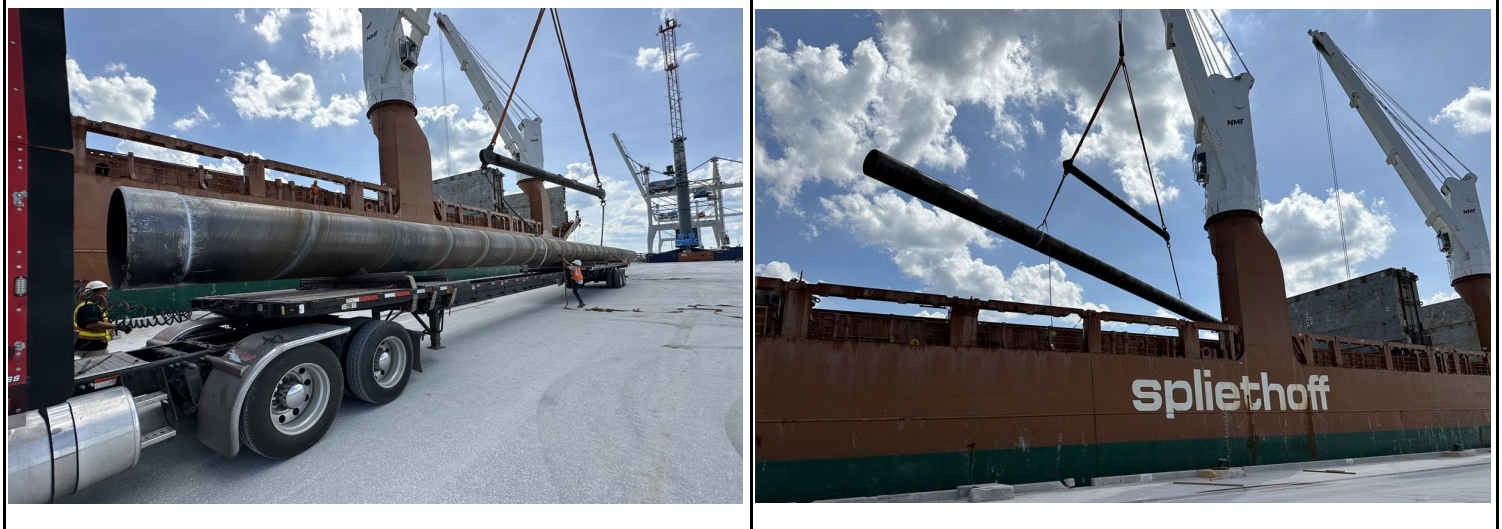
Proposed baseline shows an advance substantial completion date of summer 2024.

PROJECT: 2240-15064	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Jacobs	Orion		TOTAL PROJECT BUDGET	\$ 39,745,334
BUDGET (Proposed)	\$ 616,329	\$ 38,640,717		GRANT PROGRAM	FDOT
ORIGINAL CONTRACT	\$ 616,329	\$ 38,640,717	\$ -	GRANT AMOUNT	\$ 29,809,001
CHANGE ORDERS TO DATE	\$ 488,288	\$ -		PORT FUNDS	\$ 9,936,334
AMENDED CONTRACT	\$ 1,104,617	\$ 38,640,717	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 471,529	\$ -			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

January 12, 2021 - Approval of a purchase order for Jacobs for the NCB4 design with a not-to-exceed amount of \$616,330.
 April 5, 2023 - Approval of a purchase order for Orion for the NCB4 construction with a not-to-exceed amount of \$38,640,717.
 April 26, 2023 - Approval of a purchase order for Jacobs for the NCB4 CA Services with a not-to-exceed amount of \$488,288.00

PHOTOS



PROJECT: SCP4 Mooring Improvements

DESCRIPTION: The SCP4 Mooring Improvement project will modify the existing pier layout to accommodate increasing vessel sizes and expand the flexibility and use. Project includes FDEP and USACE permitting, passing ship analysis, mooring analysis, design of upland mooring dolphins, and waterside breasting dolphins.

PROJECT STATUS:

The passing ship study has been completed by Jacobs Engineering with assistance from Mott Macdonald. Jacobs is now working on the study to produce drawings and specifications of required bollard locations and installation. Plans should be to CPA by first part of July and have in front of the Commission for August to approve.

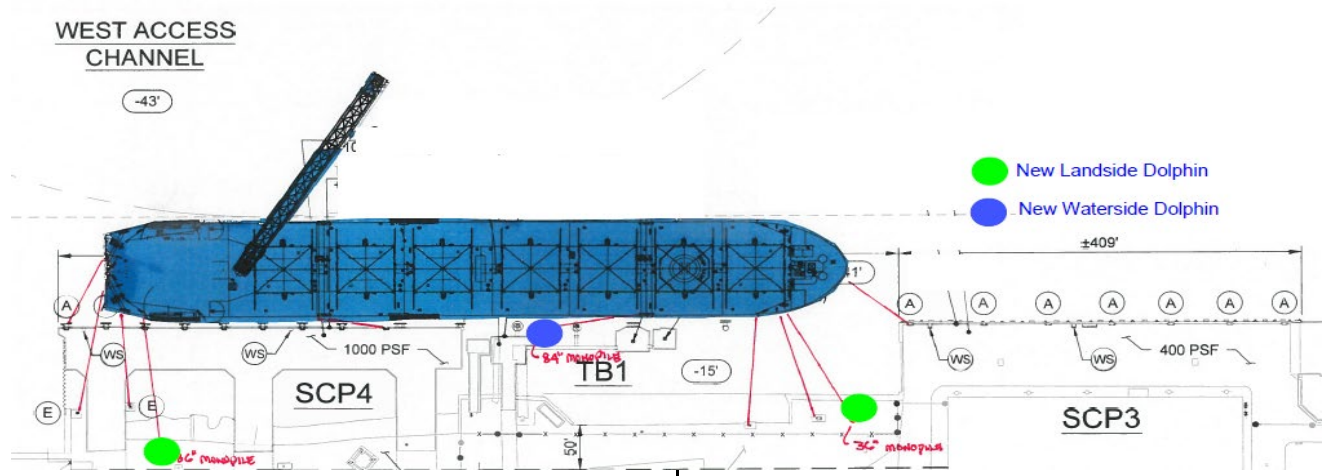
PROJECT: 1560-23012	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Jacobs	TBD		TOTAL PROJECT BUDGET	\$ 500,000
BUDGET				GRANT PROGRAM	
ORIGINAL CONTRACT	\$ 134,710	\$ -	\$ -	GRANT AMOUNT	
CHANGE ORDERS TO DATE	\$ -	\$ -	\$ -	PORT FUNDS	\$ 500,000
AMENDED CONTRACT	\$ 134,710	\$ -	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 41,724				
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

October 26, 2022 - Commission approved awarding design to Jacobs Engineering Group, \$134,710.

PHOTOS

SCP4 Mooring Improvements



PROJECT: South Cargo Piers 1 & 2 and CT2 Rehabilitation

DESCRIPTION: Design and permitting of the SCP 1 & 2 and CT2 Rehabilitation project. A waterside pier inspection by CPA staff discovered structural damage at SCP 1 & 2 and CT2. The damage was located within the concrete pile and pile cap systems throughout the piers. Repairs are needed to ensure full operational capacity.

PROJECT STATUS:

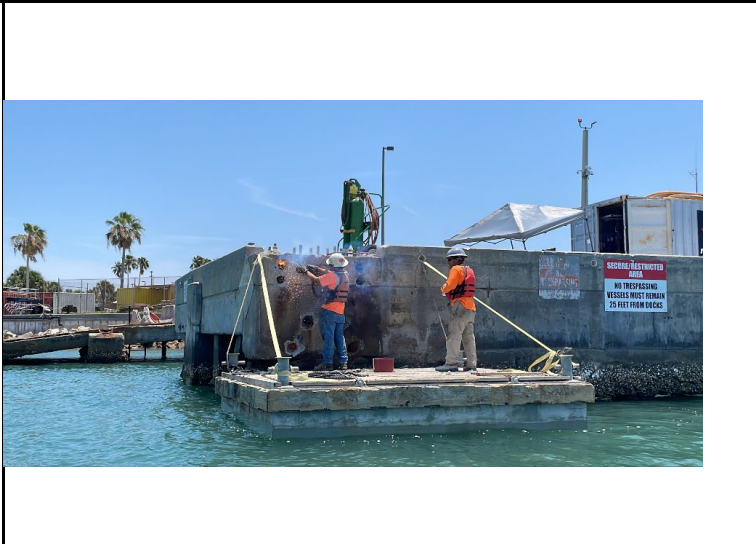
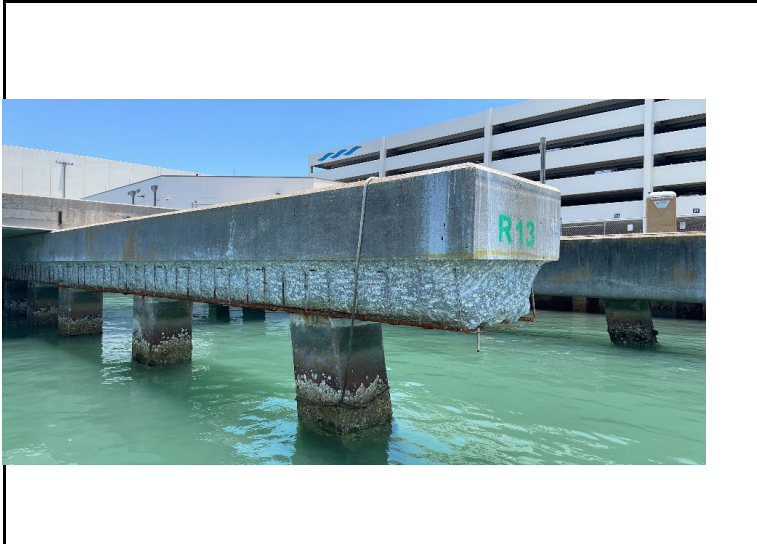
RUSH Marine continues to remove the damaged and delaminated concrete at CT2 around the pile caps. Concrete repairs at SCP2 and SCP1 are also underway. The contractor has begun to remove the existing fender anchors in preparation for installation of the new fender systems later this year. The contractor continues to coordinate with CPA staff and tenant to minimize any impacts to operations.

PROJECT: 1560-22014	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Atkins	RUSH Marine		TOTAL PROJECT BUDGET	\$ 4,203,067
BUDGET				GRANT PROGRAM	
ORIGINAL CONTRACT	\$ 135,000	\$ 4,006,552	\$ -	GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE	\$ 61,515	\$ -	\$ -	PORT FUNDS	\$ 4,203,067
AMENDED CONTRACT	\$ 196,515	\$ 4,006,552	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 140,865	\$ 54,127			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

October 27, 2021 - Approval of purchase order for Atkins to conduct full inspection and the design phase, \$135,000.00
December 7, 2022 - Approval of increase to purchase order P-128408 for construction administration services, \$61,505.00
December 7, 2022 - Approval of award to RUSH Marine, \$4,006,552.00

PHOTOS



PROJECT: NCB5/6 LED Upgrades

DESCRIPTION: Project includes updating the lighting control system software and hardware, new LED lighting system, and new high mast lighting at NCB5/6.

PROJECT STATUS:

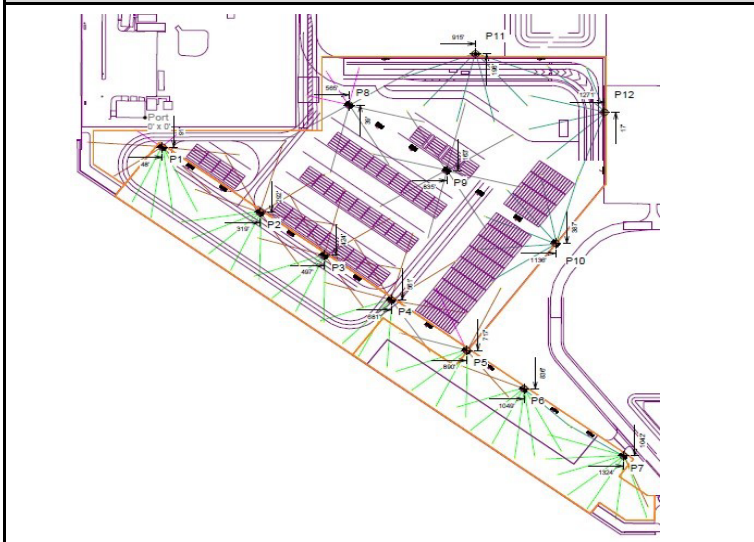
Musco has submitted the lighting submittal and shop drawing for review by CPA Staff and the Building Department. Musco is working on finalizing the electrical drawings to complete the lighting submittal for approval.

PROJECT: 1180-23013	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME		MUSCO		TOTAL PROJECT BUDGET	\$ 322,895
BUDGET				GRANT PROGRAM	
ORIGINAL CONTRACT		\$ 322,895	\$ -	GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ -	\$ -	PORT FUNDS	\$ 322,895
AMENDED CONTRACT	\$ -	\$ 322,895	\$ -	PENDING ITEMS	
PAID TO DATE		\$ -			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

March 1, 2023 - Commission approved issuing MUSCO a purchase order, \$322,895.

PHOTOS





CAPITAL PROJECTS UPDATE

June 2023

PROJECT: NCB8, NCP1 & 2 Dredging Design & Permitting

DESCRIPTION: Design, permitting, bid support, and construction administration services for the marine dredging at NCB8 and NCP1 & 2

PROJECT STATUS:

Anamar and CPA met with EPA on concurrence for offshore disposal for NCP1 & 2 based on the sampling performed by ERDC. NCB8 and WTB Approach Section 103 is being evaluated for dredging and compilation of study is scheduled for March of 2024. Anamar has completed and submitted the SAP/QAPP for FDEP and USACE and has been approved for sampling of NCB8 area. Sampling will start near end of June.

PROJECT: 1560-23046	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Jacobs Eng.	TBD		TOTAL PROJECT BUDGET	\$ 1,047,929
BUDGET (Proposed)				GRANT PROGRAM	
ORIGINAL CONTRACT	\$ 1,047,929			GRANT AMOUNT	
CHANGE ORDERS TO DATE		\$ -		PORT FUNDS	\$ 1,047,929
AMENDED CONTRACT	\$ 1,047,929	\$ -	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 13,491		\$ -		
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

January 25, 2023 - Commission authorized Staff to negotiate cost proposal for the NCB8, NCP1/2 Design, Permitting, Bidding, & CA Services.
March 1, 2023 - Commission approved issuing Jacobs Engineering Group PO for \$1,047,929.

PHOTOS

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PROJECT: Mobile Harbor Crane

DESCRIPTION:
Purchase of an LHM 600 Evo6 Diesel-Hydraulic Mobile Harbor Crane

PROJECT STATUS:

Liebherr continues with the painting process and will follow with assembly. The second factory inspection visit is scheduled for early August. CPA staff expect to see the crane fully painted and partially assembled. The factory test is scheduled to be completed by the end of October and shipment is expected by the end of November 2023. Handover is scheduled for February 2024.

PROJECT: 2287-22028	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME		Liebherr	Paul Bridges & Assoc.	TOTAL PROJECT BUDGET	\$ 7,595,037
BUDGET (Proposed)		\$ 6,000,000	\$ 17,200	GRANT PROGRAM	FDOT
ORIGINAL CONTRACT		\$ 7,420,462	\$ 17,200	GRANT AMOUNT	\$ 2,800,000
CHANGE ORDERS TO DATE		\$ -	\$ 157,375	PORT FUNDS	\$ 4,795,037
AMENDED CONTRACT		\$ 7,420,462	\$ 174,575	PENDING ITEMS	
PAID TO DATE		\$ 2,968,185	\$ 79,354		
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

August 17, 2022 - Approval of staff recommendation for the Owner's Engineer and permission to negotiate and sign the contract by the CEO.
April 26, 2023 - Approval of change order #1 in the amount of \$53,500 to upgrade the exterior paint system.

PHOTOS



PROJECT: Jetty Park Camp Store

DESCRIPTION: The existing camp store located at Jetty Park offers operational and spatial limitation for the recreation staff and Jetty Park customers. The new camp store will provide additional lounge space for campers as well as a larger camp store for both day users and campers. The new camp store will be designed to accommodate the recreation staff members with additional office and storage spaces.

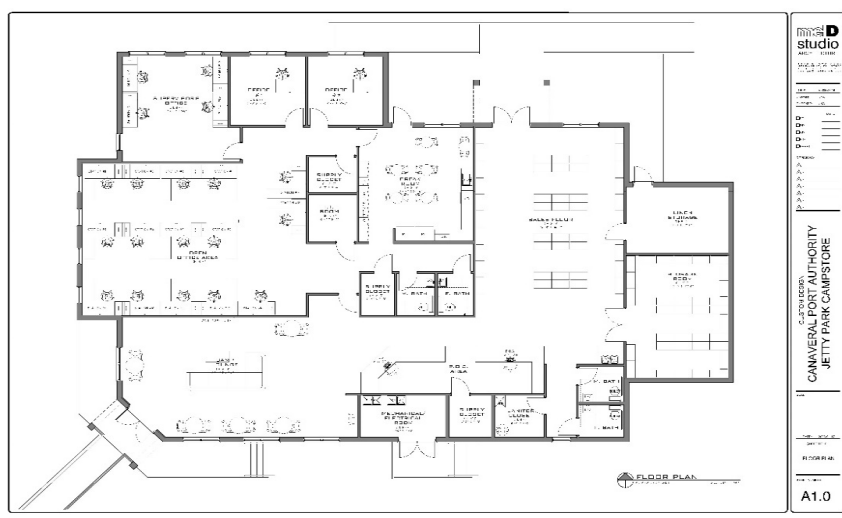
PROJECT STATUS:

Design of the new camp store is underway and the architect continues to coordinate with CPA Staff regarding interior and exterior finish requirements. CPA Staff has re-started the civil design to align with the design of the building footprint. Final designs are expected within the next 90 days.

PROJECT: 1530-19094	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	CEG/MeID	TBD		TOTAL PROJECT BUDGET	\$ 115,025
BUDGET				GRANT PROGRAM	
ORIGINAL CONTRACT	\$ 115,025			GRANT AMOUNT	
CHANGE ORDERS TO DATE				PORT FUNDS	\$ 115,025
AMENDED CONTRACT	\$ 115,025		\$ -	PENDING ITEMS	
PAID TO DATE	\$ 7,500				
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

PHOTOS



PROJECT: CT6 Passenger Boarding Bridge Modifications and Upgrades

DESCRIPTION: Project installs two new roll up doors and widens one door on the CT6 PBB to accommodate the CCL Vista Class. The two CT6 PBBs will be refurbished and new remote controls and HMI will be replaced at CT5, CT6 and CT10

PROJECT STATUS:

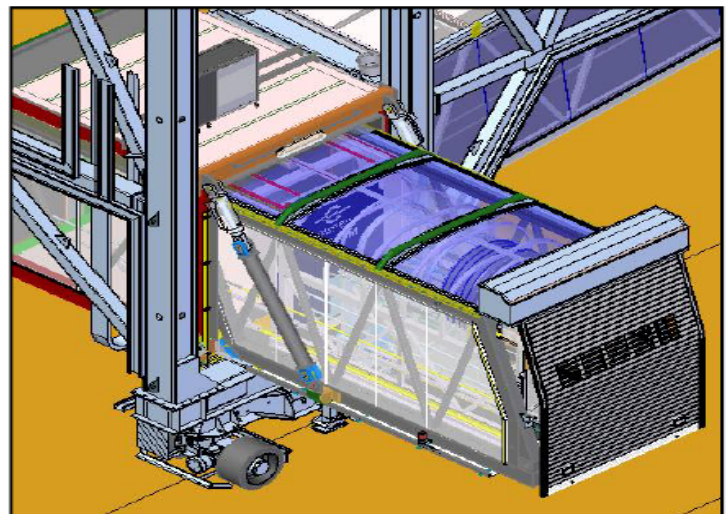
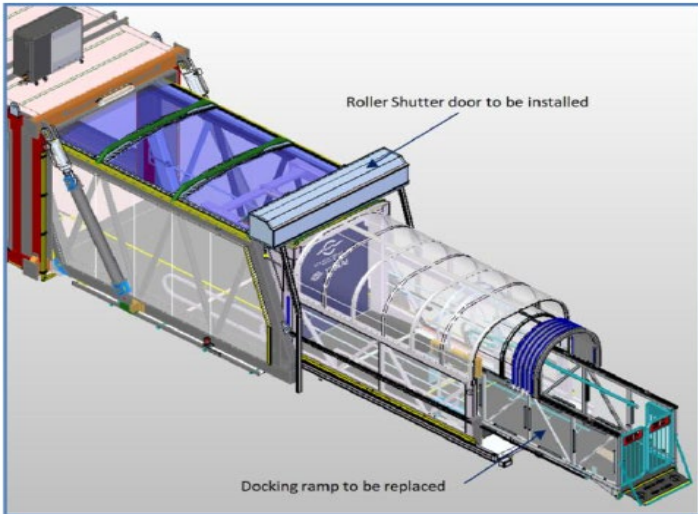
Contractor has begun the design of the new passenger boarding bridge equipment and the submittal process is ongoing. Demolition for the new doorways is underway to include running power and IT to these locations. Increased parking is required by fall of 2023 with the arrival of a larger vessel at CT6; the work associated with this project will be completed before the vessel arrives.

PROJECT: 2279-23045	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	N/A	Ivey's	N/A	TOTAL PROJECT BUDGET	\$ 1,262,060
BUDGET				GRANT PROGRAM	N/A
ORIGINAL CONTRACT		\$ 1,262,060		GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ -		PORT FUNDS	\$ 1,262,060
AMENDED CONTRACT	\$ -	\$ 1,262,060	\$ -	PENDING ITEMS	
PAID TO DATE		\$ 375,071			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

March 1, 2023 - Commission approved award to Ivey's Construction.

PHOTOS



PROJECT: SR401/Payne Way Roadway and Intersection Improvements

DESCRIPTION: Project to add full signalization at the State Road 401 and Payne Way intersection. The new signal at this intersection will improve the safety and traffic flow of cargo traffic through the north cargo areas.

PROJECT STATUS:

Atkins is working through finalization of the design drawings in preparation for submission to FDOT for permitting. Submission to FDOT is expected the end of June.

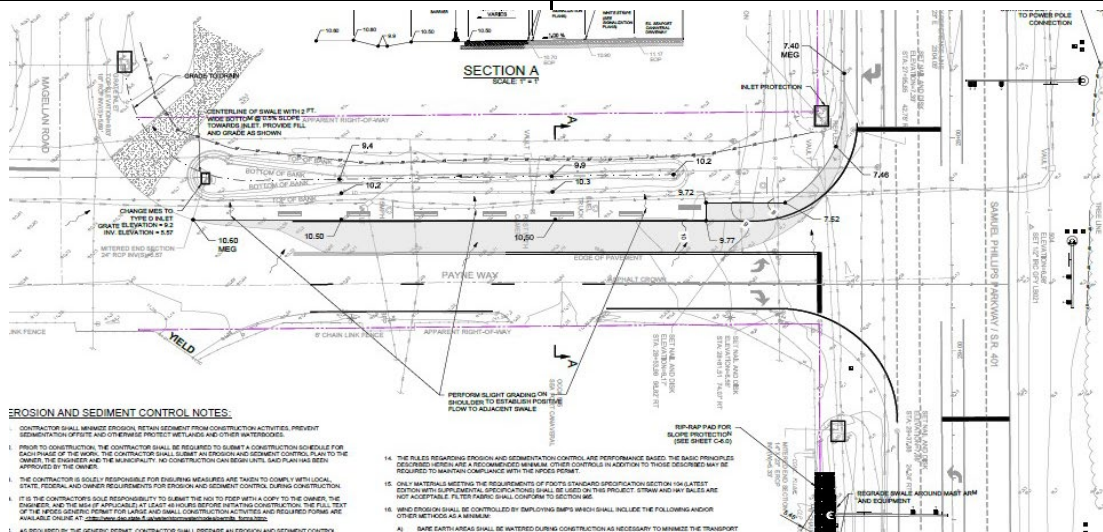
PROJECT: 1100-17053	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Atkins	TBD	N/A	TOTAL PROJECT BUDGET	\$ 187,646
BUDGET	\$ 98,525			GRANT PROGRAM	N/A
ORIGINAL CONTRACT	\$ 98,525			GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE	\$ 89,121	\$ -		PORT FUNDS	\$ 187,646
AMENDED CONTRACT	\$ 187,646	\$ -	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 108,830	\$ -			
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

October 18, 2018 - purchase order P-123056 for \$98,525.00 approved by CEO.

December 7, 2022 - increase of \$89,121 to purchase order P-123056 approved by Commissioners on December 7, 2022.

PHOTOS



PROJECT: Grill's Seawall Rehabilitation

DESCRIPTION: Project will provide professional engineering services to develop a set of plans to repair, perform regulatory permitting and support bidding process for the Grill's seawall.

PROJECT STATUS:

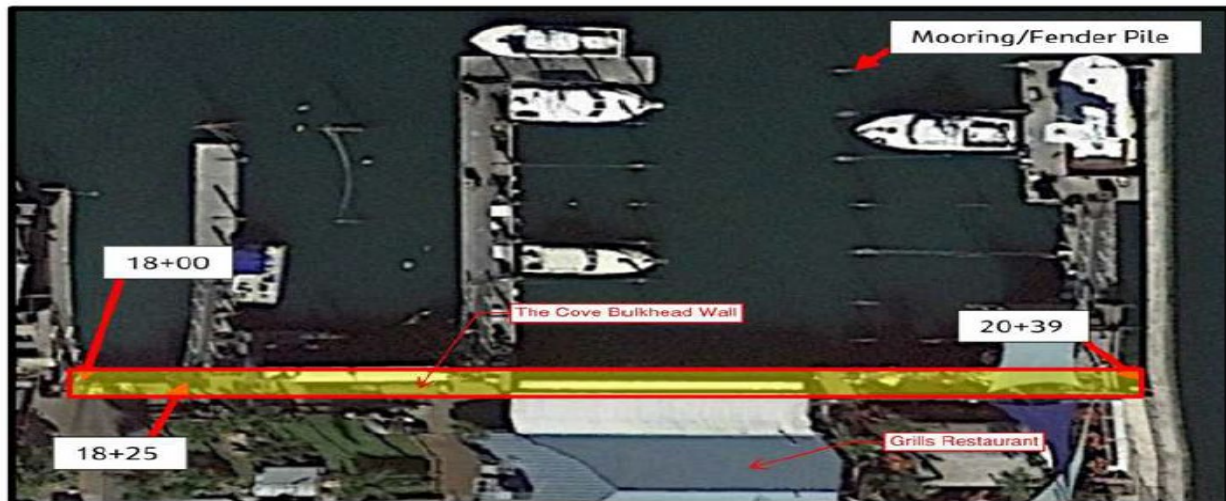
CPA worked with Jacobs to perform a dive inspection of the Cove bulkhead wall by Grills at the end of 2022. The dive inspection report noted the Cove bulkhead wall at an overall rating of serious condition, including defects and structural cracks, 44% of the concrete sheet pile has horizontal cracking, and a location on the eastern end of the bulkhead was found to have the bottom of the concrete sheet pile undermined. In addition, the concrete cap for the Cove bulkhead wall was rated as poor condition. Atkins did an independent review of the dive inspection, did a site visit during low tide and after evaluating the problem, proposed to repair the wall with new FRP wrap and epoxy injection along the entire wall face and concrete cap. The schedule for design and completion of the bid documents is 6 months.

PROJECT: 1560-21016	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Atkins	TBD	N/A	TOTAL PROJECT BUDGET	\$ -
BUDGET				GRANT PROGRAM	N/A
ORIGINAL CONTRACT				GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE		\$ -		PORT FUNDS	
AMENDED CONTRACT	\$ -	\$ -	\$ -	PENDING ITEMS	
PAID TO DATE					
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

June 28, 2023 - Request for approval of a purchase order NTE \$109,913 to Atkins.

PHOTOS





CAPITAL PROJECTS UPDATE

June 2023

PROJECT: Vulnerability Assessment and Adaption Plan

DESCRIPTION: This project evaluates the Canaveral Port Authority facilities natural hazards, with emphasis on sea level rise and flooding, in a two phased approach. The first phase of the project will perform a vulnerability assessment that includes data collection and review, identify infrastructure and operational vulnerabilities, engagement of stakeholders, and develop and prioritize hazard mitigation strategies. Phase 2 uses the results of the vulnerability assessment performed in phase 1 to develop the hazard mitigation and climate adaption plan which will service as an action-oriented implementation roadmap to guide Canaveral Port Authority future planning, design, and investment in infrastructure.

PROJECT STATUS:

Port Staff and Jacobs Engineering continue to coordinate stakeholder engagement meetings and focus groups. Additional port wide site visits have occurred to ensure accurate data has been gathered to support the vulnerability assessment report findings. Jacobs Engineering has begun work on the risk analysis and hazard mitigation/adaptation strategies related to the vulnerabilities identified.

PROJECT: 2270-23004	DESIGNER	CONTRACTOR	OWNERS REP	GENERAL PROJECT INFORMATION	
NAME	Jacobs			TOTAL PROJECT BUDGET	\$ 257,518
BUDGET	\$ 249,116			GRANT PROGRAM	
ORIGINAL CONTRACT	\$ 49,112			GRANT AMOUNT	\$ -
CHANGE ORDERS TO DATE	\$ 208,406	\$ -		PORT FUNDS	\$ 257,518
AMENDED CONTRACT	\$ 257,518	\$ -	\$ -	PENDING ITEMS	
PAID TO DATE	\$ 89,727				
SUBSTANTIAL COMPLETION DATE					

COMMISSION ACTION(S)

October 5, 2022 - Additional budget was approved.

PHOTOS

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Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	1.A
Department:	Engineering
Requested Action:	Consideration of authorizing staff to issue a purchase order to Finfrock Construction, LLC, for Cruise Terminal 8 precast repairs with a not to exceed amount of \$136,000.00. (AJ Jendroch/Bill Crowe)
<p>Summary Explanation & Background: The award to Finfrock Construction, LLC, without the competitive bidding requirements, is supported by an exception found in FS 255.20 (1) (c) 5 that exempts the action of preventative or corrective actions to preserve the facility from failure or decline. This exemption is applicable based on the findings below.</p> <p>On February 16, 2023, Maintenance staff engaged the Engineer of Record, Finfrock Construction, LLC, to inspect the CT8 Garage to identify areas of concerns that need remediation. As noted from the Finfrock report, 36 issues were noted and categorized as follows:</p> <ul style="list-style-type: none"> - Category 1 Serious Life Safety/Potential Structural Failure Issue: Total findings 0 - Category 2 Economic Liability/Low Life Safety Issue: Total findings 25 - Category 3 Long-Term Durability Issue: Total findings 11 - Category 4 Aesthetic Issue: Total findings 0 <p>Finfrock recommends that categories 2 and 3 be repaired to aid in extending the life of the structure. Additionally, Finfrock will remove, inspect, and replace the caulking on all the beam perimeters in the garage.</p>	
Financial Impact:	Yes
Reviewed by General Counsel:	Yes
Reviewed by Port Attorney:	Yes
Financial Review:	<p>This item is an operational expense. The not to exceed amount of \$136,000 is included in the FY23 Operating Budget.</p> <p>43630-Maintenance & Repairs-Buildings/Facilities</p>

Attachments:

[Finfrock Repair Proposal- Precast Repairs REV1_6.20.23.pdf](#)



Estimated Repair Cost Proposal Sheet 05.27.2021

FINFROCK CONSTRUCTION, LLC.
 2400 APOPKA BLVD. • APOPKA, FL 32703
 407-293-4000 Phone
 407-297-0512 Fax
 www.finfrock.com

Item	Description	Cost
1	All Precast Repairs reported on the structural report completed by Finfrock 3/28/23 Included but not limited to: Spalls & Cracks on DT flange, Cracks on S.O.G, Spalls & cracks at vectors connections, Spall on walls and spandrels, Overhead cracks & Caulking related to precast repairs	
2	Category 2	\$ 52,000
3	Category 3 & 4	\$ 19,000
Item Subtotal		\$ 71,000
4	Engineering (Evaluation of Issues and Assigning of repair Procedures)	\$ 3,550
5	General Conditions (Project and Overall site Management & Logistics Planning)	\$ 11,183
6	Overhead and Profit 15%	\$ 12,860
Item Subtotal		\$ 27,592
TOTAL		\$ 98,592
** Alternate/Add - Remove & Replace Caulking on all Beam Perimeters		\$ 22,500
	ENG.	\$ 1,125
	GCS.	\$ 3,544
	OH&P 15%	\$ 4,075
	TOTAL:	\$ 31,244
** Exclusions Geneal recaulking - Caulking included for precast repairs Only		

Subtotal: \$129,836.00
 Owner Controlled Contingency: \$6,164.00
 Total: \$136,000.00

EXHIBIT "A"
SCOPE OF WORK/SUPPLY AND CLARIFICATIONS/QUALIFICATIONS

Attached to and made an integral part of subcontract agreements Article 1, Description of Work issued by Contractor for the following project:

1. Intent & Scope of Work/Supply:

The following special considerations are intended to clarify and/or amplify specific requirements of this Subcontract and do not necessarily describe the full extent of the Subcontract work. This Subcontract includes all work indicated or logically inferred by the Contract Documents and as required to provide a complete precast repair. Specific reference to drawings, details, specifications, etc. is included to illustrate the type of work only and does not address all of the work involved.

The Scope of Work/Supply is identified in the following Specification(s) and further described below:

<u>Specification Section</u>	<u>Description</u>
03 3000	Precast Concrete Repairs

2. Scope of Work Description:

This contract includes the furnishing of all labor, materials, tools, equipment, services, taxes, insurance, supervision, layout, hoisting, staging and transportation services necessary to complete the following work, all in accordance with plans and specifications.

2.1 Precast Repair:

- 2.1.1 Contractor shall furnish all labor and material to complete precast repairs as specifically noted on the structural inspection report completed by Finrock for *Port Canaveral CT-8 Parking Garage dated 03/28/2023*.
- 2.1.2 Contractor shall inspect each repair further & identify any structural concerns that will require additional Engineering review
- 2.1.3 Contractor shall identify appropriate approved engineering repair procedure for each noted issue
- 2.1.4 Contractor shall document the repair process for each repair.
- 2.1.5 Contractor shall provide logistical planning to complete repairs in coordination with owner
- 2.1.6 Repair shall be completed as described on the repair procedure.
- 2.1.7 Issues specifically noted below and reference to the inspection report, require additional review to confirm the extent of the repair and may warrant additional cost if a more extensive issue is determined
- 2.1.8 Contractor will provide Caulking repairs at all locations where precast repairs are completed.

2.1.9 Ground Level:

- Cat 2.
 - o Underside DT flange cracks (G1)
 - o Spall on Double Tee stem (G2)
- Cat 3.
 - o Cracked and spalled connections (G3)
 - o S.O.G. Cracks (G4)

2.1.10 Second Level:

- Cat 2.
 - o Spall at barrier cable post (S1)
 - o Cracked and spalled connections (S2 – S3)
 - o Spall on Double Tee stem (S4)
 - o Crack at DT corner flange in drive aisle (S5)

EXHIBIT "A"

SCOPE OF WORK/SUPPLY AND CLARIFICATIONS/QUALIFICATIONS

- Cat 3.
 - o Crack on DT Flange off connection (S6)

2.1.11 Third Level:

- Cat 2.
 - o Crack at DT corner flange in drive aisle (T1 – T2)
 - o Spall at barrier cable post (T3)
 - o Cracked and spalled connections (T5 – T6)
- Cat 3.
 - o Crack on DT Flange off connection (T4)
 - o Underside DT Flange cracks (T7)

2.1.12 Fourth Level:

- Cat. 2
 - o Spall at barrier cable post (F1)
 - o Cracked and spalled connections (F2 – F3)
 - o Crack at DT corner flange in drive aisle (F7)
 - o Crack on DT Flange off connection (F4 – F5)
- Cat. 3
 - o Crack at DT Stem (F6)

2.1.13 Fifth Level

- Cat. 2
 - o Spall at barrier cable post (Fi1 – Fi2)
 - o Spall on Double Tee stem (Fi3)
 - o Crack at DT corner flange in drive aisle (Fi4 – Fi5)
 - o Underside DT Flange cracks (Fi7)
 - o Crack on DT Flange off connection (Fi6, Fi8)
 - o Cracked and spalled connections (Fi9 – Fi11)
- Cat. 3
 - o Misaligned Double Tee bearing pad (Fi12)

2.1.14 Roof Level

- Cat. 2
 - o Cracked and spalled connections (R1 – R5)
 - o Spall at barrier cable post (R6 – R7)
 - o Crack at DT corner flange (R8 – R9)
 - o Crack on DT Flange off connection (R10)
 - o Caulking deteriorating/separating causing drainage issues (R11)
- Cat. 3
 - o Exposed Steel – lifters (R12)
 - o Crack on top of LiteWall (R13)

EXHIBIT "A"

SCOPE OF WORK/SUPPLY AND CLARIFICATIONS/QUALIFICATIONS

3. Add/Alternates

3.1 The following items are offered as alternates from Scope of Work

- *** Re-caulk Beam Perimeters -- \$4,500 per Level (4 Beams/Level) (5-Levels). - \$ 31,300**

4. Exclusions

4.1 The following items are specifically excluded from Scope of Work/Supply:

- General cleaning (G5)
- General cleaning (R14)
- Caulking deteriorating/separating (E)

5. Warranty

5.1 This Subcontractor shall furnish all manufacture's warranties (standard and/or extended) instructions, as-built drawings, certificate of final inspection, and twelve (12) month warranty (or as required by contract) against defective equipment, materials and/or workmanship.

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	1.B
Department:	Engineering
Requested Action:	Consideration of authorizing staff to issue a purchase order to RUSH Marine LLC, pursuant to their continuing contract PUR-RFQ-23-2, with a not-to-exceed value of \$452,208.00 for the installation of the Continuous Monitoring and Adaptive Control equipment at the Cove stormwater pond. (Patrick Hammond/Bill Crowe)
Summary Explanation & Background: In October 2022, CPA Staff engaged with Jacobs Engineering and National Stormwater Trust to evaluate Port Canaveral's ability to utilize existing stormwater facilities to provide compensatory stormwater treatment throughout the Port. This compensatory treatment would allow the Port to optimize and modify existing stormwater facilities to ensure most beneficial use of all port lands. In early February, National Stormwater Trust installed a required monitoring station at the Cove Regional Master Pond to collect key data points that will be used to permit the installation of the adaptive control equipment (Item 1). Once fully installed the adaptive control equipment, in conjunction with the continuous monitoring equipment, will allow for automated control of the stormwater pond's water storage level. The control system will allow additional storage to be made available in preparation for predicted heavy weather events. The proposal from RUSH Marine also includes a second component (Item 2) for installation of Tide Flex control valves. These are 60" diameter valves that are install inside the stormwater outfall pipes and prevent the inflow of tidewaters into the cove pond system. These Tide Flex valves are not included in this request; however, are being considered for a future project.	
Financial Impact:	Yes
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	The not to exceed amount of \$452,208 is included in the FY23 Capital Budget. No change is required. Project 1590 - Utilities

Attachments:

[RUSH Marine Proposal_Cove CMAC Installation.pdf](#)



6/15/2023

Mr. Tom Foxhoven
Canaveral Port Authority
445 Challenger Road, Suite 301
Cape Canaveral, FL 32920

RE: Waterside Construction Management at Risk Services for
Continuing Services Contract PUR-RFQ-23-2

Subject: Price Proposal - Lake 1 Cove Pond CMAC Retrofit and TideFlex Valve Installation

Mr. Foxhoven

Per CPA's request, and in accordance with the terms and conditions of the waterside construction continuing services contract PUR-RFQ-17-10, RUSH Marine LLC. is pleased to provide this proposal for the Lake 1 Cove Pond CMAC Retrofit project. I have also included a second price to furnish and install 2 each 60" TideFlex valves which RUSH Marine would self-perform should this scope be approved. The scope of work is as follows;

Item 1 - Smart Pond Retrofit Scope of Work to Include:

- RUSH Marine will retain the services of National Stormwater Trust "NTS" to design and perform the Smart Pond Retrofit scope of work as required. I have included their proposal for the specific details of their services.
- RUSH Marine will furnish and install the new 100 Amp electrical service to feed this smart pond system at the south cove near the pond. The specific area was determined during our on site visit several weeks ago.

The cost associated with this work is in the amount of \$452,208.00 (Four Hundred Fifty-Two Thousand Two Hundred Eight Dollars).

In addition to the pond retrofit scope, and per CPA's request, we are pleased to provide pricing for RUSH Marine to furnish and install 2 each 60" diameter TideFlex Valves that will be inserted into the existing 60" RCP storm pipes through the top of 2 existing storm structures that are located at the South Cove in Port Canaveral.



Item 2 - TideFlex Valve Scope of work includes the following:

- Procure the 2 new 12" diameter TideFlex valves.
- Provide labor, materials, and equipment to remove the 2 concrete lids from the existing storm structures.
- Core 104 each 2: diameter holes to epoxy and install 52 each 1-3/4" diameter SS anchor bolts into the wall of the 2 existing storm structure boxes for mounting the TideFlex valve flanges.
- Reinstall the concrete structure lids on the boxes.

The cost associated with the TideFlex valve installation is in the amount of \$441,300.00 (Four Hundred Forty-One Thousand Three Hundred Dollars)

Excluded Items:

- Permits
- Manatee, Mammal, or Endangered Species Observing of any kind.
- Silt fence, Turbidity booms, Testing or water quality testing.
- Painting or coating of any structures.
- Existing concrete structure repairs
- Surveying

Clarifications:

1. All work is to be performed during normal hours. (Mon.-Fri. 7:00 A.M. - 3:30 P.M.)
2. NTS is anticipating that the smart pond retrofit scope will take approximately 8 months to complete the design and procurement of the permanent materials, and approximately 4-weeks for NTS to perform the work.
3. RUSH Marine shall issue a subcontract agreement to NTS following an executed agreement with CPA for this scope of work.
4. We are anticipating the TideFlex valve installation to take approximately 1 month once the valves have been received. The delivery period cannot be provided until the order has been placed so once this work has been approved to construct, we will provide this information.
5. We are including a copy of the estimate along with the proposal provided by NTS as backup to our cost proposal.



This cost associated with this proposal is valid for 15 days from the date received. If acceptable, please provide a purchase order for the work at your earliest convenience.

Please do not hesitate to contact us, should you have any questions, regarding this proposal. We would like to thank you for this opportunity and look forward to working with the CPA staff on this project.

Sincerely,
RUSH MARINE LLC.

Anthony Landry

Digitally signed by Anthony Landry,
DN: cn=Anthony Landry, o=RUSH Marine, LLC, c=US,
email=Anthony.Landry@rushinc.com
Reason: I am approving this document
Date: 2023.06.15 07:21:26-0400

Anthony Landry
President – RUSH Marine LLC.

Proj: Lake 1 Cove Pond CMAC Retrofit

BID DATE: 6/15/2023

Location: CANAVERAL PORT AUTHORITY

SCHEDULE OF VALUES

EST TOTAL

\$893,508

BID TIME: C.O.B.

EST. NO.



RUSH Marine LLC.
 6285 Riverfront Center Blvd
 Titusville, FL 32780
 M.(813) 393-7375 Tony Landry - tlandry@rushinc.com
 P.(321) 267-8100
www.rushinc.com

ENTER O.H. HERE 7.00% ENTER FEE HERE 5.00%

TAB	DIVISION OF WORK	COST	O.H.	FEE	BASE BID	LIST OF SUBCONTRACTORS
Electrical and Smart Pond Retrofit						
1	GENERAL CONDITIONS	\$44,292	\$0	\$0	\$44,292	RUSH Marine
2	Install 100 AMP Electrical Service	\$35,573	\$2,490	\$1,903	\$39,966	RUSH Marine
3	Lake 1 Cove Pond CMAC Retrofit	\$318,684	\$22,308	\$17,050	\$358,042	NST
	SUBTOTALS	\$398,549	\$24,798	\$12,401	\$442,300	
	BOND % 1.00%			\$18,953	\$4,423	
	INSURANCE % 1.24%				\$5,485	
	TOTAL			TOTAL Amount	\$452,208	
TideFlex Valve Scope						
1	GENERAL CONDITIONS	\$33,309	\$0	\$0	\$33,309	RUSH Mairne
2	Furnish and Install TideFlex Valves	\$354,537	\$24,818	\$18,968	\$398,323	RUSH Mairne
	SUBTOTALS	\$387,846	\$24,818	\$18,968	\$431,632	
	BOND % 1.00%				\$4,316	
	INSURANCE % 1.24%				\$5,352	
	TOTAL			TOTAL Amount	\$441,300	

CPA CONTINUING SERVICES

Cape Canaveral, FL
 Job: Lake 1 Cove Pond CMAC Retrofit

TRADE : GENERAL REQUIREMENTS
 SCHEDULE: CONTRACT:
 WORK: 1.39 MOS

SF
 TOTAL : \$ 44,292

6.02 WKS

LINE NO.	ITEM	UNIT	QTY.	MATER.	COST	LABOR COST			OTHER DIR. COST	LINE TOTAL
				UNIT	TOTAL	HRS.	RATE	TOTAL		
1	SUPERVISION	WKS	6.02	200.00	1,204	241	103.50	24,944	-	26,148
4	PROJ. MANAGER	WKS	3.01	190.00	572	120	101.53	12,184	-	12,756
5	PROJ. EXECUTIVE	WKS	0.0	190.00	-	-	77.00	-	-	-
12	TRUCKING & FUEL	WKS	6.02	150.00	1,355	-	0.00	-	-	1,355
15	TELEPHONE	MOS	1.39	100.00	348	-	0.00	-	-	348
18	ICE & WATER	WKS	6.02	50.00	301	-	20.00	-	-	301
19	TEMP. TOILETS	MOS	1.00	135.00	135	-	0.00	-	-	135
21	DUMPSTERS	UN EA	0.0	600.00	-	-	0.00	-	-	-
SUB TOTALS THIS PAGE					\$ 3,915			\$ 37,128	\$ -	\$ 41,043
										VERIFIED TOTAL \$ 41,043

CPA CONTINUING SERVICES

Cape Canaveral, FL 0
 Job:

TRADE : GENERAL REQUIREMENTS
 SCHEDULE: CONTRACT:
 1.39

TOTAL : \$ 44,292

LINE NO.	ITEM	UNIT	QTY.	MATER.	COST	LABOR COST			OTHER DIR. COST	LINE TOTAL
				UNIT	TOTAL	HRS.	RATE	TOTAL		
32	LIVING EXPENSES	MOS	1.39	2,000.00	2,780	-	0.00	-	-	2,780
SUB TOTALS PAGES 1 & 2					\$ 6,695			\$ 37,128	\$ -	\$ 43,823
SALES TAX %				7	469	PT&I %	0	-	-	469
TOTALS					\$ 7,164			\$ 37,128	\$ -	\$ 44,292
										VERIFIED TOTAL \$ 44,292

Project Name: Lake 1 Cove Pond CMAC Retrofit

Project LABOR Remove 2 Concrete Storm Structure Lids and Install 2 each 60" TideFlex Valves					
LABOR	TIME	UNIT	RATE		Burdened Labor
Foreman	0	HR	\$ 49.25		\$ -
Operator	0	HR	\$ 61.56		\$ -
Carpenter	0	HR	\$ 40.32		\$ -
Carpenter	0	HR	\$ 40.32		\$ -
Carpenter	0	HR	\$ 40.32		\$ -
	0			Total	\$ -
Install 100 AMP Electrical Service					
Discription of Task	Quantity	UOM	RATE		Total
Furnish and Install PROSTOCK NEMA 3R (100 amp service)	1	LS	\$ 35,573.13		\$ 35,573.13
				Total	\$ 35,573.13
					\$ 35,573.13
NST Smart Pond Retrofit					
Discription of Task	Quantity	UOM	RATE		Total
NST Scope - See attached backup Proposal	1	LS	\$ 318,684.00		\$ 318,684.00
				Total	\$ 318,684.00
					\$ 318,684.00

CPA CONTINUING SERVICES

Cape Canaveral, FL

Job: Lake 1 Cove Pond CMAC Retrofit TideFlex Valves

TRADE : GENERAL REQUIREMENTS

SCHEDULE: CONTRACT:

WORK: 0.97 MOS

TOTAL : \$ 33,309

4.20 WKS

LINE NO.	ITEM	UNIT	QTY.	MATER. COST		LABOR COST			OTHER DIR. COST	LINE TOTAL
				UNIT	TOTAL	HRS.	RATE	TOTAL		
1	SUPERVISION	WKS	4.20	200.00	840	168	103.50	17,388	-	18,228
4	PROJ. MANAGER	WKS	2.10	200.00	420	84	101.53	8,529	-	8,949
5	PROJ. EXECUTIVE	WKS	0.0	200.00	-	-	101.53	-	-	-
12	TRUCKING & FUEL	WKS	4.20	200.00	2,520	-	0.00	-	-	2,520
15	TELEPHONE	MOS	0.97	100.00	243	-	0.00	-	-	243
18	ICE & WATER	WKS	4.20	50.00	210	-	20.00	-	-	210
19	TEMP. TOILETS	MOS	1.00	135.00	135	-	0.00	-	-	135
21	DUMPSTERS	UN EA	1.0	600.00	600	-	0.00	-	-	600
SUB TOTALS THIS PAGE					\$ 4,968			\$ 25,917	\$ -	\$ 30,885
										VERIFIED TOTAL \$ 30,885

CPA CONTINUING SERVICES

Cape Canaveral, FL

Job:

0

TRADE : GENERAL REQUIREMENTS

SCHEDULE: CONTRACT:

0.97

TOTAL : \$ 33,309

LINE NO.	ITEM	UNIT	QTY.	MATER. COST		LABOR COST			OTHER DIR. COST	LINE TOTAL
				UNIT	TOTAL	HRS.	RATE	TOTAL		
32	LIVING EXPENSES	MOS	0.97	2,000.00	1,940	-	0.00	-	-	1,940
SUB TOTALS PAGES 1 & 2					\$ 6,908			\$ 25,917	\$ -	\$ 32,825
SALES TAX %				7	484	PT&I %	0	-	-	484
TOTALS					\$ 7,392			\$ 25,917	\$ -	\$ 33,309
										VERIFIED TOTAL \$ 33,309

Project Name: Lake 1 Cove Pond CMAC Retrofit

Project LABOR - Mob/Demob and Remove and reinstall 2 Concrete Storm Structure Lids and Install 2 each 60" TideFlex Valves

LABOR	TIME	UNIT	RATE	Burdened Labor
Foreman	88	HR	\$ 49.25	\$ 4,334.00
Operator	88	HR	\$ 61.56	\$ 5,417.28
Carpenter	88	HR	\$ 40.32	\$ 3,548.16
Carpenter	88	HR	\$ 40.32	\$ 3,548.16
Carpenter	88	HR	\$ 40.32	\$ 3,548.16
440			Total	\$ 20,395.76

\$ 20,395.76

Project LABOR - Core Drill & Epoxy Anhors for TideFlex VALVES

LABOR	TIME	UNIT	RATE	Burdened Labor
Foreman	80	HR	\$ 49.25	\$ 3,940.00
Operator	80	HR	\$ 61.56	\$ 4,924.80
Carpenter	80	HR	\$ 40.32	\$ 3,225.60
Carpenter	80	HR	\$ 40.32	\$ 3,225.60
Carpenter	80	HR	\$ 40.32	\$ 3,225.60
400			Total	\$ 18,541.60

\$ 18,541.60

Description of Activity: EQUIPMENT

Description	Day Rate	Duration/Days	Est. Total Equipment Cost	
Core Drill and Bits	\$ 500.00	10.00	\$ 5,300.00	including tax
Welding Machine	\$ 71.00	10.00	\$ 752.60	including tax
Air Compressor	\$ 71.00	10.00	\$ 752.60	including tax
Mobile Crane	\$ 350.00	10.00	\$ 3,710.00	including tax
Water Pump	\$ 150.00	10.00	\$ 1,590.00	including tax
			Total	\$ 12,105.20

\$ 12,105.20

Description of Activity: PERMANENAT MATERIALS

Description	Quantity	UOM	Rate	Taxes	Total
Red Valve 60" Checkmate-Neoprene with 316 SS Clamps	2	EA	\$ 128,782.00	\$15,503.84	\$ 273,067.84
SS Anchor Bolts (1-3/4" x 12" long)	1	LS	\$ 26,677.07	\$ 1,650.62	\$ 28,411.08
Epoxy	1	LS	\$ 2,015.88	\$ 170.95	\$ 2,015.88
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
			TOTAL		\$ 303,494.80

\$ 303,494.80

Total \$ 354,537.36



Engineer's Estimate of Probable Construction Cost

Date: May 17, 2023

Canaveral Port Authority - Lake 1 ("Cove Pond") CMAC Retrofit

- Assumptions:
1. Electrical service to Equipment Rack Provided by Customer
 2. Installing 10'x4' SS Gate with Actuator
 3. No unanticipated permit conditions
 4. Hourly rate for 4-man crew, equipment and overhead

Item No.	Item Description	Approximate Quantities	Unit	Unit Prices	Extended Prices
1	Mobilization (@10%)	1	LS	\$ 25,860	\$ 25,860
2	Dewatering	1	LS	\$ 18,732	\$ 18,732
3	Crane Rental	1	WK	\$ 7,000	\$ 7,000
4	Excavator Rental	1	WK	\$ 5,600	\$ 5,600
5	Uncover and remove structure lid	8	HR	\$ 566	\$ 4,525
6	Grout Existing Weirs	1	LS	\$ 9,368	\$ 9,368
7	Core Gate Opening in structure and lid	8	HR	\$ 566	\$ 4,525
8	Set Gate	8	HR	\$ 566	\$ 4,525
9	Custom 10'x4' SS Gate by Whipps or equal	1	LS	\$ 80,000	\$ 80,000
10	Set Equipment Rack and Conduit	8	HR	\$ 566	\$ 4,525
11	Equipment Rack and Conduit Materials	1	LS	\$ 5,500	\$ 5,500
12	Set Trash Rack	4	HR	\$ 566	\$ 2,262
13	Trash Rack	1	LS	\$ 2,500	\$ 2,500
14	Set Control Panel and Wiring	8	HR	\$ 566	\$ 4,525
15	CMAC Control Panel, includes Set up and Commission	1	LS	\$ 70,000	\$ 70,000
16	Level Sensor	2	LS	\$ 3,360	\$ 6,720
17	Rain Gauge	1	LS	\$ 770	\$ 770
18	Replace structure lid and backfill	8	HR	\$ 566	\$ 4,525
19	As-built Survey	1	LS	\$ 3,500	\$ 3,500
20	Site Stabilization and Clean-up	1	LS	\$ 5,000	\$ 5,000
21	Construction Engineering & Inspection	1	LS	\$ 4,500	\$ 4,500
22	Travel, per diem, other expenses	1	LS	\$ 10,000	\$ 10,000

Sub-Total: \$ 284,461

5% Construction Contingency: \$ 14,223

Engineering and Permitting: \$ 20,000

Total: \$ 318,684

QUOTE



a **MORSCO** brand

Due to the continued cost and supply challenges in the DUCTILE IRON PIPE, PVC and HDPE markets, the pricing of these products will be based solely on the availability at the time of shipment. Also, given the volatility in these markets we will not be responsible for product availability and shipment delays, as they are out of our control. Bid prices should be considered an estimate, materials will only be priced at time of shipment until the current supply chain challenges are resolved. These terms are in lieu of our standard terms. We appreciate your partnership.

CUSTOMER NO	QUOTING BRANCH	QUOTE NO	QUOTE DATE	PAGE
219259	FORTILINE DAYTONA BEACH	6347876	6/05/23	1

CUSTOMER
ALL BIDDERS - DAYTONA BEACH 952 BIG TREE ROAD DAYTONA, FL 32119

PROJECT INFORMATION
60" FLG CHECKMATE PORT CANAVERAL

LINE	QTY	UOM	DESCRIPTION	UNIT PRICE	TOTAL PRICE
10	2	EA	***** GIVEN THE CURRENT PRICING AND SUPPLY CHAIN CHALLENGES ALL MATERIAL WILL BE PRICED AT TIME OF SHIPMENT AND THE PRICES BELOW ARE TO BE USED AS AN ESTIMATE FOR BID PURPOSES ONLY ***** RED VALVE 60 FLG CHECKMATE NEPORENE W/ 316 CLAMPS	128,782.0000	257,564.00
				Subtotal:	257,564.00
				Tax:	15,478.84
				Bid Total:	273,042.84

ALL STOCK DELIVERIES ARE SUBJECT TO SHIPPING CHARGES

All PVC and HDPE material is quoted for shipment within 7 days of quote/bid date. All other material is quoted for shipment within 30 days of quote/bid date. After 7 days for PVC and HDPE or 30 days for all other material, ALL quoted prices are subject to review based on current market conditions.

Ent By GM1 6/05/23 12:33:29

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	1.C
Department:	Engineering
Requested Action:	Consideration of approving a purchase order to BEA, with a not-to-exceed amount of \$141,931, pursuant to their continuing contract PUR-RFQ-22-3, for the design and bidding services of the CT8 elevator and escalator upgrades. (Veronica Narvaez-Lugo/Bill Crowe)
Summary Explanation & Background: The existing elevators and escalator at Cruise Terminal 8 have become obsolete. Design is necessary as there are structural and electrical concerns with installing new equipment in these locations. Once the design is complete, the construction phase will be solicited for bids. The selection of the construction bid award will be presented to the Commission at a future date. Since the equipment is obsolete, repairs and parts availability have become problematic. This project will install a new escalator on the exterior of the terminal and replace two of the four elevators in the parking garage. The two elevators being replaced will be used for spare parts and replacement of the remaining two elevators will be planned in the upcoming capital budget.	
Financial Impact:	Yes
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	The total not to exceed amount of \$141,931 is included in the FY23 Capital Budget. No change is required. Project 1640 - Cruise Terminal equipment

Attachments:

[CT-08 Elevator and Escalator Replacement 06-12-23 R-2.pdf](#)

June 12, 2023 R-2

Veronica Narvaez-Lugo, P.E.
Senior Project Manager
Canaveral Port Authority
445 Challenger Road, Suite 301
Cape Canaveral, FL 32920



Re: Professional Architectural & Engineering Design Services for CT-8 Elevator and Escalator Replacement

BEA is pleased to submit this proposal for Architectural & Engineering Design, Bidding / Permitting Services, and Construction Administration Services for replacement of one (1) escalator and two (2) elevator to be replaced under Phase I and an additional elevator to be replaced under Phase II.

The scope of work will include Architectural & Engineering Design / Details and construction documents required to replace the elevators and escalator. BEA will coordinate all engineering disciplines including structural, mechanical, electrical, plumbing and low voltage.

Additionally BEA will assist in bidding, respond to permitting comments and provide CA services for the project as required.

Professional Fees

Elevator Escalator Replacement Design Drawing	\$ 100,483.00
Bidding Support	\$ 5,841.00
Permitting	\$ 5,192.00
Construction Administration	\$ 35,607.00

See Exhibit "A" for hourly break down.

Time for Completion

Elevator and Escalator Replacement	8 weeks
Bidding	2 weeks
Permitting	2 weeks
Construction Administration	12 – 16 weeks

We thank you for this opportunity to present this proposal and look forward to continuing to work with the Canaveral Port Authority in developing and becoming the top cruise port in the world.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "RD", written over a light blue horizontal line.

BEA Architects Inc.
Robert Draper,

EXHIBIT A



CT-8 Elevator and Escalator Replacement

Date: 6/5/2023 R-2

Architectural & Engineering Scope:

	Principal	Sr.Architect	Proj. Architect	Proj. Manager	Jr. Architect	Specifications	Jr. Project Mgr.	CAD	Admin.	Graef
1.0 Construction Documents (50% Set)	\$250.00	\$249.75	\$229.50	\$168.75	\$121.50	\$202.50	\$135.00	\$108.00	\$87.75	
Meetings with Client/Owner Rep	2	16								
Prepare Preliminary Construction Document Package	8	24		24	32	16		80	4	
Total Hours	10	40	0	24	32	8	0	80	4	
	\$ 2,500	\$ 9,990	\$ -	\$ 4,050	\$ 3,888	\$ 1,620	\$ -	\$ 8,640	\$ 351	\$ 24,453

Total Phase I **\$55,492**

	Principal	Sr.Architect	Proj. Architect	Proj. Manager	Jr. Architect	Specifications	Jr. Project Mgr.	CAD	Admin.	Graef
2.0 Construction Documents (100% Set)	\$250.00	\$249.75	\$229.50	\$168.75	\$121.50	\$202.50	\$150.00	\$108.00	\$87.75	
Meetings with Client/Owner Rep	2	8								
Prepare 100% Construction Document Package	4	24		24	24	16		80	4	
Total Hours	6	32	0	24	24	16	0	80	4	
	\$ 1,500	\$ 7,992	\$ -	\$ 4,050	\$ 2,916	\$ 3,240	\$ -	\$ 8,640	\$ 351	\$ 16,302

Total Phase II **\$44,991**

	Principal	Sr.Architect	Proj. Architect	Proj. Manager	Jr. Architect	Specifications	Jr. Project Mgr.	CAD	Admin.	Graef
3.0 Bidding Support	\$250.00	\$249.75	\$229.50	\$168.75	\$121.50	\$202.50	\$150.00	\$108.00	\$87.75	
Meetings with Client/Owner Rep	1	4								
Modifications and Bid Documents		4		4	4			4		
Total Hours	1	8	0	4	4	0	0	4	0	
	\$ 250	\$ 1,998	\$ -	\$ 675	\$ 486	\$ -	\$ -	\$ 432	\$ -	\$ 2,000

Total Phase III **\$5,841**

	Principal	Sr.Architect	Proj. Architect	Proj. Manager	Jr. Architect	Specifications	Jr. Project Mgr.	CAD	Admin.	Graef
4.0 Permitting	\$250.00	\$249.75	\$229.50	\$168.75	\$121.50	\$202.50	\$150.00	\$108.00	\$87.75	
Construction Administration		4		4	4			4		
Total Hours	0	4	0	4	4	0	0	4	0	
	\$ -	\$ 999	\$ -	\$ 675	\$ 486	\$ -	\$ -	\$ 432	\$ -	\$ 2,600

Total Phase IV **\$5,192**

	Principal	Sr.Architect	Proj. Architect	Proj. Manager	Jr. Architect	Specifications	Jr. Project Mgr.	CAD	Admin.	Graef
5.0 Construction Administration	\$250.00	\$249.75	\$229.50	\$168.75	\$121.50	\$202.50	\$150.00	\$108.00	\$87.75	
Construction Administration	4	64		32	16			16	4	
Total Hours	4	64	0	32	16	0	0	16	4	
	\$ 1,000	\$ 15,984	\$ -	\$ 5,400	\$ 1,944	\$ -	\$ -	\$ 1,728	\$ 351	\$ 9,200

Total Phase IV **\$35,607**

TOTAL FEE: **\$141,931**

Meeting Date

June 28, 2023

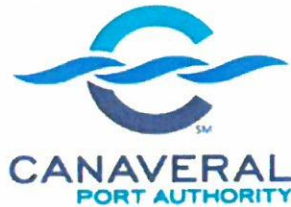


AGENDA ITEM REQUEST

Section:	
Item Number:	1.D
Department:	Engineering
Requested Action:	Consideration of approving Change Order #1 to Canaveral Construction Co., for the George King Boulevard Bus Stop Renovations. Decrease PO P-130081 by (\$19,322.20) for unused GMP funds. (Veronica Narvaez-Lugo/Bill Crowe)
Summary Explanation & Background: This is the final change order to close out the George King Boulevard Bust Stop Renovation project. Staff recommends approval of the above change to deduct unused GMP funds.	
Financial Impact:	Yes
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	The total amount of (\$19,322.20) is included in the FY23 Capital Budget. The unused portion will be applied to the contingency account. Project 1560 - Improvements piers, buildings structures.

Attachments:

[21-007A GKB Bus Stop CO#1.pdf](#)



**CANAVERAL PORT AUTHORITY
George King Blvd Bus Stop Improvements
Canaveral Construction Company, Inc.
CHANGE ORDER # 1**

	Contract Total To Date:	FROM:	<u>\$120,650.20</u>
JL :	1560-21016-19200, PO P-130081		
Item 1:	Deduct unused funds	DECREASE	<u>(\$19,322.20)</u>
		NEW CONTRACT TOTAL:	<u>\$101,328.00</u>

GENERAL: No changes other than those listed above are authorized. In WITNESS WHEREOF, the parties hereto set their hands and seals this 28th day of June, 2023.

Inclusion of the Change Order # 1 is recommended by:

William E. Crowe, P.E., PPM, Vice President, Engineering, Construction & Facilities

CANAVERAL PORT AUTHORITY

Canaveral Construction Company, Inc.

BY: _____
Kevin P. Markey, Chairman

BY:
Title: Project Manager

Attest: _____
Adm. Wayne Justice
Secretary/Treasurer

Attest:
Title: _____

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	1.E
Department:	Engineering
Requested Action:	Consideration of increasing the Atkins North America, Inc., purchase order P-130318, with a not-to-exceed value of \$90,900.00 for the design of the Grills Seawall Rehabilitation project. The new purchase order value will be \$119,807.00. (Verónica Narvaez-Lugo/Bill Crowe)
Summary Explanation & Background: CPA worked with Jacobs Engineering to perform a dive inspection of the Cove bulkhead wall by Grills at the end of 2022. The dive inspection report noted the Cove bulkhead wall at an overall rating of serious condition, including defects and structural cracks, 44% of the concrete sheet pile has horizontal cracking, and a location on the eastern end of the bulkhead was found to have the bottom of the concrete sheet pile undermined. In addition, the concrete cap for the Cove bulkhead wall was rated as poor condition. As part of the original PO, Atkins performed an independent review of the dive inspection, did a site visit during low tide and after evaluating different alternatives to solve the problem, proposed to repair the wall with new FRP wrap and epoxy injection along the entire wall face and concrete cap. The design of this option and the preparation of the bid documents will take approximately 6 months. CPA will solicitation the design to select a contractor to perform the repairs. Staff is requesting permission to increase the PO to Atkins to include design and bidding services.	
Financial Impact:	Yes
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	The total not to exceed amount of \$90,900 is included in the Fy23 Capital Budget. No change is required. Project 1560 - Improvements to piers, buildings, structures.

Attachments:

Grills Seawall ATKINS PROPOSAL GRILLS WALL REHAB OPT2--06-13-23.pdf

Grills Seawall Atkins Fee Breakdown Wall Rehab Task 2 2023-06-13.pdf

Proposal to Provide Professional Engineering Services Cove Bulkhead Wall Repair Engineering Services Task 2 – Design, Permitting, Bidding Services Port Canaveral, Florida

PROJECT UNDERSTANDING, BACKGROUND

Based on project review meeting with the Canaveral Port Authority (CPA – Client) held on April 14, 2023, the Client has requested ATKINS to provide a proposal for Task 2 based upon the evaluation of prior Task 1 wall rehab options and cost considerations. Option 2 was selected as the desired rehab option. Option 2 is based on wall strengthening applied to the face of the existing concrete wall and cap to extend the existing bulkhead wall life. This scope of services is to provide professional engineering services to develop repair plans, perform regulatory permitting, and support bidding. Construction phase services proposal will be provided at a future date. A project area scoping exhibit is provided at the end of this proposal to illustrate the project area of understanding.

The work will be performed/governed by Atkins continuing contract RFP-PUR-22-3. The existing Task 1 Purchase Order # P-130318 is requested to be increased for these Task 2 services.

SECTION I SCOPE OF SERVICES

TASK 2A – PRELIMINARY DESIGN, COORDINATION

The design team will conduct preliminary assessments and coordination for FRP wall repair products. The preliminary design drawings will be limited to providing design intent or basis of design up to 30% design level of detail. This design will rely on the existing wall and tie-back system remaining in service and providing lateral resistance for the strengthened wall. Past notified area deficiencies of under-decking elements (deteriorated cross-bracing, sagging fire water line) are assumed to be “fixes” Grills Restaurant will make for their own infrastructure and are not included in this scope.

The scope outline is as follows:

- Prepare preliminary drawings accounting for:
 - Preliminary FRP Specifications & Warranty information
 - Concrete surface cleaning and preparation
 - Urethane foam soil injections, wall weep hole filters, select demolition
 - Seawall cap repair, crack injections, optional cap curb
 - Covering of existing exposed steel tie-backs
 - Repair schedule timeline, installation sequence
- Review available data – review provided data such as historical documents, bathymetry, utilities, and underground storage tank and fuel line documents in the repair area or marina. Port to provide records of building department permit packages/drawings for past decking construction and any other relevant records.
- Perform one follow-up site visit.
- Coordinate with CPA on Grills Restaurant owner independent meeting outcomes and general discussion.
- Investigate mooring pile replacement. Evaluate if existing stockpiled pilings at the Port can be used for replacement of this mooring pile, subject to inspection.
- Lighting or utility design is excluded and assumed to be “in-kind” repairs or replacements

TASK 2B – CONSTRUCTION REPAIR DOCUMENTS, PERMITTING COORDINATION

This task consists of the design of repairs to address the Client-approved Task 1, Option 2 selection. Repair design plans and permitting coordination will be performed. ATKINS will develop these construction documents in three deliverable phases:

- (1) Design development documents (DD) representing progress at 60% level.
- (2) Final Tender Documents (i.e.-100% Design Documents) which are a comprehensive set of final construction documents that have incorporated all CPA/Client/Regulatory Agency comments and revisions into a final set of “ISSUE FOR CONSTRUCTION” (IFC) documents with the understanding the repair may be Bid at 100% Design and a final subsequent step of IFC plan (document) release could follow.

60% DESIGN DEVELOPMENT DOCUMENTS

The design development documents generally include the following services and design documents:

Repair Documents

- a. Attend kickoff and milestone design development meetings with Client/CPA and conduct site visit prior to design to observe existing site features relative to design development. This also includes up to two (2) site visits during design if further project area examination is needed.
- b. Prepare Repair Plans - Delineate the horizontal placement of repairs, in plan view, at discrete locations and/or at overarching area extents if certain repairs are repetitive. This would also include a Cover Sheet, Key Sheet, and General Notes.
- c. Prepare Photo-Illustration Plan – this will depict photos correlated to distinct repair locations. Photos will be referenced from existing conditions and inspection observations. Plan sheets would illustrate and identify the location and distinct repair
- d. Demolition Plans - Prepare Demolition plan to identify removal elements for added clarity to supplement the Repair Plans and/or Photo-Illustration Plans.
- e. Repair Details - Prepare repair detail sheets containing various, specific elements of the repair design. This would include structural FRP wrap, rebar, stirrups, grout mixes, composite materials, concrete, grout, epoxies, and pertinent structural and functional elements of the piers
- f. Stormwater Pollution Prevention Plan (SWPPP) – Prepare SWPPP with various erosion and sedimentation control details.
- g. Prepare preliminary turbidity management plan.
- h. Prepare Technical Specifications
- i. Review Submittal: Provide electronic copies of the Repair Design Documents to the Client/CPA and attend one over the shoulder review meeting with designated Client/CPA staff.
- j. Final Submittal: Revise the Preliminary Design Documents in response to Client/CPA comments, and furnish electronic copies of the completed Design Development documents to the Client/CPA.
- k. Opinion Of Probable Cost (OPC) – ATKINS shall prepare a cost estimate consistent with the 60% design issuance.

100% DESIGN DOCUMENTS.

After acceptance by CPA of the Design Development Documents and criteria, and indication of any modifications or changes in the scope, extent, character, or design requirements of the PROJECT desired by CPA, ATKINS shall prepare 100% / IFC Documents.

Prepare 100% Drawings for disciplines defined under the design development portion of this scope which clearly define the scope, extent, and character of the work to be performed and furnished by the CPA and/or Selected Contractor. Drawing Scale is assumed to be 1:60 (Larger for overall type sheets), and 1:20 or

smaller for details as necessary to clearly depict the proposed improvements in 22"x 34" sheet size. This document phase shall be considered as 100% drawing completion. Abbreviated technical specifications for repair work may be placed on the Drawings. Booklet type technical specifications shall be prepared in MS Word format. Plan sheets may be consolidated at ATKINS discretion.

ISSUE FOR CONSTRUCTION (IFC) DOCUMENTS

ATKINS will revise the 100% Site Civil Documents in response to CPA comments and reconcile the plans one time for incidental revisions resulting from the CPA final review or final permit determinations. Deliverables: ATKINS will furnish one (1) PDF signed and sealed drawings including specifications of the IFC Documents and the final cost estimate to CPA. This submittal may not be made before all CPA requested revisions have been incorporated and completed. This document phase shall be considered as ISSUE FOR CONSTRUCTION. Issuance of IFC Documents could potentially fall after Bid Documents depending on Bid advertising; therefore, some efforts may overlap with Bid Phase outcomes.

COORDINATION (DESIGN, PERMITTING)

ATKINS shall coordinate with CPA Environmental Department to provide repair design information for regulatory agency permitting with FDEP and USACE. ATKINS will budget attending one pre-submittal conference call with each regulatory agency. ATKINS would rely on guidance from CPA Environmental to streamline any pre-application meetings with the agencies.

The intended approach to permit the repairs are a "Letter of No Permit Required" (Exemption) request with FDEP and a Nationwide Permit from USACE.

FDEP permitting coordination efforts include discussion with CPA, status updates, preparation of permit sketches, preparation and submittal of application through the online web-based submittal through the FDEP business portal where CPA permit application payment can be made.

USACE permitting will be submitted to the USACE Cocoa regulatory office via email. This submittal includes discussion with CPA, status updates, preparation of permit sketches, preparation and submittal of application.

Each of the agency submittals includes addressing Requests for Additional Information (RAI's - rounds of comments), up to two (2) times.

General project coordination with the design team and CPA is included in this task. This includes weekly coordination phone calls, TEAMS meetings, and emails for the betterment of project timeline, design, and quality control.

TASK 2C – BIDDING SUPPORT

Following approval of the 100% Construction Documents repair design, ATKINS will prepare bid documents to issue to CPA for release. Bid documents would consist of the approved construction drawings and the project technical specifications issued for bid. ATKINS will edit Division 0 and 1 ("front-end documents") specifications provided by the CPA (with coordination assistance from CPA's Consultant) in MS Word format to insert project specific information in these sections, including the bid schedule if needed. It is assumed that only minor project specific information editing of Division 0 and 1 specifications will be required. The Consultant will also:

1. Attend a pre-bid meeting. ATKINS can assist with determining an appropriate date for a Pre-Bid Meeting in needed.

2. Prepare answers to questions, clarifications, or interpretations submitted by potential bidders to CPA (7 calendar day review period). Estimated level of effort is based on providing one combined response of all questions submitted to and compiled by CPA.
3. Assist CPA with preparing bid addendums for technical items (one bid addendum is assumed). Multiple bid addendums may warrant additional compensation.
4. Review and make recommendations to CPA regarding acceptance of the low bid contractor's Schedule of Values.

Deliverables: Bid Documents (plans & specs)

A bid form is assumed to be supplied by CPA. CPA is assumed to advertise the bid. Bid documents include changes that may be warranted to the contract drawings, technical and supplemental general conditions or other construction-related issues as appropriate.

SECTION II – COMPENSATION & SCHEDULE

The target schedule is to deliver bid documents by the October/ November 2023 timeframe. Rate basis is consistent with GEC value ranges and categories by and between CPA and ATKINS. Total compensation for the Services set forth in Section I above shall be a Not-to-Exceed (NTE) value based on hourly rates and distributed as follows:

TASK 2A: Preliminary Design / Coordination

Total: **A NTE Sum of \$ 30,760**

TASK 2B: Construction Documents/ Permitting

Total: **A NTE Sum of \$ 48,140**

TASK 2C: Bidding Services

Total: **A NTE Sum of \$ 12,000**

Grand Total: **A NTE Sum of \$ 90,900**

SECTION III – ADDITIONAL SERVICES, ASSUMPTIONS, OR CLIENT RESPONSIBILITIES

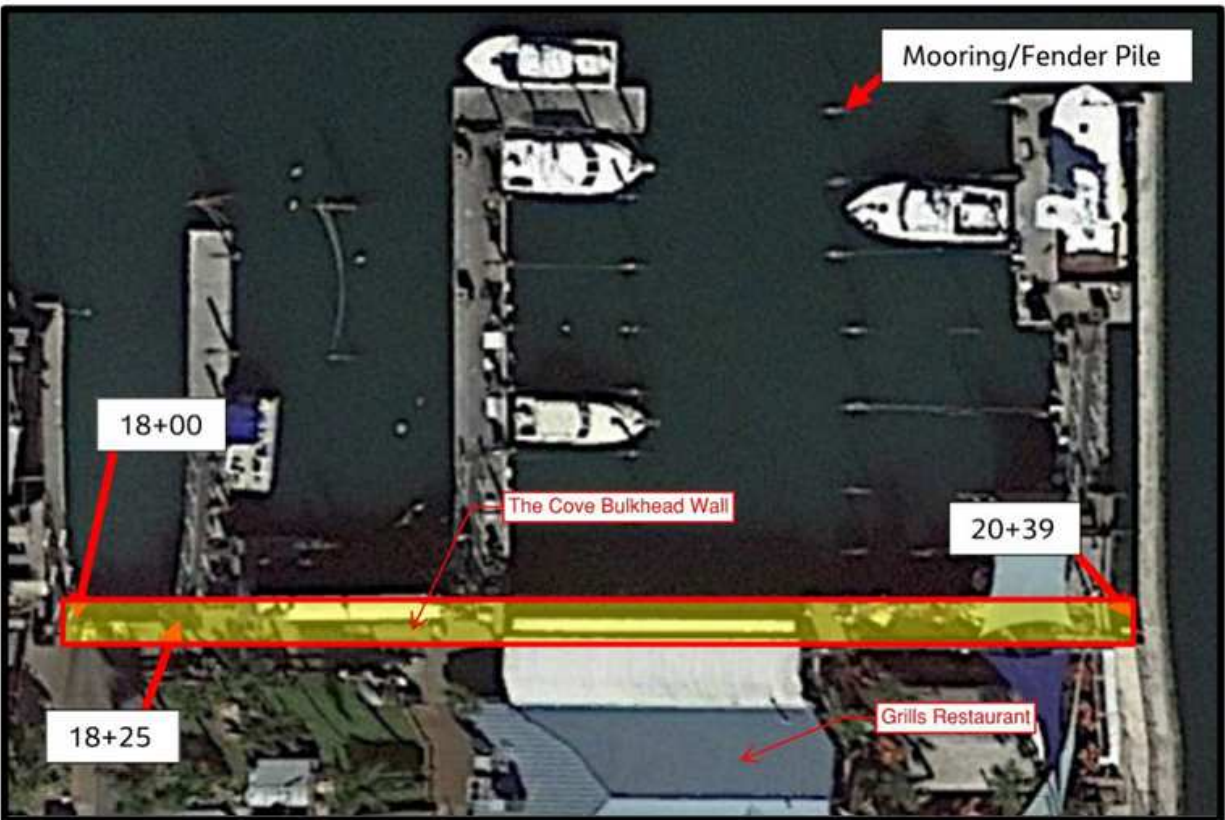
Assumptions made in development of this scope of services are identified below. Additional services are also listed below. If authorized in writing by the Client, ATKINS shall provide Additional Services including, but not limited to, the types listed below at ATKINS Hourly rates or an agreed Not-to-Exceed value:

- 1) Utility or fire protection design is excluded.
- 2) Surveying and geotechnical services are not included.
- 3) Multiple service life evaluations for repairs are not included.
- 4) Construction Phase services / dive inspections are excluded and will be provided at a future date.
- 5) Participation by one or more of ATKINS's staff with special expertise in a technical committee convened by the Client to discuss and develop design approaches and standards is not included.
- 6) Landside services are not included. Value engineering and cathodic protection design is excluded.
- 7) Design and assistance to the CPA in the evaluation, selection, and design of security (fencing, etc.) systems and/or AFTP elements are not included.
- 8) Field verification of Client provided information, passage of time review revision, submittal, and review of previously approved Final Design Documents if made necessary by the passage of time or known changes in site conditions prior to bidding; or other CPA directed revisions of previously approved documents.
- 9) Substantial Plan Changes are not included. This would include continued Design changes after 100% / IFC issued drawings (i.e.-Permitting is incomplete) for new elements introduced, relocating site elements, work in other areas, and/or enhanced geometry are excluded.
- 10) Preparation of hardscape sketches, hardscape /landscape/ irrigation plans, and special design features including but not limited to Port specific signage, features are not included.
- 11) Project phasing plans and phasing cost estimates are excluded. It is assumed that the repair work will be completed as a single continuous construction phase. Design, permitting and construction of multiple phases is not included in this agreement. The entirety of Project area is assumed to be completed in a single set of construction documents
- 12) It is assumed that hazardous materials, contaminants, jurisdictional wetlands are not present or not the responsibility of ATKINS to mitigate. Wetlands, consumption use permitting (CUP), or threatened, endangered, and species of special concern with regulatory agencies not included in this scope.
- 13) Building architectural, mechanical, electrical, lighting, and plumbing design is not included.
- 14) It is assumed that any required Maintenance of Traffic Plans will be the responsibility of the contractor. Transportation engineering services such as traffic studies, vessel rerouting, etc. are not included.
- 15) Contractor to perform National Pollution Discharge Elimination System (NPDES) Monitoring as required. It is assumed that the Contractor will be responsible for preparation of and submittal of all NPDES permit requirements including NOI.
- 16) Contractor shall supply as-built drawings.
- 17) All permit application fees (all fees) shall be supplied or reimbursed by CPA. Beaches & Coastal Permitting is not included and shall be by the Client. The ultimate decision to issue permits lies with the regulatory agencies, and ATKINS cannot guarantee the permits sought will be issued.
- 18) Regarding permitting and coordination with third parties, CPA shall provide a Letter of Authorization for ATKINS to act as the Client's representative with respect to work to be performed. Atkins will NOT have direct authority over the contractor. Any recommendations or decisions shall be presented to CPA for approval prior to issuance.
- 19) All fees shall be paid or supplied by CPA - Application fees, impact fees and any other fees including but not limited to processing fees, connection charges, platting costs, aerial photography

costs, and any other such fees required in connection with the project directly or indirectly required by regulatory agencies are considered a direct expense to CPA.

- 20) Services not specifically listed in this scope of services are not included in this scope of services. Should assumptions made in the development of this scope change, ATKINS reserves the right for additional compensation.
- 21) Archeological, cultural, or special environmental studies are excluded.
- 22) Redesign during construction is excluded.
- 23) Piecemeal scope of this proposal is not included. The scope and fee validity of this proposal is contingent upon the Scope & Fees provided and ATKINS reserves the right to adjust fees if the identified scope is piecemealed. Efforts associated with “Start-Stop work” after construction initiation due to unknown timeline matters are not included. Funding from various tasks may be utilized with prior discussion and approval with CPA.
- 24) MS Project schedule tracking are not included in this scope of services.

Project Area Scoping Exhibit (red outline)



**Canaveral Port Authority
Manpower Estimate
Cove Bulkhead Wall Repairs Engineering Services**

6/13/2023

TASK NUMBER	TASK DESCRIPTION	Atkins Labor					HOURS	Total Labor	Sub (None)	Total
		Sr. Project Manager (Atkins)	Sr. Lead Structural Engineer (Atkins)	Sr. CAD Designer (Atkins)	Civil Engineer (Atkins)	QAQC Reviewer/ Sr. Engineer III (Atkins)			Other Direct Costs (ODCs), Equipment, Subs	
		\$240.00 /HR	\$210.00 /HR	\$150.00 /HR	\$180.00 /HR	\$200.00 /HR				
2A	PRELIMINARY DESIGN, COORDINATION									
	Project Management	4				4	\$ 960		\$960	
	Data review, Kickoff		8	2	8	18	\$ 3,420		\$3,420	
	Technical Specs Outline		4			4	\$ 840		\$840	
	Site Visits		4		2	6	\$ 1,200		\$1,200	
	Meetings		2		2	4	\$ 780		\$780	
	Wall Repair Design		24	8	20	52	\$ 9,840		\$9,840	
	Tech Memo		4		4	8	\$ 1,560		\$1,560	
	Preliminary Design Documents		6	50	4	60	\$ 9,480		\$9,480	
	QAQC		2	2	2	8	\$ 2,680		\$2,680	
						0	\$ -		\$0	
	Total Task - 2A - PRELIMINARY DESIGN, COORDINATION	4	54	62	42	170	\$30,760	\$0	\$30,760	
2B	CONSTRUCTION REPAIR DOCUMENTS, PERMITTING COORDINATION									
	Proj Mgmt, Doc Controls	4				4	\$ 960		\$960	
	Coordination , Gen		6	6	4	16	\$ 2,880		\$2,880	
	60% Des-Engineering		12		6	18	\$ 3,600		\$3,600	
	60% Plans-Specs		10	40	8	58	\$ 9,540		\$9,540	
	60% Cost Estimate		2		6	8	\$ 1,500		\$1,500	
	100% Design Engineering		10		6	16	\$ 3,180		\$3,180	
	100% plans-specs		8	24	8	40	\$ 6,720		\$6,720	
	100% Cost Est		6		2	8	\$ 1,620		\$1,620	
	Permits - USACE/FDEP		20	6	20	46	\$ 8,700		\$8,700	
	Perm RAI 1			6	4	10	\$ 1,620		\$1,620	
	Permit RAI2			6	4	10	\$ 1,620		\$1,620	
	Site Visits - Design				8	8	\$ 1,440		\$1,440	
	QAQC		4		4	16	\$ 4,760		\$4,760	
						0	\$ -		\$0	
	Total Task - 2B - CONSTRUCTION REPAIR DOCUMENTS, PE	4	78	88	80	266	\$48,140	\$0	\$48,140	
2C	BIDDING SUPPPORT									
	Prep bid Plans & Specs	2	8	16		26	\$ 4,560		\$4,560	
	Pre-Bid Meeting		4		2	6	\$ 1,200		\$1,200	
	RFI's - bid query Responses		8		8	16	\$ 3,120		\$3,120	
	Bid Tabs, Recommendations		8		8	16	\$ 3,120		\$3,120	
						0	\$ -		\$0	
	Total Task - 2C - BIDDING SUPPPORT	2	28	16	18	64	\$12,000	\$0	\$12,000	
	Grand Total	10	160	166	140	500	\$90,900	\$0	\$90,900	

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	1.F
Department:	Engineering
Requested Action:	Consideration of approving a bill of sale in the amount of one dollar (\$1.00) for the water line, water main, and appurtenances that were installed during the NCB3 construction project to the City of Cocoa, Florida. (Patrick Hammond/Bill Crowe)
Summary Explanation & Background: Canaveral Port Authority water lines are constructed and paid for by CPA and then sold to the City of Cocoa for ongoing maintenance purposes. Staff is requesting approval of the attached bill of sale for the NCB3 water lines to implement the handover of maintenance responsibilities to the City of Cocoa, Utilities Department.	
Financial Impact:	Yes
Reviewed by General Counsel:	Yes
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

[Bill of Sale_City of Cocoa_Water Line at 405 Dolphin _06-15-23.pdf](#)

BILL OF SALE

KNOW ALL MEN BY THESE PRESENTS, that the **CANAVERAL PORT AUTHORITY**, an independent special taxing district and political subdivision of the State of Florida (“**GRANTOR**”), in consideration of the sum of ONE AND NO/100 DOLLAR (\$1.00), the receipt and sufficiency of which is hereby acknowledged, and for other good and valuable consideration, hereby grants, bargains, sells, transfers, delivers, and conveys to the **CITY OF COCOA, FLORIDA**, a municipal corporation organized and existing under the laws of the State of Florida (“**GRANTEE**”) and its successors and assigns, the following described personal property, assets, and rights:

10” Water main and appurtenances to service North Cargo Berth 3 and located at or near 405 Dolphin Road, Cape Canaveral, FL 32920, as more particularly depicted on **Exhibit “A”**, attached hereto and incorporated herein (the “**Equipment**”).

The GRANTOR hereby covenants and warrants that the GRANTOR is the lawful owner of said Equipment; that said Equipment is free and clear of all liens and encumbrances; and that GRANTOR has the right to sell and convey the Equipment and will defend the same against the lawful claims and demands of all persons.

The GRANTEE, by acceptance of this Bill of Sale, acknowledges and agrees that the Equipment is provided “**AS-IS, WHERE IS**”, with all faults, and GRANTOR makes no warranties as to the Equipment’s use, condition, fitness for a particular purpose, or merchantability, express or implied.

“**GRANTOR**”:

CANAVERAL PORT AUTHORITY, an independent special taxing district and political subdivision of the State of Florida,

By: _____
Kevin P. Markey, Chairman

Witness

Attest: _____
Adm. Wayne Justice
Secretary/Treasurer
(Corporate Seal)

Witness

Exhibit "A"

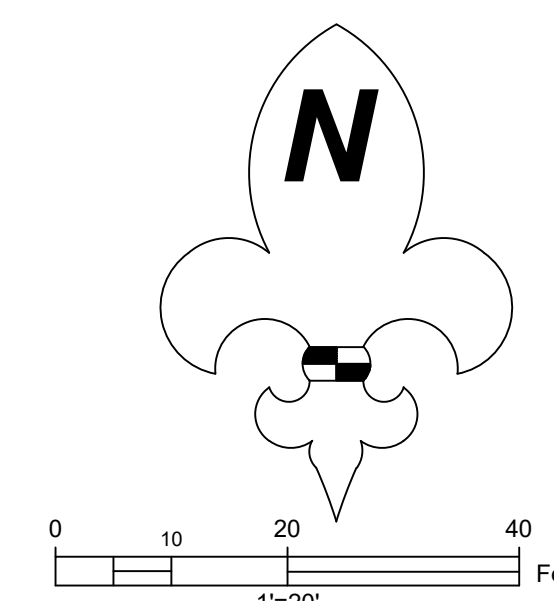
The Equipment

Record Survey dated May 3, 2023

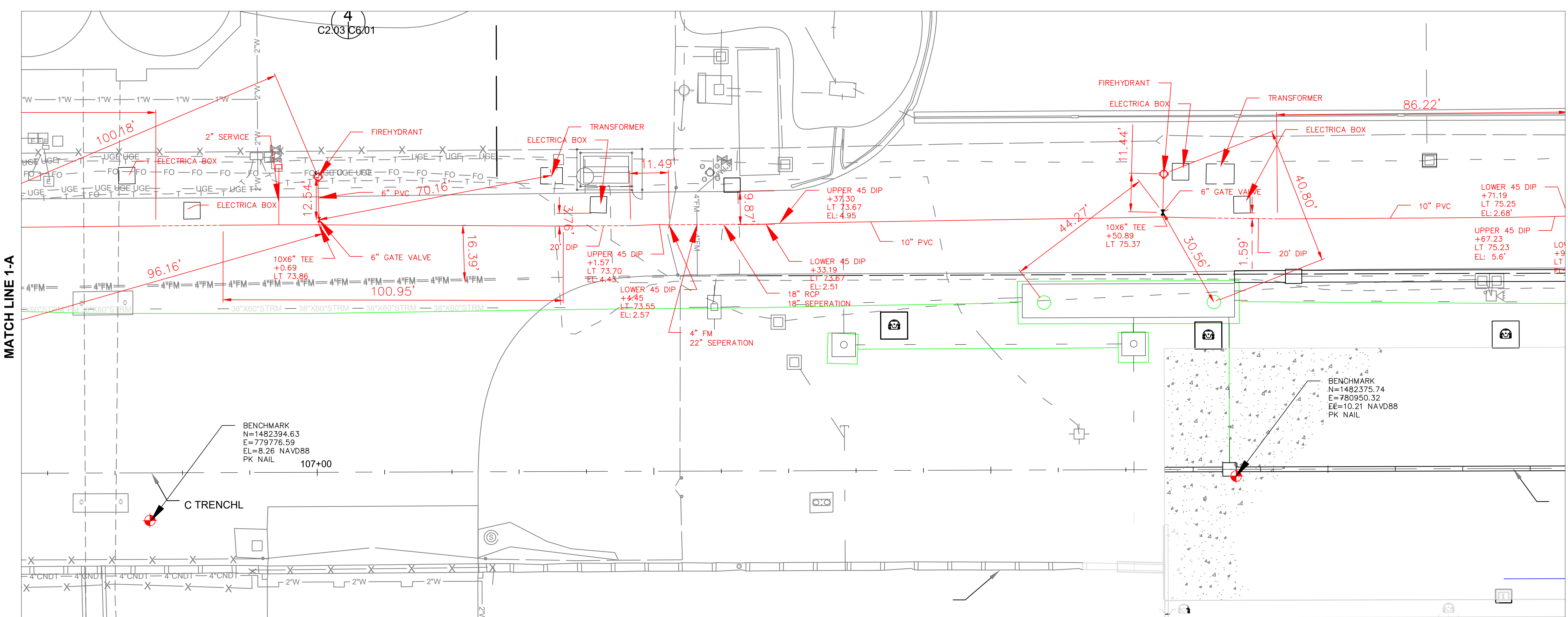
(5 pages to follow)

RECORD SURVEY

CITY OF COCOA



KENNETH P. TAYLOR PSM
 3924 RAMIRO STREET
 SEBRING FL, 33872
 ktsurveyor@yahoo.com
 910-827-5888



NO.	REVISION COMMENTS	DATE

SURVEYORS NOTES AND REPORT:

- THIS RECORD SURVEY WAS PERFORMED FOR THE PURPOSE OF MAPPING EXISTING FEATURES AND CONDITIONS, AS SHOWN AND DEPICTED HEREON. I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS IS A TRUE AND ACCURATE DEPICTION OF A FIELD SURVEY PERFORMED UNDER MY DIRECTION AND COMPLETED ON MAY 03, 2023. I FURTHER CERTIFY THAT SAID DRAWING IS IN COMPLIANCE WITH THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, IN CHAPTER 6J-17, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027, FLORIDA STATUTES.
- THIS SURVEY MAP AND REPRODUCTIONS THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER OR ORIGINAL ELECTRONIC SIGNATURE. THIS SURVEY CANNOT BE TRANSFERRED OR ASSIGNED WITHOUT THE SPECIFIC WRITTEN PERMISSION OF ENGINEERING, DESIGN AND CONSTRUCTION, INC. IT IS A VIOLATION OF CHAPTER 6J-17, FLORIDA ADMINISTRATIVE CODE, TO ALTER THIS SURVEY WITHOUT THE EXPRESS PRIOR WRITTEN CONSENT OF THE SURVEYOR. ADDITIONS AND/OR DELETIONS MADE TO THE FACE OF THIS SURVEY WILL MAKE THIS SURVEY INVALID.
- THE LAST DATE OF FIELD WORK (AND DATA ACQUISITION) WAS MAY 3, 2023.
- THIS RECORD SURVEY HAS BEEN REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM—EAST ZONE, NAD 83 (1990).
- UNDERGROUND UTILITIES, UTILITY SERVICES, FOUNDATIONS, AND IMPROVEMENTS WERE NOT LOCATED AS A PART OF THIS SURVEY, UNLESS FEATURES WERE VISIBLE AT THE SURFACE LEVEL.
- REVISIONS SHOWN HEREON DO NOT REPRESENT A "FIELD SURVEY UPDATE" UNLESS OTHERWISE NOTED.
- BEARINGS SHOWN HEREON ARE BASED UPON GRID NORTH AND REFERENCE TO THE LINE LABELED HEREON AS (BEARING BASIS) AND ALL OTHER BEARINGS ARE RELATIVE THEREO. DISTANCES ARE IN INTERNATIONAL FEET AND DECIMAL PARTS THEREOF.
- ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND ARE BASED ON THE FLORIDA PERMANENT REFERENCE NETWORKS (FPRN) USING GPS REAL TIME KINEMATIC (RTK) OBSERVATION WITH AN ACCURACY OF ±0.06"-0.10". SITE BENCHMARKS UTILIZED ARE SHOWN HEREON.
- THIS SITE WAS SURVEYED UTILIZING TRIMBLE/SPECTRA HARDWARE TOGETHER WITH SPECTRA SURVEY PRO REAL TIME PROCESSING AND WAS BASED ON TRIMBLE'S "NVS NOW" NETWORK AND/OR THE FLORIDA PERMANENT REFERENCE NETWORK (FPRN). THE PROCEDURES AND NETWORK DESIGN MEETS THE GEODETIC ACCURACY STANDARDS AND SPECIFICATIONS FOR USING GPS RELATED POSITIONING AS SET FORTH BY THE FEDERAL GEODETIC CONTROL COMMITTEE IN THE MOST CURRENT PUBLICATION FOR 3RD ORDER CLASS ONE FOR HORIZONTAL CONTROL SURVEYS.

NCB3 REHABILITATION & MODERNIZATION
RUSH MARINE, LLC
 6285 RIVERFRONT CENTER BLVD.
 TITUSVILLE, FL 32780



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 BY RUSH MARINE, LLC

SURVEYORS CERTIFICATION:

I KENNETH P. TAYLOR DO HEREBY CERTIFY THAT THE AS-BUILTS SHOWN HEREON ARE BASED ON THE ENGINEERS DESIGN CAD FILE FOR THE CONSTRUCTION PLANS AND ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AS OF MAY 03, 2023 THE LAST DAY OF FIELD WORK, AND ACCEPTING RESPONSIBILITY FOR THE ACCURACY OF INFORMATION SUPPLIED ON THESE RECORD DRAWINGS, AND CERTIFYING THAT ALL MAINS ARE WITHIN ANY EASEMENTS, AND/OR RIGHT-OF-WAYS

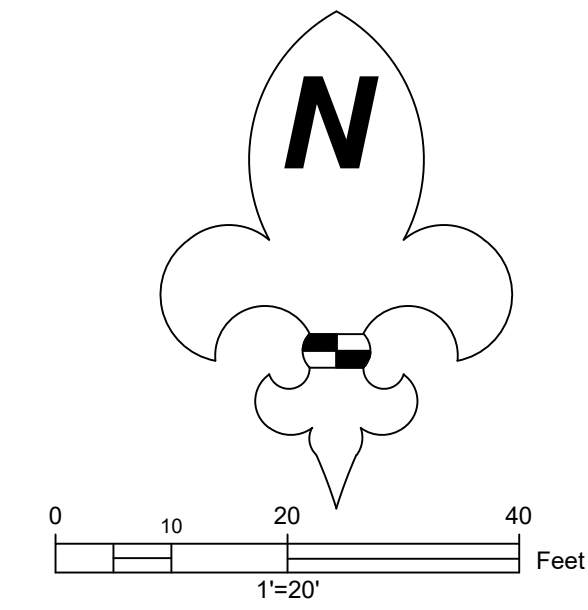
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KENNETH P. TAYLOR, 5532

RECORD SURVEY
 FOR: RUSH MARINE LLC

RECORD SURVEY

CITY OF COCOA

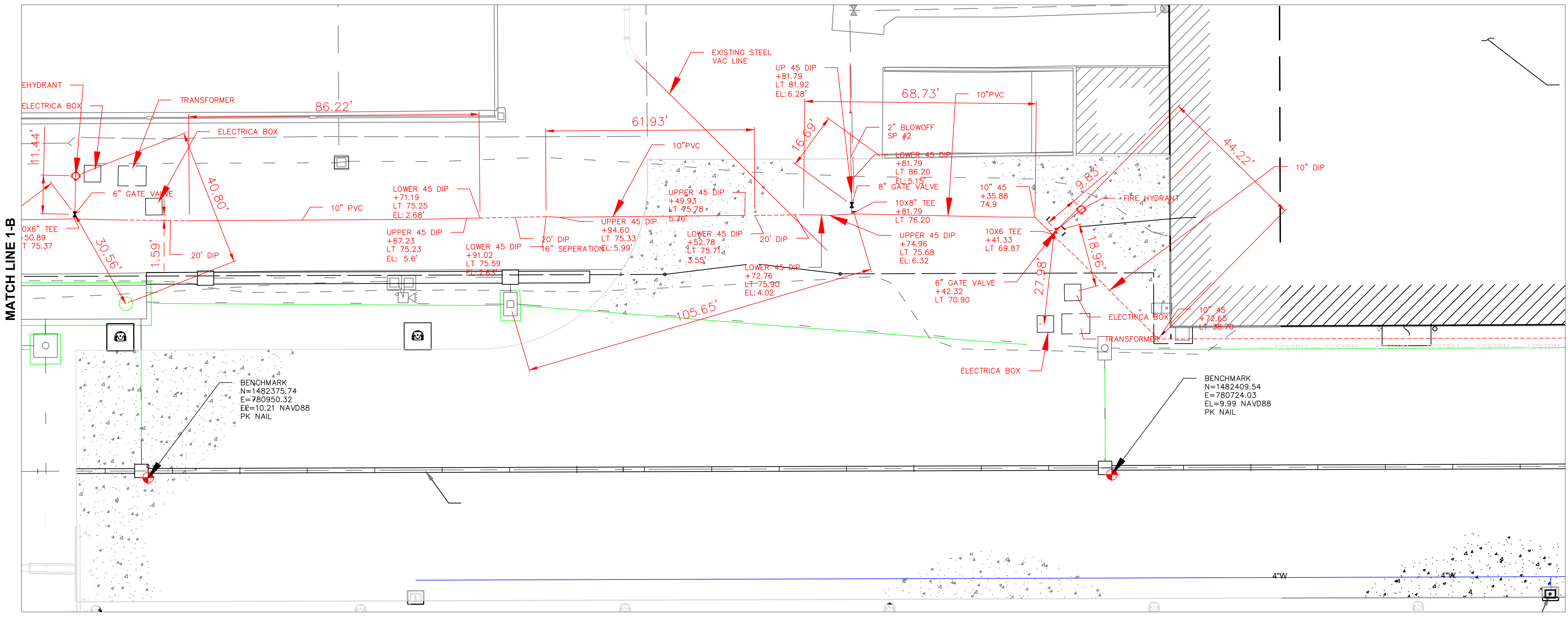


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 910-827-5888

DRAWN BY	KT
CHECKED BY	BS
FIELD CREW	Wesleyne Sabalir, Doug
FILE NAME	AS SHOWN
SCALE	DATE
	May 3, 2023

REVISION COMMENTS	DATE

RECORD SURVEY
FOR: RUSH MARINE LLC



SURVEYORS NOTES AND REPORT:

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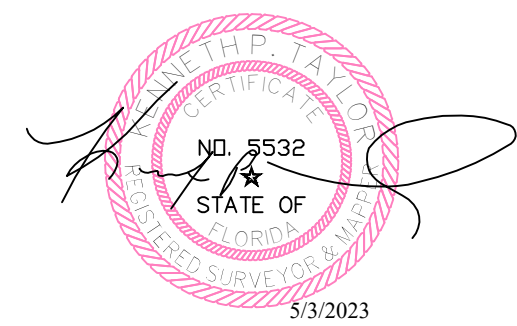


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NOT VALID WITHOUT ORIGINAL SIGNATURE



KENNETH P. TAYLOR, 5532

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	2.A
Department:	Human Resources
Requested Action:	Consideration of approving the Wage Reopener ratification to Articles 26 and 32 of the Collective Bargaining Agreement* (“CBA”) between the Canaveral Port Authority and Transport Workers Union of America, Local 525, AFL-CIO

Summary Explanation & Background:

CPA and the Union have met pursuant to the wage reopener contained in Article 32, Section 3 of the CBA. CPA and the Union tentatively agreed to the following terms:

As the membership has ratified the terms, what remains is the approval by the Commission represented by the CBA and Commission approval, the parties agree to a single wage increase of 5% across the table for all classifications contained within the CBA, which will begin in the paycheck dated October 6, 2023.

The parties also agree that anyone above the hourly wage rate will be treated pursuant to Policy and will be provided a lump sum of equal to 5% in lieu of the 5% single wage increase.

The CPA and TWU signed the Tentative Agreement regarding the wage reopener as of June 14-15, 2023. The TWU members covered under this CBA voted and approved the Tentative Agreement on June 15, 2023. The CPA and

TWU signed the Memorandum of Understanding regarding the wage reopener on June 16, 2023.

Appendix A of the CBA will reflect the following new Wage Rate Table effective October 1, 2023:

Position and Hourly Wage Rate

- Cruise Operations Associate A \$17.33
- Cruise Operations Associate B \$19.95
- Passenger Bridge Trainer \$22.05
- Code Enforcement Officer \$18.90
- Landscape Technician \$18.90
- Landscape Skilled Trades \$23.10
- Line Handling Associate \$20.48
- Fleet Services Technician A (PM/Tire Tech) \$21.00
- Fleet Services Small Engine Technician \$23.10
- Fleet Services Technician B (Heavy Equipment) \$30.45
- Automation Controls Technician A No one in role
- Automation Controls Technician B \$35.70

Facilities Maintenance Technician \$27.30
 Facilities Skilled Trades \$35.70
 Supply Clerk \$24.68
 Crane Technician \$33.60
 Crane Operator \$33.60

The Tentative Agreement was reviewed by CPA’s labor attorney.

*Canaveral Port Authority (“CPA”) and the Transport Workers Union of America, Local 525, AFL-CIO (“TWU” or “Union”) entered into a Collective Bargaining Agreement (“CBA”) effective October 1, 2021 through September 30, 2024, with the Union acting as the exclusive collective bargaining representative for the designated unit set forth in Article 1 of that CBA.

Financial Impact:	Yes
Reviewed by General Counsel:	Yes
Reviewed by Port Attorney:	No
Financial Review:	This is an operational expense item. Any wage changes as a result of this item will be reflected in the planning for the FY24 Operating Budget. No change is required for the FY23 Operating Budget.

Attachments:

[MOU Wage Reopener.pdf](#)

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (“MOU”) is made and entered into by and between the Canaveral Port Authority (“CPA”) and the Transport Workers Union of America, Local 525, AFL-CIO (“TWU” or “Union”) (CPA and Union collectively the “Parties”).

WHEREAS, the Parties entered into a Collective Bargaining Agreement (“CBA”) effective October 1, 2021 through September 30, 2024;

WHEREAS, the Union is the exclusive collective bargaining representative for the designated unit set forth in Article 1 of the CBA;

WHEREAS, CPA and the Union have met pursuant to the wage reopener contained in Article 32, Section 3 of the CBA; and

WHEREAS, CPA and the Union have reached a tentative agreement on a new wage for the employees set forth in Article 1 of the CBA.

NOW THEREFORE, in consideration of the mutual covenants set forth herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and in furtherance of resolution of this issue at hand, the Parties hereby agree as follows:

1. **Recitals.** The foregoing recitals are true and correct and are incorporated herein by this reference.

2. **Wage Reopener.** On June 15, 2023, the membership represented by the CBA ratified the single wage increase of 5% across the table for all classifications contained within the CBA, which will begin in the paycheck dated October 6, 2023, subject to Commission approval (anticipated during the commission meeting scheduled for June 28, 2023).

3. The parties agree there is one employee who is above the hourly wage rate. As a result, the parties agree that one specific employee will stay at his current hourly wage rate and receive a lump sum of equal to 5% in lieu of the 5% single wage increase.

4. The parties also agree Appendix A of the CBA will be amended to reflect the following:

APPENDIX A

Wage Rate Table effective October 1, 2023

Position	Hourly Wage Rate
Cruise Ops Associate A	\$17.33
Cruise Ops Associate B	\$19.95
Passenger Bridge Trainer	\$22.05
Code Enforcement Off.	\$18.90
Landscape Technician	\$18.90

Landscape Skilled Trades	\$23.10
Line Handling Associates	\$20.48
Fleet/PM Tire Technician	\$21.00
Fleet/Small Engine Tech	\$23.10
Fleet/Heavy Equip	\$30.45
Automation Controls A	No one in role
Automation Controls B	\$35.70
Facilities Technician	\$27.30
Facilities Skilled Trades	\$35.70
Supply Clerk	\$24.68
Crane Technician	\$33.60
Crane Operator	\$33.60

5. This Memorandum of Understanding is made and entered into on a non-precedent setting basis. In all other respects, the CBA remain in full force and effect.


Dated: Jun 16, 2023

TRANSPORT WORKERS UNION OF AMERICA, LOCAL 525, AFL-CIO

By: 
Kevin P. Smith (Jun 16, 2023 17:11 EDT)
 Kevin P. Smith, President

Dated: Jun 16, 2023

CANAVERAL PORT AUTHORITY

By: 
Amanda Brailsford-Urbina (Jun 16, 2023 17:54 EDT)
 Amanda Brailsford-Urbina, VP, Human Resources, Recreation and Customer Experience

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	2.B
Department:	Human Resources
Requested Action:	Consideration of approving revisions to the Pay Policy, POL-2014-008-HRO-3
<p>Summary Explanation & Background: Revisions were made to the Pay Policy and these changes are indicated on Page 10 of the Policy.</p> <p>Section II.A.10 was eliminated and any language regarding call out pay will appear in the Collective Bargaining Agreement.</p> <p>The Pay Policy, POL-2014,008-HRO-3 was reviewed by CPA's employment attorney, CPA General Counsel, and the Port Attorney. The TWU was also provided a copy of the revisions per Article 4, Section 2 of the Collective Bargaining Agreement.</p>	
Financial Impact:	Yes
Reviewed by General Counsel:	Yes
Reviewed by Port Attorney:	Yes
Financial Review:	Funding Review by Finance - Michael Poole

Attachments:

[POL-2014-008-HRO-3 Pay Rev 4_Clean 06.28.2023.1 4854-9898-8139 1.2_Final.pdf](#)

[POL-2014-008-HRO-3 Pay Rev 4_Redline 06.28.2023.1 4854-9898-8139 1.2_Final.pdf](#)

<p>POLICY Number: POL-2014-008-HRO-3</p>	 <p>CANAVERAL PORT AUTHORITY</p>	<p>Effective: October 1, 2014 Revised: June 30, 2023</p>
<p>Section: 3- How We Work</p>	<p>Pay</p>	<p>Revision 4 supersedes all previous documents (See Revision History)</p>

I. PURPOSE

To describe the Canaveral Port Authority’s (CPA) policies related to employee pay including the delivery of pay, determination of rates of pay, pay for time worked, and pay for time not worked.

II. POLICY

A. It is the policy of the CPA to compensate its employees at a level sufficient to attract, retain, and motivate employees toward excellence of performance and to maintain market competitiveness. This policy covers all employees, other than the CEO. However, for all represented employees, the Collective Bargaining Agreements (CBAs) shall supersede the policy if there are conflicts.

1. Pay Period: The CPA’s pay period consists of fourteen (14) calendar days. Each pay period starts at 12:00 a.m. on Friday and ends at 11:59 p.m. on Thursday.
2. Pay Delivery
 - a. Pay Period: The CPA delivers pay to employees bi-weekly twenty-six (26) times per year. Pay statements can be accessed through ADP on Friday of payroll week.
 - b. Direct Deposit: It is highly recommended that employees choose direct deposit as the delivery method for their paycheck.
 - c. Direct Deposit Process:
 1. Direct deposit is available.
 2. Employees interested in direct deposit must initiate, change, or cancel the direct deposit service through the ADP self-service portal.
3. Time Record
 - a. All non-exempt employees are required to complete an electronic time record in ADP on a daily basis.
 - b. Time records must be completed and verified by the employee and approved by appropriate management. It is very important that time records be complete and accurately reflect all time worked.
 - c. An employee will be notified of any changes or corrections to his/her time record in a timely manner.

- d. Requested time off must be submitted through ADP. Examples include vacation, sick, bereavement, etc.
4. Wage Garnishments
- The CPA complies with all applicable laws and court orders. Questions should be directed to HR immediately.
5. Pay Increases and Adjustments
- a. Human Resources and Finance have the responsibility to recommend to the CEO for final approval, an annual pay increase budget based upon internal and external market conditions and the overall economic performance of the CPA. The budget is to be approved by the CEO and the CPA's Board of Commissioners.
 - b. HR will provide guidance for any pay increases.
 - c. The pay for all employees will be evaluated periodically in consideration for pay adjustments as recommended by the VP, Human Resources, CFO, and approved by the CEO.
 - d. Recommendations for pay adjustments outside of the annual pay cycle to recognize promotions, performance, increased or diminished levels of responsibility, significant project assignments and accomplishments, or internal or external equity will be given consideration. If approved, such pay adjustments will start at the beginning of the pay period in which the pay adjustment occurs. These recommendations must be presented to HR for evaluation and must be approved by the VP, HR, CFO, and the CEO or their designee.
6. Annual Increases
- a. Increases will be determined based upon a review of various key factors.
 - b. Each year the Board of Commissioners approves the annual operating budget, which may or may not include an annual increase.
 - c. Annual pay increases may adjust base pay or be a lump sum payment.
 - d. Employees who are meeting performance standards and expectations may be eligible to receive an annual increase.
 - e. Employees who have less than one year of service with CPA may have their annual increase pro-rated or eliminated based upon their length of service, performance, or other factors.
7. Promotion Pay
- a. Employees who are promoted to a higher-level position may receive a pay increase as recommended by their supervisor and HR.
 - b. Promotional increases must be approved by the department and HR.
8. Lead Pay
- a. A "Lead" employee is defined as an employee who is selected to expedite the work of a small work unit while performing basically the same duties of the other workers in the unit, normally has the same job title as the workers being led.
 - b. Employees assigned to lead duties will assist supervisors in training employees, scheduling work, keeping records, etc. They do not have the authority to perform supervisory duties such as to hire, authorize overtime, administer disciplinary actions, or terminate employment.

- c. Employees assigned to a lead role will receive an eight percent (8%) premium on base rate of pay for all hours worked in a lead role.
- d. Lead assignments may be made on long or short-term basis based upon business requirements.
 - 1. Temporary/Short Term Lead pay may be assigned by individual shift on a daily basis at the direction of the supervisor. To receive lead pay, supervisors will record the appropriate Lead pay code on the employee's time record in ADP.
 - 2. Permanent Lead Pay is for long-term lead assignments typically lasting one or more consecutive months. Permanent Lead Pay may be assigned for employees who are assigned a more permanent lead role as described above. An Employee Action Notification (EAN) must be completed and signed to activate and de-activate Permanent Lead Pay.

9. Temporary Acting Pay

- a. Temporary Acting pay may be awarded to employees on a temporary basis for assuming significant responsibilities for a higher-level job. This does not apply to Lead assignments as described above.
- b. Exempt and non-exempt employees are eligible to receive Temporary Acting Pay.
- c. Temporary Acting Pay must have a specified begin and end date and ceases at the end of the temporary assignment.
- d. Temporary Acting Pay may be awarded for assignments longer than one week beginning with the date a staff member is placed on acting status.
- e. Temporary Acting Pay will not exceed twelve (12) months.
- f. Temporary Acting Pay for represented employees will be governed by the CBAs.
- g. Temporary Acting pay for non-represented employees will be determined based upon the following factors:
 - 1. Nature, scope, significance, and impact of responsibilities to be performed
 - 2. Length of temporary acting assignment
 - 3. Job classification (role, level, and salary range) of the higher-level job
 - 4. Impact on the staff member's primary responsibilities in the current job
 - 5. Impact on the number of hours required to complete all work
 - 6. The department head and HR will work together to determine the appropriate acting pay.
- h. Temporary Acting Pay will be paid as follows:
 - 1. Employee's base pay will be adjusted to the new higher rate for the duration of the assignment.
 - 2. Upon completion of the acting assignment, the employee's base pay rate will be readjusted to the rate of pay in effect prior to the Temporary Acting Pay, plus any pay increase that may have been effective during the acting period.
 - 3. Temporary Acting Pay will be paid on all hours worked and all paid time off.
- i. Process: An Employee Action Notification (EAN) must be completed and signed to activate and de-activate Temporary Acting Pay.

10. Shift Differential

- a. Non-exempt employees who work within second or third shift will receive shift differential for all hours worked during a work week at their base rate of pay.
- b. Shift differential will be paid on non-work hours including sick leave, vacation, holiday, birthday, bereavement, jury duty, military leave, and administrative leave.
- c. Shift Differential rates are defined as follows:

Shift	Shift Hours	% of hourly rate for time worked
1	7:00 a.m. - 3:00 p.m.	0%
2	3:00 p.m. - 11:00 p.m.	3%
3	11:00 p.m. - 7:00 a.m.	5%
Administrative Staff	8:00 a.m. - 5:00 p.m.	0%

- d. Employees will be paid the shift differential for all hours corresponding to the shift definitions described above. If the employee’s work shift crosses over time zones between shifts, the employee will receive shift pay for the hours corresponding to the shift definitions described above. Employees who work in administrative functions are not eligible for shift premium.

Examples:

For a shift beginning at 9:00 a.m. and ending at 6:00 p.m.

Work Hours	Shift	Hours Paid	Shift Premium
9:00 a.m. - 3:00 p.m.	1st shift	5 hours (1-hour lunch)	0%
3:00 p.m. - 6:00 p.m.	2nd shift	3 hours	3%
Total Hours		8	

For a shift beginning at 11:00 a.m. and ending at 9:00 p.m.

Work Hours	Shift	Hours Paid	Shift Premium
11:00 a.m. - 3:00 p.m.	1st shift	3 hours (1-hour lunch)	0%
3:00 p.m. - 9:00 p.m.	2nd shift	6 hours	3%
Total Hours		9	

11. Overtime

- a. Non-exempt Employees
 - 1. Employees will be paid one and one-half times their regular rate of pay for all hours worked in excess of forty (40) in a workweek.
 - 2. All overtime work shall be pre-approved by management. All overtime must be properly coded on the employee’s time record.
 - 3. Supervisors are responsible for approving and managing employee overtime to ensure that overtime worked by their employees does not irresponsibly add to fatigue and the health and safety of the employee.

4. When an employee works an official paid holiday, the employee shall be paid time and a half the employee's base hourly rate for all hours worked on the official paid holiday.
- b. Exempt Employees
1. Exempt employees are not eligible for overtime pay.
 2. Exempt employees shall be paid an established annualized salary and are expected to fulfill the duties of their position regardless of hours worked. For timekeeping purposes, exempt employees who take a full day off will utilize their vacation and/or sick time by submitting a time off request through ADP.
 3. While there may be deviations in schedules and work hours of exempt employees, there is to be no compensatory "comp" time accrual or usage.

12. Discretionary Bonus

- a. On any given year, the Board may approve a budget that allows for a Discretionary Bonus. For that year, the CEO may implement a CPA Discretionary Bonus Plan (the Plan).

The Plan provides all CPA employees with a discretionary bonus opportunity. The Plan may be effective as of the date determined by the CEO and will continue until the end of the period designated by the CEO (the "Bonus Period"). The Plan will not be effective after the conclusion of the Bonus Period and payment of any bonuses awarded for the Bonus Period. Awarded bonuses will be paid in the payroll period in which CPA makes the final decision to award the particular bonus.

In making its bonus decisions, CPA will take into account (among other factors):

1. success of strategic business objectives of CPA;
2. return on investment; and
3. individual employee performance during the Bonus Period, including individual performance rating of meets expectations and other assessments, as well as disciplinary history.

Employees should expect that:

1. CPA's failure to generate positive cash flow will result in no bonus payment.
2. The CEO has a right to determine a Bonus Period and/or to determine not to offer a Bonus Period.

The following are among the conditions of an employee earning a bonus:

1. That CPA exercises its discretion to award the employee a bonus; that the employee is employed by CPA in good standing (not subject to written corrective action and no notice of termination having been given by either party) and through the last day of the Bonus Period.
2. The Plan supersedes and replaces all prior agreements or communications on the topic of bonuses or incentive compensation, excluding commissions.
3. This Plan is a guideline for management, not a binding promise that any

amount, or any particular amount, will be earned or paid. No amount is earned in advance of its approval and payment by CPA. Except for the terms of the prior two sentences, which may not be modified, this Plan and/or its application to any person may be modified or terminated by CPA in writing at any time, including retroactively. In all instances in which this Plan grants to CPA or its representative the right to take any action and/or make any decision or determination, CPA or its representative shall have the right to take the action and/or make the decision or determination in its, their, his or her discretion in a completely unfettered manner and without regard to the other terms of the plan, and the exercise of discretion shall not be subject to review by any court or arbitrator.

4. Any bonuses will be calculated as a percentage of the employee's total compensation for the Bonus Period (including overtime compensation, for non-exempt employees). Whether to pay bonuses, and in what amounts will at all times be decisions CPA will make in its sole and absolute discretion.
5. This Plan is not a guarantee of continued employment and does not affect the terminable-at-will status of any employee's employment with CPA.

III. APPLICABILITY: This policy applies to all CPA employees, except as may be otherwise specifically established by a written agreement signed by the CEO.

IV. EXCEPTIONS: Exceptions to this policy require the prior approval of the VP, HR and CEO or his/her designee.

V. RESPONSIBILITY: HR has the responsibility for maintaining and updating this policy.

*Approval Page

Name	Title	Signature	Date
Amanda Brailsford-Urbina	^{AB} Vice President, Human Resources, Recreation and Customer Experience (Document Creator, Functional area Director and HR Representative)		
George P. Kistner III, FCRM, CPE	Records & Information Manager (Document Control & Compliance Representative)		
Craig Langley	Vice President & General Counsel (Legal Representative)		
Harold Bistline	Port Attorney CPA Board of Commissioners		
Captain John W. Murray	Canaveral Port Authority Port Director/CEO		
Kevin P. Markey	Canaveral Port Authority Commission Chairman		

*If Document Creator and/or Director are also a part of the normal review process, a second signature is not required

^B In cases where policy will have employee implications, the Human Resources must sign-off on policy.

Revision History Page

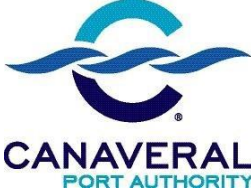
Revision	Effective Date	Changes Made (initial release, *minor amendment, revision, policy review w/change,	Briefly explain the purpose/reason for revision
0	October 1, 2014	Initial Release	Document Creation
1	April 15, 2015	Revision Change	Change with regards to shift differential and call back pay per ratified Collective bargaining Agreement between CPA and TWU of America, local 525
No Change	April 22, 2015	Minor Amendment	Minor amendments to title references, Section II.A.1, II.A.13.d., II.A.13.b.
2	June 28, 2017	Revision Change	Revisions to Sections 5 and 12.
No Change	June 28, 2017	Minor Amendments	Minor amendments due to new ADP timekeeping/payroll software and reflect process changes required with new software.
3	September 26, 2018	Revision	1) Change to section II.A.5., II.A.6.g., II.A.8., II.A.9.f., II.A.12., II.A.14.a.2., II.A.14.b.3. and II.A.15.a.2. & b.2& 3. 2) Minor amendments to language/format
3A	November 2, 2021	Review and Amendment	Section II.A.2.a. & d. language change and removed due to current payroll practice; II.A.5.d. removed due to current practice; II.A.13.a.4. added language on time and a half being paid for hours worked on the official holiday; Sections II.A.5. c. & d. and 7.b. addition of CFO approval; minor changes to language and format throughout
4	June 30, 2023	Review and Revision	Section II.A.2.a.c. updated direct deposit language; Section II.A.5.b.&c. language change; Section II.A.6.a.b.d. language eliminated; Section II.A.5.f. language change that a raise may be partial or eliminated based on performance; Section II.A.8.b. language added clarifying Lead parameters; Section II.A.10 & 12 eliminated as covered by CBA; new Section II.A.12. additional language regarding Discretionary Bonus Plan.

*If change is minor amendment, then only the Records Manager is required to review and sign.

Minor Amendment: **Any change to an existing document that is limited to a clerical or grammatical change or correction that does not change the intent, scope, application or meaning of the document.**

**If no change to policy, Records Manager is required to verify and sign.

Records Manager	Date
Signature On File for M.A. Dated 11/02/2021	November 2, 2021

<p>POLICY Number: POL-2014-008-HRO-3</p>	 <p>CANAVERAL PORT AUTHORITY</p>	<p>Effective: October 1, 2014 Amended: November 2, 2021 Revised: June 30, 2023</p>
<p>Section: 3- How We Work</p>	<p>Pay</p>	<p>Revision 43A supersedes all previous documents</p>

I. PURPOSE

To describe the Canaveral Port Authority’s (CPA) policies related to employee pay including the delivery of pay, determination of rates of pay, pay for time worked, and pay for time not worked.

II. POLICY

A. It is the policy of the CPA to compensate its employees at a level sufficient to attract, retain, and motivate employees toward excellence of performance and to maintain market competitiveness. This policy covers all employees, other than the CEO. However, for all represented employees, the Collective Bargaining Agreements (CBAs) shall supersede the policy if there ~~is~~ are conflicts.

1. Pay Period: The CPA’s pay period consists of fourteen (14) calendar days. Each pay period starts at 12:00 a.m. on Friday and ends at 11:59 p.m. on Thursday.

2. Pay Delivery

a. Pay Period: The CPA delivers pay to employees bi-weekly twenty-six (26) times per year. Pay statements can be accessed through ADP on Friday of payroll week. ~~If employees are not enrolled in direct deposit, ADP will mail a paycheck to your primary address on file.~~

b. Direct Deposit: It is highly recommended that employees choose direct deposit as the delivery method for their paycheck.

c. Direct Deposit Process:

1. ~~Direct deposit is~~ available ~~for any bank for up to a maximum of five (5) accounts.~~
2. Employees interested in direct deposit must initiate, change, or cancel the direct deposit service through the ADP self-service portal.

3. Time Record

a. All non-exempt employees are required to complete an electronic time record in ADP on a daily basis.

b. Time records must be completed and verified by the employee and approved by appropriate management. It is very important that time records be complete and accurately reflect all time worked.

c. An employee will be notified of any changes or corrections to his/her time record in a timely manner.

- d. Requested time off must be submitted through ADP. Examples include vacation, sick, bereavement, etc.
4. Wage Garnishments
- The CPA complies with all applicable laws and court orders. Questions should be directed to HR immediately.
5. Pay Increases and Adjustments
- a. Human Resources and Finance have the responsibility to recommend to the CEO for final approval, an annual pay increase budget based upon internal and external market conditions and the overall economic performance of the CPA. The budget is to be approved by the CEO and the CPA's Board of Commissioners.
 - b. HR will provide guidance for any ~~annual~~ pay increases ~~to include merit increases, cost of living increases, adjustments due to internal and/or equity and promotional increases.~~
 - c. The pay for all employees will be evaluated periodically ~~annually~~ in consideration for pay adjustments as recommended by the VP, Human Resources, CFO, and approved by the CEO.
 - d. Recommendations for pay adjustments outside of the annual pay cycle to recognize promotions, performance, increased or diminished levels of responsibility, significant project assignments and accomplishments, or internal or external equity will be given consideration. If approved, such pay adjustments will start at the beginning of the pay period in which the pay adjustment occurs. These recommendations must be presented to HR for evaluation and must be approved by the VP, HR, CFO, and the CEO or their designee.
6. Annual Increases
- a. Increases will be determined based upon a review of various key factors ~~to include overall economic performance of the CPA, individual achievement of annual performance objectives, cost of living adjustment, internal equity, external equity, and the approved merit increase budget.~~
 - b. Each year the Board of Commissioners approves the annual operating budget, which may or may not include an annual increase. ~~HR will recommend an equitable distribution to the senior leadership team who will make the final distribution decision.~~
 - ~~e.~~ Annual pay increases may adjust base pay or be a lump sum payment.
 - ~~d.c.~~ ~~Department heads and their leadership teams are responsible for fairly assessing and distributing the allocated merit pay pool.~~
 - ~~e.d.~~ Employees who are meeting performance standards and expectations may be eligible to receive an annual increase.
 - ~~f.e.~~ Employees who have less than one year of service with CPA may have their annual increase pro-rated or eliminated based upon their length of service, performance, or other factors.

7. Promotion Pay
 - a. Employees who are promoted to a higher-level position may receive a pay increase as recommended by their supervisor and HR.
 - b. Promotional increases must be approved by the ~~Department Head and, HR, the VP, HR, CFO, and the CEO/CFO or their designee.~~ Department Head and, HR, the VP, HR, CFO, and the CEO/CFO or their designee.

8. Lead Pay
 - a. A "Lead" employee is defined as an employee who is selected to expedite the work of a small work unit while performing basically the same duties of the other workers in the unit, normally has the same job title as the workers being led.
 - b. Employees assigned to lead duties will assist supervisors in training employees, scheduling work, keeping records, etc. They do not have the authority to perform supervisory duties such as to hire, authorize overtime, administer disciplinary actions, or terminate employment.
 - c. Employees assigned to a lead role will receive an eight percent (8%) premium on base rate of pay for all hours worked in a lead role.
 - d. Lead assignments may be made on long or short-term basis based upon business requirements.
 1. Temporary/Short Term Lead pay may be assigned by individual shift on a daily basis at the direction of the supervisor. To receive lead pay, supervisors will record the appropriate Lead pay code on the employee's time record in ADP.
 2. Permanent Lead Pay is for long-term lead assignments typically lasting one or more consecutive months. Permanent Lead Pay may be assigned for employees who are assigned a more permanent lead role as described above. An Employee Action Notification (EAN) must be completed and signed to activate and de-activate Permanent Lead Pay.

9. Temporary Acting Pay
 - a. Temporary Acting pay may be awarded to employees on a temporary basis for assuming significant responsibilities for a higher-level job. This does not apply to Lead assignments as described above.
 - b. Exempt and non-exempt employees are eligible to receive Temporary Acting Pay.
 - c. Temporary Acting Pay must have a specified begin and end date and ceases at the end of the temporary assignment.
 - d. Temporary Acting Pay may be awarded for assignments longer than one week beginning with the date a staff member is placed on acting status.
 - e. Temporary Acting Pay will not exceed twelve (12) months.
 - ~~f. Temporary Acting Pay for represented employees will be governed by the CBAs. A raise to the minimum rate for the new grade, whichever is greater.~~
 - f.
 - g. Temporary Acting pay for non-represented employees will be determined based upon the following factors:
 1. ~~nature~~Nature, scope, significance, and impact of responsibilities to be performed
 2. Length of temporary acting assignment

3. Job classification (role, level, and salary range) of the higher-level job
4. Impact on the staff member's primary responsibilities in the current job
5. Impact on the number of hours required to complete all work

6. The department head and HR will work together to determine the appropriate acting pay.

g.h. Temporary Acting Pay will be paid as follows:

1. Employee's base pay will be adjusted to the new higher rate for the duration of the assignment.
2. Upon completion of the acting assignment, the employee's base pay rate will be readjusted to the rate of pay in effect prior to the Temporary Acting Pay, plus any pay increase that may have been effective during the acting period.
3. Temporary Acting Pay will be paid on all hours worked and all paid time off.

h.i. Process: An Employee Action Notification (EAN) must be completed and signed to activate and de-activate Temporary Acting Pay.

Line Handling and Gangway Call Out Pay

~~Employees called in prior to or after their scheduled working time will be paid for either two (2) or three (3) hours (depending on time of day) at the overtime rate for the guaranteed block.~~

10. Shift Differential

- a. Non-exempt employees who work within second or third shift will receive shift differential for all hours worked during a work week at their base rate of pay.
- b. Shift differential will be paid on non-work hours including sick leave, vacation, holiday, birthday, bereavement, jury duty, military leave, and administrative leave.
- c. Shift Differential rates are defined as follows:

Shift	Shift Hours	% of hourly rate for time worked
1	7:00 a.m. - 3:00 p.m.	0%
2	3:00 p.m. - 11:00 p.m.	3%
3	11:00 p.m. - 7:00 a.m.	5%
Administrative Staff	8:00 a.m. - 5:00 p.m.	0%

- d. Employees will be paid the shift differential for all hours corresponding to the shift definitions described above. If the employee's work shift crosses over time zones between shifts, the employee will receive shift pay for the hours corresponding to the shift definitions described above. Employees who work in Administrative administrative functions are not eligible for shift premium.

Examples:

For a shift beginning at 9:00 a.m. and ending at 6:00 p.m.

Work Hours	Shift	Hours Paid	Shift Premium
9:00 a.m. - 3:00 p.m.	1st shift	5 hours (1-hour lunch)	0%
3:00 p.m. - 6:00 p.m.	2nd shift	3 hours	3%

Total Hours	8
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For a shift beginning at 11:00 a.m. and ending at 9:00 p.m.

Work Hours	Shift	Hours Paid	Shift Premium
11:00 a.m. - 3:00 p.m.	1st shift	3 hours (1-hour lunch)	0%
3:00 p.m. - 9:00 p.m.	2nd shift	6 hours	3%
Total Hours		9	

11. Call Back Pay

~~Represented employees should refer to the current CBA.~~

12.11. Overtime

a. Non-exempt Employees

1. Employees will be paid one and one-half times their regular rate of pay for all hours worked in excess of forty (40) in a workweek.
2. All overtime work shall be pre-approved by management. All overtime must be properly coded on the employee's time record.
3. Supervisors are responsible for approving and managing employee overtime to ensure that overtime worked by their employees does not irresponsibly add to fatigue and the health and safety of the employee.
4. When an employee works an official paid holiday, the employee shall be paid time and a half the employee's base hourly rate for all hours worked on the official paid holiday.

b. Exempt Employees

1. Exempt employees are not eligible for overtime pay.
2. Exempt employees shall be paid an established annualized salary and are expected to fulfill the duties of their position regardless of hours worked. For timekeeping purposes, exempt employees who take a full day off will utilize their vacation and/or sick time by submitting a time off request through ADP.
3. While there may be deviations in schedules and work hours of exempt employees, there is to be no compensatory "comp" time accrual or usage.

12. Discretionary Bonus

- a. On any given year, the Board may approve a budget that allows for a Discretionary Bonus. For that year, the CEO may implement a CPA Discretionary Bonus Plan (the Plan).

The Plan provides all CPA employees with a discretionary bonus opportunity. The Plan may be effective as of the date determined by the CEO and will continue until the end of the period designated by the CEO (the "Bonus Period"). The Plan will not be effective after the conclusion of the Bonus Period and payment of any bonuses awarded for the Bonus Period. Awarded bonuses will be paid in the payroll period in which CPA makes the final decision to award the particular bonus.

In making its bonus decisions, CPA will take into account (among other factors):

1. success of strategic business objectives of CPA;
2. return on investment; and
3. individual employee performance during the Bonus Period, including individual performance rating of meets expectations and other assessments, as well as disciplinary history.

Employees should expect that:

1. CPA's failure to generate positive cash flow will result in no bonus payment.
2. The CEO has a right to determine a Bonus Period and/or to determine not to offer a Bonus Period.

The following are among the conditions of an employee earning a bonus:

1. That CPA exercises its discretion to award the employee a bonus; that the employee is employed by CPA in good standing (not subject to written corrective action and no notice of termination having been given by either party) and through the last day of the Bonus Period.
2. The Plan supersedes and replaces all prior agreements or communications on the topic of bonuses or incentive compensation, excluding commissions.
3. This Plan is a guideline for management, not a binding promise that any amount, or any particular amount, will be earned or paid. No amount is earned in advance of its approval and payment by CPA. Except for the terms of the prior two sentences, which may not be modified, this Plan and/or its application to any person may be modified or terminated by CPA in writing at any time, including retroactively. In all instances in which this Plan grants to CPA or its representative the right to take any action and/or make any decision or determination, CPA or its representative shall have the right to take the action and/or make the decision or determination in its, their, his or her discretion in a completely unfettered manner and without regard to the other terms of the plan, and the exercise of discretion shall not be subject to review by any court or arbitrator.
4. Any bonuses will be calculated as a percentage of the employee's total compensation for the Bonus Period (including overtime compensation, for non-exempt employees). Whether to pay bonuses, and in what amounts will at all times be decisions CPA will make in its sole and absolute discretion.
5. This Plan is not a guarantee of continued employment and does not affect the terminable-at-will status of any employee's employment with CPA.

III. APPLICABILITY: This policy applies to all CPA employees, except as may be otherwise specifically established by a written agreement signed by the CEO.

IV. EXCEPTIONS: Exceptions to this policy require the prior approval of the VP, HR and CEO or his/her designee.

V. RESPONSIBILITY: HR has the responsibility for maintaining and updating this policy.

*Approval Page

Name	Title	Signature	Date
Amanda Brailsford-Urbina	^{AB} Vice President, Human Resources, Recreation and Customer Experience (Document Creator, Functional area Director and HR Representative)		
George P. Kistner III, FCRM, CPE	Records & Information Manager (Document Control & Compliance Representative)		
Craig Langley	Vice President & General Counsel (Legal Representative)		
<u>Harold Bistline</u>	<u>Port Attorney</u> <u>CPA Board of Commissioners</u>		
Captain John W. Murray	Canaveral Port Authority Port Director/CEO		
Kevin P. Markey	Canaveral Port Authority Commission Chairman		

*If Document Creator and/or ~~Functional Area~~ Director are also a part of the normal review process, a second signature is not required

^B In cases where policy will have employee implications, the Human Resources ~~functional area head~~ must sign-off on policy.

Revision History Page

Revision	Effective Date	Changes Made (initial release, *minor amendment, revision, policy review w/change,	Briefly explain the purpose/reason for revision
0	October 1, 2014	Initial Release	Document Creation
1	April 15, 2015	Revision Change	Change with regards to shift differential and call back pay per ratified Collective bargaining Agreement between CPA and TWU of America, local 525
No Change	April 22, 2015	Minor Amendment	Minor amendments to title references, Section II.A.1, II.A.13.d., II.A.13.b.
2	June 28, 2017	Revision Change	Revisions to Sections 5 and 12.
No Change	June 28, 2017	Minor Amendments	Minor amendments due to new ADP timekeeping/payroll software and reflect process changes required with new software.
3	September 26, 2018	Revision	1) Change to section II.A.5., II.A.6.g., II.A.8., II.A.9.f., II.A.12., II.A.14.a.2., II.A.14.b.3. and II.A.15.a.2. & b.2& 3. 2) Minor amendments to language/format
3A	November 2, 2021	Review and Amendment	Section II.A.2.a. & d. language change and removed due to current payroll practice; II.A.5.d. removed due to current practice; II.A.13.a.4. added language on time and a half being paid for hours worked on the official holiday; Sections II.A.5. c. & d. and 7.b. addition of CFO approval; minor changes to language and format throughout
4	June 30, 2023	Review and Revision	Section II.A.2.a.c. updated direct deposit language; Section II.A.5.b.&c. language change; Section II.A.6.a.b.d. language eliminated; Section II.A.5.f. language change that a raise may be partial or eliminated based on performance; Section II.A.8.b. language added clarifying Lead parameters; Section II.A.10 & 12 eliminated as covered by CBA; new Section II.A.12. additional language regarding Discretionary Bonus Plan.

*If change is minor amendment, then only the Records Manager is required to review and sign.

Minor Amendment: **Any change to an existing document that is limited to a clerical or grammatical change or correction that does not change the intent, scope, application or meaning of the document.**

**If no change to policy, Records Manager is required to verify and sign.

Records Manager	Date
Signature On File for M.A. Dated 11/02/2021	November 2, 2021

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	3.A
Department:	Public Safety
Requested Action:	Consideration of approving \$1,884,387 for the purchase of a Pierce Velocity 100' Ascendant Aerial Tower Model ID 1.07 fire truck to replace the existing 2012 vehicle.
Summary Explanation & Background:	<p>This vehicle is being replaced to meet the latest requirement of the National Fire Protection Association (NFPA) standards. Additionally, the new truck increases reach capacity by 25', flow capacity by 500 GPM, an additional monitor, and the addition of a 14.3-foot basket to replace the current single ladder. This truck is being jointly purchased using an existing National Purchasing Partners Government contract (NPPGov) by the Canaveral Port Authority and the City of Cape Canaveral. Total purchase price of the truck is \$1,884,387.00 and will be funded with \$1,020,000.00 in State funds, \$432,193.50 from Canaveral Port Authority and \$432,193.50 from the City of Cape Canaveral.</p>
Financial Impact:	Yes
Reviewed by General Counsel:	No
Reviewed by Port Attorney:	No
Financial Review:	<p>This item was included in the FY24 Capital Budget. Due to the timing of grant funding availability, it is moved forward to FY23. There will be no change in the overall budget.</p> <p>Project 1610 - New/Replacement Vehicles</p>

Attachments:

[PS_Firetruck MASTER June 2023 decimals.pdf](#)

[PS_Firetruck ProposalOptionListAll_20230619082819511 6.19.23.pdf](#)

[PS_Firetruck ProposalMediaOptions_6_19_2023 8_29_57 AM.pdf](#)

[PS_Firetruck Cape Canaveral Velocity 100' Ascendant Aerial Tower 2023.pdf](#)



Equipment Proposal

Proposal # 762

This Equipment Proposal (the "Proposal") has been prepared by Ten-8 Fire & Safety, LLC ("Company") in response to the undersigned Customer's request for a proposal. This Proposal is comprised of the special terms set forth below, the Proposal Option List, Warranty, and Company's Purchasing Terms and Conditions. Through its signature below or other Acceptance (as defined below), Customer acknowledges having received, read and being bound by this Proposal, all attachments and Company's Purchasing Terms and Conditions.

Date: June 15, 2023 ("Proposal Date") **Customer:** Cape Canaveral Fire Rescue ("Customer")

Customer Address: 8970 Columbia Road, Cape Canaveral, Florida, 32920

Qty	Product Description & Options	Price
1	<p>One Pierce Velocity 100' Ascendant Aerial Tower per Cape Canaveral Model ID 1.07 Ten-8 / Pierce Bid Number 762 NPPGov Member Numbers Canaveral Fire Rescue M-5691515 Canaveral Port Authority M-5712300 Pre-payment discount of (\$90,391.00) is available if the payment is received within 15 days of invoice.</p> <p>* Pricing is based on orders booked before the August increase. * Pricing contingent on the availability of 2024 Paccar Motor.</p>	<p>\$1,974,778.00</p> <p>(\$90,391.00)</p>
<p>**Commercial chassis price is an estimate; final price is net price charged by the chassis manufacturer.</p>		<p>Total: \$1,884,387.00</p>

Delivery Timing: The Product described above in the Product Description and Options Section of this document will be built by and shipped from the manufacturer approximately **28-30** (months) after Company receives Customer's acceptance of this Proposal as defined below, subject to market and production conditions, Force Majeure, delays from the chassis manufacturer, changes to Order Specifications, or any other circumstances or cause beyond Company's or manufacturer's control.

Other: The price quoted includes preconstruction and final inspection trips to the factory for Cape Canaveral Fire Department personnel.

Unless accepted within **45** days from date of proposal, the right is reserved to withdraw this proposal.

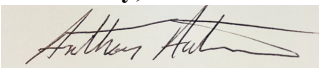
ACCEPTANCE OF THIS PROPOSAL CREATES AN ENFORCEABLE BINDING AGREEMENT BETWEEN COMPANY AND CUSTOMER. "ACCEPTANCE" MEANS THAT CUSTOMER DELIVERS TO COMPANY: (A) A PROPOSAL SIGNED BY AN AUTHORIZED REPRESENTATIVE, OR (B) A PURCHASE ORDER INCORPORATING THIS PROPOSAL, WHICH IS DULY APPROVED, TO THE EXTENT APPLICABLE, BY CUSTOMER'S GOVERNING BOARD. ACCEPTANCE OF THIS PROPOSAL IS EXPRESSLY LIMITED TO THE TERMS CONTAINED IN THIS PROPOSAL AND COMPANY'S PURCHASING TERMS AND CONDITIONS. ANY ADDITIONAL OR DIFFERENT TERMS, WHETHER CONTAINED IN CUSTOMER'S FORMS OR OTHERWISE PRESENTED BY CUSTOMER AT ANY TIME, ARE HEREBY REJECTED.

INTENDING TO CREATE A BINDING AGREEMENT, Customer and Company have each caused this Proposal to be executed by their duly authorized representatives as of date of the last signature below.

Customer: Cape Canaveral Fire Department

Ten-8 Fire & Safety, LLC

By: _____

By: 

Title: _____

Title: **Authorized Sales Representative**

Print: _____

Print: **Anthony Autorino**

Date: _____

Date: **June 15, 2023**

EXHIBIT A

PROPOSAL OPTION LIST

EXHIBIT B
WARRANTY

EXHIBIT C

PURCHASING TERMS AND CONDITIONS

PURCHASING TERMS AND CONDITIONS

These Purchasing Terms and Conditions, together with the Equipment Proposal and all attachments (collectively, the “Agreement”) are entered into by and between Ten-8 Fire & Safety, LLC, a Florida company (“Company”) and Customer (as defined in Ten-8 Fire & Safety LLC’s Equipment Proposal document) and is effective as of the date specified in Section 3 of these Purchasing Terms and Conditions. Both Company and Customer may be referred throughout this document individually as a “party” or collectively as the “parties.”

1. Definitions.

- a. **“Acceptance”** has the same meaning set forth in Company’s Equipment Proposal.
- b. **“Company’s Equipment Proposal”** means the Equipment Proposal provided by Company and prepared in response to Customer’s request for proposal for a fire apparatus, associated equipment or an ambulance.
- c. **“Cooperative Purchasing Contract”** means an Agreement between Company and a public authority, including without limitation, a department, division, agency of a municipal, county or state government (“Public Authority”), that adopts or participates in an existing agreement between Company and another non-party customer (including, but not limited to such non-party customer’s equipment proposal, its applicable exhibits, attachments and purchasing terms and conditions), often referred to as a “piggyback arrangement,” which is expressly agreed to, in writing, by Company. Company has sole discretion to determine whether it will agree to such a Cooperative Purchasing Contract.
- d. **“Delivery”** means when Company delivers physical possession of the Product to Customer.
- e. **“Manufacturer”** means the Manufacturer of any Product.
- f. **“Prepayment Discount”** means the prepayment discounts, if any, specified in Company’s Equipment Proposal.
- g. **“Product”** means the fire apparatus and any associated equipment, or ambulance manufactured or furnished for Customer by Company pursuant to the Specifications.
- h. **“Purchase Price”** means the Total price set forth in the Quotation, adjusted for the final net price for the chassis charged by the original equipment manufacturer set forth in the final invoice submitted to the Company by the manufacturer.
- i. **“Purchasing Terms and Conditions”** means these Purchasing Terms and Conditions; however, if the Company’s Equipment Proposal or the Customer’s related Purchase Order states that it is governed by a Cooperative Purchasing Agreement, “Purchasing Terms and Conditions” shall mean those terms and conditions set forth in the applicable Cooperative Purchasing Agreement.
- j. **“Specifications”** means the general specifications, technical specifications, training, and testing requirements for the Product contained in Company’s Equipment Proposal and its Exhibit A (Proposal Option List or for ambulance sales, the Quotation, or Order Form, as applicable), prepared in response to Customer’s request for such a proposal.

2. Purpose. This Agreement sets forth the terms and conditions of Company’s sale of the Product to Customer.

3. Term of Agreement. This Agreement will become effective on the date of Acceptance as defined in Company’s Equipment Proposal (“Effective Date”) and, unless earlier terminated pursuant to the terms of this Agreement, it will terminate upon Delivery and payment in full of the Purchase Price.

4. Purchase and Payment. Customer agrees to pay Company the Purchase Price for the Product(s). The Purchase Price is in U.S. dollars. Where Customer opts for a Prepayment Discount that specifies that Customer will tender one or more prepayments to Company, Customer must provide each prepayment within the time frame specified in the Equipment Proposal in order to receive the Prepayment Discount for that prepayment installment. To the extent permitted by applicable law, Company may in its sole discretion charge a convenience fee if Customer elects to pay the Purchase Price by means of a credit card.

5. Representations and Warranties. Customer hereby represents and warrants to Company that the purchase of the Product(s) has been approved by Customer in accordance with applicable general laws and, as applicable, Customer’s charter, ordinances and other governing documents, and funding for the purchase has been duly budgeted and appropriated.

6. Cancellation/Termination.

- a. Fire Equipment and Apparatus Sales. In the event this Agreement is cancelled or terminated by Customer before completion, Company may charge Customer a cancellation fee. The following charge schedule is based on costs incurred by Manufacturer and Company for the Product, which may be applied and charged to Customer: (a) 12% of the Purchase Price after the order for the Product(s) is accepted and entered into Manufacturer's system by Company; (b) 22% of the Purchase Price after completion of approval drawings by Customer, and; (c) 32% of the Purchase Price upon any material requisition made by the Manufacturer for the Product. The cancellation fee will increase in excess of (c) in this Section 6, accordingly, as additional costs are incurred by Manufacturer and Company as the order progresses through engineering and into the manufacturing process.
- b. Ambulance Sales. This Section 6 for Cancellation/Termination does not apply to Ambulance Sales. An order for an ambulance cannot be cancelled or terminated once Company receives and processes Customer's Acceptance of Company's Equipment Proposal.

7. Delivery. The Product is scheduled to be delivered as specified in the Delivery Timing section of the Equipment Proposal ("Delivery Timing"), which will be F.O.B. Company's facility. The Delivery Timing is an estimate, and Company is not bound to such date unless it otherwise agrees in writing. Company is not responsible for Delivery delays caused by or as the result of actions, omissions or conduct of the Manufacturer, its employees, affiliates, suppliers, contractors, and carriers. All right, title and interest in and to the Product, and risk of loss, shall pass to Customer upon Delivery of the Product(s) to Customer.

8. Standard Warranty. The manufacturer warranties applicable to this Agreement, if any, are attached to Company's Equipment Proposal as Exhibit A and are incorporated herein as part of the Agreement.

a. Disclaimer. EXCEPT AS OTHERWISE SET FORTH IN THIS AGREEMENT, COMPANY, INCLUDING ITS PARENT COMPANY, AFFILIATES, SUBSIDIARIES, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS OR REPRESENTATIVES DO NOT MAKE ANY REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCTS PROVIDED UNDER THIS AGREEMENT, WHETHER ORAL OR WRITTEN, EXPRESS, IMPLIED OR STATUTORY. WITHOUT LIMITING THE FOREGOING DISCLAIMER, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, IMPLIED WARRANTY AGAINST INFRINGEMENT, AND IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED AND DISCLAIMED. STATEMENTS MADE BY SALES REPRESENTATIVES OR IN PROMOTIONAL MATERIALS DO NOT CONSTITUTE WARRANTIES.

9. Limitation of Liability. COMPANY WILL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, ECONOMIC, PUNITIVE, SPECIAL OR EXEMPLARY DAMAGES ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT WITHOUT REGARD TO THE NATURE OF THE CLAIM OR THE UNDERLYING THEORY OR CAUSE OF ACTION (WHETHER IN CONTRACT, TORT, STRICT LIABILITY, EQUITY OR ANY OTHER THEORY OF LAW) ON WHICH SUCH DAMAGES ARE BASED. COMPANY'S LIMIT OF LIABILITY UNDER THIS AGREEMENT SHALL BE CAPPED AT THE TOTAL AMOUNT OF THE MONIES PAID BY CUSTOMER TO COMPANY UNDER THIS AGREEMENT.

10. Force Majeure. Company shall not be responsible nor deemed to be in default on account of delays in performance due to causes which are beyond Company's control or which make Company's performance impracticable, including but not limited to wars, insurrections, strikes, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, transportation or delivery delays or losses outside of Company's control, any act of government, inability or delay of Company or manufacture in obtaining necessary labor or adequate or suitable manufacturing components at reasonable prices, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy, terrorism, epidemics, quarantine restrictions, failure of vendors to perform their contracts or labor troubles of Company or a manufacturer causing cessation, slowdown, or interruption of work.

11. Customer's Obligations. Customer shall provide its timely and best efforts to cooperate with Company and Manufacturer during the manufacturing process to create the Product. Reasonable and timely cooperation includes, without limitation, Customer's providing timely information in response to a request from Manufacturer or Company and Customer's participation in traveling to Manufacturer's facility for inspections and approval of the Product.
12. Default. The occurrence of one or more of the following shall constitute a default under this Agreement: (a) Customer's failure to pay any amounts due under this Agreement or Customer's failure to perform any of its obligations under this Agreement; (b) Company's failure to perform any of its obligations under this Agreement; (c) either party becoming insolvent or becoming subject to bankruptcy or insolvency proceedings; (d) any representation made by either party to induce the other to enter into this Agreement, which is false in any material respect; (e) an action by Customer to dissolve, merge, consolidate or transfer a substantial portion of its property to another entity; or (f) a default or breach by Customer under any other contract or agreement with Company.
13. Manufacturer's Statement of Origin. Company shall retain possession of the manufacturer's statement of origin ("MSO") for the Product until the entire Purchase Price has been paid. If more than one Product is covered by this Agreement, Company shall retain the MSO for each individual Product until the Purchase Price for that Product has been paid in full.
14. Arbitration. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by arbitration administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The Arbitration shall take place in Bradenton, Florida.
15. Miscellaneous. The relationship of the parties established under this Agreement is that of independent contractors and neither party is a partner, employee, agent, or joint venture of or with the other. Neither party may assign its rights and obligations under this Agreement without the prior written approval of the other party. This Agreement and all transactions between Ten-8 Fire & Safety, LLC will be governed by and construed in accordance with the laws of the State of Florida. The delivery of signatures to this Agreement may be via facsimile transmission or other electronic means and shall be binding as original signatures. This Agreement shall constitute the entire agreement and supersede any prior agreement between the parties concerning the subject matter of this Agreement. This Agreement may only be modified by an amendment, in writing, signed by duly authorized representatives of both parties with authority to sign such amendments to this Agreement. In the event of a conflict between the Ten-8 Proposal and these Terms and Conditions, the Ten-8 Proposal shall control except in the case of a Cooperative Purchasing Contract as set forth in Section 1(c) and (h) of these Purchasing Terms and Conditions. If any term of this Agreement is determined to be invalid or unenforceable by a competent legal authority, such term will be either reformed or deleted, as the case may be, but only to the extent necessary to comply with the applicable law, regulation, order or rule, and the remaining provisions of the Agreement will remain in full force and effect.



Option List

6/19/2023

Customer:	Canaveral Fire Rescue	Bid Number:	762
Representative:	Autorino, Anthony	Job Number:	
Organization:	Ten-8 Fire & Safety, LLC	Number of Units:	1
Requirements Manager:		Bid Date:	07/03/2023
Description:	Cape Canaveral Velocity 100' Ascendant Aerial Tower 2023	Stock Number:	
Body:	Aerial, 100AAT, Alum Body	Price Level:	45 (Current: 45)
Chassis:	Velocity Chassis, 100AAT	Lane:	Lane 1

Line	Option	Type	Option Description	Qty
1	0769372		Boiler Plates, 100AAT Fire Department/Customer - Cape Canaveral Fire Rescue Operating/In conjunction W-Service Center - Operating Miles - 10 Miles Number of Fire Dept/Municipalities - 2 Bidder/Sales Organization - TEN-8 FIRE EQUIPMENT, INC. Delivery - Delivery representative Dealership/Sales Organization, Service - TEN-8 FIRE EQUIPMENT, INC.	1
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	0891947		Certification, Vehicle Inspection Program, NFPA 1901	1
11	0536644		Customer Service Website	1
12	0733614		Consortium, NPPGov (LOC)	1
13	0537375		Unit of Measure, US Gallons	1
14	0030006		Bid Bond Not Requested	1
15	0807711		Performance Bond, 100% Req'd	1
16	0000007		Approval Drawing	1
17	0002928		Electrical Diagrams	1
18	0771624		Velocity Chassis, 100AAT	1
19	0000110		Wheelbase Wheelbase - 271.00	1
20	0000070		GVW Rating GVW rating - 76,000	1
21	0000203		Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	1
22	0889473		Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 57" Qval	1
23	0508846		Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity	1
24	0090914		Suspension, Front TAK-4, 24,000 lb, DLX/Qtm/AXT/Vel/Enf/SFR	1
25	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	1
26	0000322		Oil Seals, Front Axle	1
27	0078245		Tires, Front, Michelin, XZY3 (wb), 445/65R22.50, 20 ply	1
28	0019618		Wheels, Front, Alcoa, 22.50" x 13.00", Aluminum, Hub Pilot	1
29	0754936		Axle, Rear, Meritor RT52-185, 54,000 lb, 100AAT	1
30	0544244		Top Speed of Vehicle, 60 MPH/96 KPH	1
31	0660628		Suspen, Rear, Air Link, AL- 520, Air Ride, 54,000 lb	1
32	0000485		Oil Seals, Rear Axle	1
33	0070729		Tires, Rear, Michelin, XDN2, 12R22.50, 16 ply, Tandem	1
34	0019639		Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Tandem	1
35	0568081		Tire Balancing, Counteract Beads	1
36	0620569		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle Qty, Tire Pressure Ind - 10	1
37	0801909		Lug Nut, Covers, Chrome	1
38	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
39	0013241		Axle Hub Covers, Rear, S/S High Hat (Tandem)	1
40	0002045		Mud Flap, Front and Rear, Pierce Logo	1

Line	Option	Type	Option Description	Qty
41	0766669		Chocks, Wheel, SAC-44-E, Folding, 100AAT Qty, Pair - 01	1
42	0766668		Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal, 100AAT Qty, Pair - 01 Location, Wheel Chocks - Left Side Rear Tire, Rearward	1
43	0010673		ABS Wabco Brake System, Tandem Rear Axle	1
44	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
45	0000730		Brakes, Meritor, Cam, Rear, 16.50 x 7.00"	1
46	0735527		Air Compressor, Brake, Wabco 26.8 CI, Paccar	1
47	0000789		Brake Reservoirs, Five	1
48	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
49	0000790		Brake Lines, Nylon	1
50	0000854		Air Inlet, w/Disconnect Coupling Location, Air Coupling(s) - a) DS Step Well, Forward Qty, Air Coupling (s) - 1	1
51	0070810		All Wheel Lockup (Aerial/Tanker Chassis)	1
52	0612549		Fittings, Compression Type, Entire Apparatus, Tandem Rear Axle	1
53	0811017	SP	Engine, Paccar MX13, 510HP, 1850 lb-ft W/OBD, EPA 2024, Velocity, BMP/HDR/STK	1
54	0001244		High Idle w/Electronic Engine, Custom	1
55	0735687		Engine Brake, Fully Integrated, Paccar MX13 Engine Switch, Engine Brake - MX13	1
56	0733852		Clutch, Fan, Air Actuated, Paccar, VEL	1
57	0734434		Air Intake, Water & Ember Screen, Paccar, VEL	1
58	0794743		Exhaust System, 5", X12/X15, MX13, Engine, Horizontal, Right Side	1
59	0734440		Radiator, VEL, Paccar	1
60	0511425		Cooling Hoses, Rubber	1
61	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
62	0001129		Lines, Fuel	1
63	0734402		DEF Tank, 7.3 Gallon, LS Fill, Under Cab, Paccar, VEL	1
64	0552777		Fuel Pump for Repriming	1
65	0552712		Not Required, Shutoff Valve, Fuel Line	1
66	0891206	SP	Cooler, Engine Fuel, Paccar MX13	1
67	0500907		Door, Fuel Fill, Brushed S/S	1
68	0690880		No Selection Required From This Category	1
69	0887546		Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	1
70	0625331		Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	1
71	0684459		Transmission Oil Cooler, Modine, External	1
72	0565656		Fluid, 4000/4500 Series Transmission, TranSynd synthetic, IPOS, Custom	1
73	0001375		Driveline, Spicer 1810	1
74	0734211		Steering, Sheppard M110 w/Tilt, TAK-4, Paccar Pump, w/Cooler, Paccar	1
75	0001544		Not Required, Steering Assist Cylinder on Front Axle	1
76	0509230		Steering Wheel, 4 Spoke without Controls	1
77	0550144		Logo/Emblem, on Horn Button Text, Row (1) One - CANAVERAL Text, Row (2) Two - FIRE RESCUE Text, Row (3) Three - Leave Blank	1
78	0725698		Bumper, 27" Total (16" Extension), Alum, Painted, Integrated, 100AAT, VEL	1
79	0758000		Tray, Hose, Center, 16" Bumper, Inside Air Horns, 100AAT Grating, Bumper extension - Grating, Rubber Capacity, Bumper Tray - 18) 75' of 1.75"	1
80	0633479		Hose Restraint, Bumper Tray, Velcro Straps, Pair Qty, Pair - 01	1
81	0510226		Lift & Tow Package, Imp/Vel, AXT, Dash CF	1
82	0049963		Tow Eyes, Painted Black, Below Deck	1
83	0668315		Cab, Velocity FR, 7010 Raised Roof	1
84	0724207		Engine Tunnel, X12-15, MX13, Mech Fasteners, Velocity FR	1
85	0677478		Rear Wall, Exterior, Cab, Aluminum Treadplate	1
86	0764124		Cab Lift, Elec/Hyd, Manual Override, Stabilizer Interlock, Vel 100AAT	1
87	0123176		Grille, Bright Finished, Front of Cab, Velocity	1
88	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab Material Trim/Scuffplate - c) S/S, Polished	1

Line	Option	Type	Option Description	Qty
89	0527032		Trim, S/S Band, Across Cab Face, Rect Lights, Velocity Material Trim/Scuffplate - c) S/S, Polished Turnsignal Covers - Polished S/S Covers	1
90	0015440		No Chrome Molding, On side of cab	1
91	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1
92	0667921		Door, Half-Height, Velocity FR 4-Door Cab, Raised Roof Key Model, Cab Doors - 751 Cab, Exterior Door Handle, Finish - 4-Door, Chrome/Black	1
93	0655511		Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	1
94	0667905		Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velocity FR	1
95	0667902		Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	1
96	0670028		Electric Door Locks, Cab Doors, DS Bumper Conceal Switch Loc, Imp/Vel	1
97	0555485		Steps, 4-Door Full Tilt Cab, Imp/Vel	1
98	0770194		Handrail, Exterior, Knurled, Alum, 4-Door Cab	1
99	0892637		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step Color, Trim - Chrome Housing	1
100	0002140		Fenders, S/S on Cab	1
101	0586564		Window, Side of C/C, Fixed, w/EMS Cabinet, Imp/Vel	1
102	0552935		Trim, Cab Side Windows, Velocity	1
103	0012090		Not Required, Windows, Front/Side of raised roof	1
104	0509287		Windows, Rear CC, (2) 11.25" x 18", Velocity	1
105	0553196		Trim, Cab Rear Windows, Velocity	1
106	0775133		Insulation, Cab C/C Floor, Spray, AXT, Imp/Vel FR, Qtm	1
107	0663375		Mounting Provisions, 1/4" Alum, Full Engine Tunnel, Vel/Imp Mounting Provision Spacing - 1.00" Material Finish, Cab Interior - Painted	1
108	0748671		Cab Interior, Vinyl, Velocity FR, CARE Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	1
109	0667943		Cab Interior, Paint Color, Impel/Velocity FR Color, Cab Interior Paint - i) fire smoke gray	1
110	0509532		Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	1
111	0894651		HVAC, Velocity FR, w/PACCAR, CARE Paint Color, A/C Condenser - Painted to Match Cab Roof HVAC System, Filter Access - Removable Panel Auxiliary Cab Heater - None	1
112	0639675		Sun Visor, Smoked Lexan, AXT, Imp/Vel, Saber FR/Enforcer Sun Visor Retention - No Retention	1
113	0548173		Grab Handles, Driver and Passenger Door Post, Imp/Vel	1
114	0583938		Lights, Engine Compt, Custom, Auto Sw, WIn 3SCOCDRCR, 3" LED, Trim Qty, - 02	2
115	0122516		Fluid Check Access, Imp/Vel Latch, Door, Storage - Lift and Turn Latch, Flush	1
116	0583039		Not Required, Side Roll and Frontal Impact Protection	1
117	0622618		Seating Capacity, 5 Seats	1
118	0697007		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back	1
119	0696995		Seat, Officer, Pierce PS6, Premium, Air Ride, SCBA	1
120	0002517		Not Required, Radio Compartment	1
121	0771868		Cabinet, Rear Facing, LS, 21 W x 28 H x 24 D, Roll, Imp/Vel Light, Short Cabinet - Pierce, Interior, Right Side and Pierce, Interior, Left Side Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip Door, Cab Interior Cabinet - Rollup, Gortite, Anodized, Non-Locking Louvers, Cabinet - 0-No Louvers	1
122	0102783		Not Required, Seat, Rr Facing C/C, Center	1
123	0767682		Cabinet, Rear Facing, RS, 19 W x 28 H x 26.5 D, Roll, Imp/Vel Light, Short Cabinet - Pierce, Interior, Right Side and Pierce, Interior, Left Side Material Finish, Shelf - Painted - Cab Interior Shelf/Tray, Cabinet - (1) Shelf, Adjustable, 0.75" Up-Turned Lip Door, Cab Interior Cabinet - Rollup, Gortite, Anodized, Non-Locking Louvers, Cabinet - 0-No Louvers	1

Line	Option	Type	Option Description	Qty
124	0649960		Seat, Forward Facing C/C, DS Outboard, Pierce PS6, Base, SCBA, Foldup, 17" Btm	1
125	0123167		Seat, Forward Facing C/C, Center, (2) Pierce PS6, Premium, SCBA	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, - 04	4
129	0603867		Seat Belt, ReadyReach Seat Belt Color - Red	1
130	0604864		Seat Belt Height Adjustment, 5 Seats, Imp/Vel, Dash CF	1
131	0602464		Helmet Storage, Provided by Fire Department, NFPA 2016	1
132	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
133	0896451		Enhanced Software for Cab and Crew Cab Dome Lts	1
134	0631776		Not Required, Overhead Map Lights	1
135	0602622		Portable Hand Light, Provided by Fire Department, Quint NFPA 2016 Classification	1
136	0568369		Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	1
137	0509511		Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	1
138	0673123		Light, Do Not Move Apparatus, WIn 3SR00FRR LED Alarm, Do Not Move Truck - Steady Alarm	1
139	0743386		Messages, Open Dr/DNMT, Color Dsply, 100AAT	1
140	0611681		Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX Location, Emerg Sw Pnl's - Driver's Side Overhead	1
141	0555915		Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	1
142	0731813		Hour Meter, Aerial, Included in Information Centers, ASL, AAT, ASP	1
143	0002615		Switch, Aerial 12V Master	1
144	0002617		PTO switch, w/light - aerial	1
145	0548004		Wiring, Spare, 15 A 12V DC 1st Qty, - 06 12vdc power from - Battery direct Wire termination - 15 amp power point plug Location, Spare Wiring - Officer Dash and Centered front of engine tunnel	6
146	0548013		Wiring, Spare, 20 A 12V DC 2nd Qty, - 02 12vdc power from - Battery direct Wire termination - 10-Place Bus Bar w/Cover Location - RS 4 and LS4 body compartment on the forward bulkhead up high	2
147	0548009		Wiring, Spare, 20 A 12V DC 1st Qty, - 01 12vdc power from - Battery direct Wire termination - 10-Place Bus Bar w/Cover Location, Spare Wiring - Behind Officer Seat	1
148	0610968		Wiring, Spare, 2.0 A 12V DC, USB Termination Blue Sea 1016 1st Qty, - 01 12vdc power from - Battery direct Location - forward of the power outlet on the passenger's side dash area	1
149	0548006		Wiring, Spare, 15 A 12V DC 2nd Qty, - 02 12vdc power from - Battery direct Wire termination - 10-Place Bus Bar w/Cover Location - High on the rear wall, both EMS compartments.	2
150	0566101		Recess, Dash Panel, Officer Side, Vel/Imp	1
151	0615386		Vehicle Information Center, 7" Color Display, Touchscreen, MUX System Of Measurement - US Customary	1
152	0734857		Collision Mitigation, HAAS Alert (R2V), HA5 Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	1
153	0606249		Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	1

Line	Option	Type	Option Description	Qty
154	0687904		Antenna Mount, Custom Chassis, Cable Routed to Behind Officer Seat Location - on the cab roof evenly spaced behind the light bar Qty, - 02	2
155	0653519		Camera, Pierce, LS Mux, RS, LS, R, Cameras Camera System Audio - Not Provided	1
156	0511071		Guard, 4-Way, Rear Vision Camera Qty, - 01 Location - at rear	1
157	0896458		Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT Color, Antenna - Black Antenna Module Housings - Black Housing with Power and Status Ind	1
158	0896456		Prognostics, Electrical System	1
159	0892649		ClearSky Telematics for Remote Fleet and On-scene Management Subscription, Telematics - 3 Year Subscription	1
160	0730603		Electrical System, Velocity ESP, Cummins, Paccar	1
161	0079211		Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud	1
162	0008621		Battery System, Single Start, All Custom Chassis	1
163	0123174		Battery Compartment, Imp/Vel	1
164	0814869		Location, Cab, Charger, Behind Driver Seat	1
165	0812383		Charger, Sngl Sys, Kussmaul, Chief 091-266-12-40	1
166	0813487		Not Required, No Ind/Rem	1
167	0811940		Panel, Remote Control, Not Required	1
168	0804247		Shoreline, 20A 120V, Kussmaul Chf Auto Eject, 091-55-20-120, 091-55-266-XX Cover Color, Kussmaul Cover - b) red Shoreline Connection - Battery charger and 120 volt receptacles	1
169	0026800		Shoreline Location Location, Shoreline(s) - DS Cab Side	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	0783153		Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel Color, Headlight Bez - Chrome Bezel	1
173	0648425		Light, Directional, WIn 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF Color, Lens, LED's - m)match LED's	1
174	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
175	0648074		Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	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	0804519		Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw Color, Lens, LED's - Clear Color, Trim - Chrome Trim Flash Pattern, Directional Lts - Steady On (Arrow)	1
179	0805618		Lights, Backup, WIn M62BU Color, Trim - Chrome Trim	1
180	0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt Color, Trim - Chrome Housing	1
181	0589905		Alarm, Back-up Warning, PRECO 1040	1
182	0769569		Lights, Perimeter Cab, Amdor AY-LB-12HW012 LED 4Dr	1
183	0769553		Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 1lt	1
184	0763190		Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 3lts Control, Perimeter Lts - Parking Brake Applied	1
185	0896454		Enhanced Software for Perimeter Lts	1
186	0735865		Step Illumination, Pump Panel Light Shield, 100AAT, w/Pump	1
187	0618243		Light, Visor, HiViz, FT-B-72-* LED, 4 Swts Location, driver's/passenger's/center - Centered Color, Lt Housing - White	1
188	0736731		Lights, HiViz FT-GESM LED 1st Location - DS of cab high behind crew doors Qty, - 01 Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw LS Color, Lt Housing HiViz - Crm Opt Hold, Crm Bez, Wht Fix	1

Line	Option	Type	Option Description	Qty
189	0736729		Lights, HiViz FT-GESM LED 2nd Location - PS of cab high behind crew doors Qty, - 01 Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw RS Color, Lt Housing HiViz - Crm Opt Hold, Crm Bez, Wht Fix	1
190	0764634		Lights, HiViz FT-B-72-* LED, 1st Location - DS Top of body compartment centered in front of boom panel Qty, - 01 Control, Scene Lts - DS Scene Lts Color, Lt Housing HiViz - White	1
191	0764632		Lights, HiViz FT-B-72-* LED, 2nd Location - PS Top of body compartment centered in front of boom panel Qty, - 01 Control, Scene Lts - PS Scene Lts Color, Lt Housing HiViz - White	1
192	0733343		Lights, HiViz FT-GESM* LED 1st Location - Each side high rear of body Qty, - 02 Control, Scene Lts - Cab Sw Panel DS and Body Switch, PS Rear Bulkhead Color, Lt Housing HiViz - Crm Opt Hold, Crm Bez, Wht Fix	2
193	0766802		Not Required, Deck Lights, Other Hose Bed & Rear Lighting, 100AAT	1
194	0729276		Lights, Hose Bed, Front/Rear, Light Strips, AAT Control, Hose Bed Lts - Cup Switch At Rear	1
195	0645677		Lights, Not Required, Rear Work, Alt. 12 Volt Lights At Rear Body	1
196	0892706		Lights, Walk Surf, FRP Flood, P25 LED, 100AAT Color, Trim - Chrome Housing	1
197	0771870		Aerial, 100AAT, Alum Body	1
198	0554271		Body Skirt Height, 20"	1
199	0769002		Tank, Water, 300 Gallon, Poly, 100AAT	1
200	0751917		Overflow, 3.00" Water Tank, Poly	1
201	0028107		Not Required, Foam Cell Modification	1
202	0003429		Not Required, Direct Tank Fill	1
203	0769016		Hose Bed, Alum, Right Side, 100AAT	1
204	0723546		DA Finished Hose Bed/Cargo Area	1
205	0555137		Hose Bed Capacity 800' of 5.00", 100AAT, 100' RMAP	1
206	0748063		Hose Restraint, Front Vinyl/Treadplate, 1" Heavy Nylon Web Rear, RS, 100AAT Color, Vinyl Cover - a) red	1
207	0003512		Running Boards, Ascendant, PAL	1
208	0735582		Turntable Steps, Swing-Down, Left Side, 100AAT Step, Flip - Flip Step, One Step Assembly Body Handrail Finish - knurled aluminum Step Surface, Turntable - Punched Grip	1
209	0889980		Lights, Step (3), P25 LED, One Side Control, Scene Lts - Park Brake	1
210	0690023		Wall, Rear, Smooth Aluminum	1
211	0074515		Tow Eyes (2), Painted Lower Job Color, 100AAT, Ascendant Single Axle, 75' HAL	1
212	0769019		Construction, Compt, Alum, 100AAT	1
213	0771234		Compt, Left Side, Lap, 100AAT Latch, Door, Access - lift and turn latch, flush, pair	1
214	0771230		Compt, Right Side, Lap, 100AAT	1
215	0771213		Doors, Lap w/"D" Handles, Aluminum, Side Compartments	1
216	0740006		Bumper, Rear, 3", Counterweight, Steel, Full 45 Degree Angled Corners, 100AAT	1
217	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
218	0687145		Shelf Tracks, Recessed, PUC/3rd Generation	1
219	0600289		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial Qty, Shelf - 10 Material Finish, Shelf - Painted - Spatter Gray Location, Shelves/Trays, Predefined - * Locations To Be Determined At A Later Date	10

Line	Option	Type	Option Description	Qty
220	0647772		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides, 3G Qty, - 04 location - TBD Material - Painted - Spatter Gray	4
221	0725611		Drawer Insert, CTECH, Four Drawers, Up To 24" Wide Qty, - 01 Location - TBD Size, Drawer Height 1 (Top) - 5.00" Size, Drawer Height 2 - 5.75" Size, Drawer Height 3 - 9.75" Size, Drawer Height 4 - 9.75"	1
222	0747876		Toolboards (2), Split, Swing-out, Alum, .188", Peg Board, Floor Latch, (1/2 1/2) Finish - Painted, Compt Interior, Spatter Gray location - TBD Qty - 2 Mounting, Toolboard - Adjustable Frt-back Hole Diameter, Pegboard/Toolboard - .203" diameter	2
223	0709346		Toolboard, Slide-out, Alum, .188", Peg Board, Predefined Locations Qty, - 02 Mounting, Toolboard - Adjustable side-side Hole Diameter, Pegboard/Toolboard - .281" diameter Finish, Pegboard/Toolboard - Painted - Spatter Gray Location, Partition/Toolboard, Predefined - LS2- 12.00" From Forward Door Frame and LS2- 24.00" From Forward Door Frame	2
224	0544614		Toolboard, Swing-out, Alum, .188", Peg Board, 3G Qty - 2 Location, Pivot - Front Mounting, Toolboard - Adjustable Frt-back Hole Diameter, Pegboard/Toolboard - .281" diameter Finish, Pegboard/Toolboard - Painted - Spatter Gray Location, Toolboard - LS3 - Full Height/Width and RS3 - Full Height/Width	2
225	0635915		Mounting Plate, 3/16" Alum Location - TBD Qty, - 04 Finish - Painted, Compt Interior, Spatter Gray Dimensions - as large as possible for the area	4
226	0061917		Rub Rail, Aluminum Extruded, 3.12", Side of Body	1
227	0769018		Fender Crowns, Rear, S/S, w/Removable Fender Liner, Aerial, 3G, Two Pair	1
228	0519849		Not Required, Hose, Hard Suction	1
229	0893756		Handrails, Side Pump Panels, Per Print, Aerial Step, Runningboard - step	1
230	0765324		Compt, Air Bottle/Extinguisher,Between Tandems,Three (3),w/Straps,100AAT,Bolt-In Qty, Air Bottle Comp - 2 Door Finish, Fender Compt - Brushed Location, Fender Compt - LS and RS Latch, Air Bottle Compt - Flush Lift & Turn, Pair Insert, Air Bottle Compt - Rubber Matting Door Type - lift up with pneumatic spring	2
231	0795333		Compt, Air Bottle, Single, Fender Panel, Bolt-In Qty, Air Bottle Comp - 4 Door Finish, Fender Compt - Brushed Location, Fender Compt - Single - LS Fwd, Single - LS Rear, Single - RS Fwd and Single - RS Rear Latch, Air Bottle Compt - Flush Lift & Turn Insert, Air Bottle Compt - Rubber Matting	4
232	0044266		Ladder, 35' Alco-Lite, PEL-35, 2 Section Qty, - 02	2
233	0054275		Ladder, 28' Alco-Lite PEL-28 2-Section Qty, - 01	1
234	0084266		Ladder, 16' Alco-Lite, PRL-16 Roof Location, Extension Ladder - torque box Qty, - 01	1

Line	Option	Type	Option Description	Qty
235	0054229		Ladder, 14' Alco-Lite, PRL-14, Roof Qty, - 1 Location - on the aerial fly section	1
236	0054236		Ladder, 20' Alco-Lite, PRL-20, Roof Qty, - 01 Location, Roof Ladder - aerial torque box	1
237	0024233		Not Required, Attic Extension Ladder	1
238	0044243		Ladder, 10' Alco-Lite Folding, FL-10 Qty, - 02 Location, Folding Ladder Aerial - torque box	2
239	0806196		Ladders in Torque Box, Generator Storage, Gortite Roll, Retainer Latch, 100AAT Color, Roll-up Door, Gortite - Satin finish Latch, Roll-up Door, Gortite - Non-Locking, Rear Latch, Anti-Migration Plate - Southco C2 chrome raised	1
240	0766602		Lights, Torque Box Ladder Storage, Pierce LED Strip Lights, 2 Lts, 100AAT	1
241	0724705		Trough, Backboard, In Torque Box/Ladder Compartment, Aerial Qty - 2 Size, Backboard, Predefined - 72"L x 18"W x 2"H	2
242	0064320		Pike Pole, 12' Fire Hooks Unlimited, New Yorker, Fiberglass, NYFG-12, Ram Knob Qty, - 02	2
243	0633473		Pike Pole, 8' Fire Hooks Unlimited, New York Roof Hook, Steel, Ram Knob End,RH-8 Qty, - 02	2
244	0685804		Pike Pole, 6' Fire Hooks Unlimited, New York Roof Hook, Ram Knob End, RH-6 Qty, - 02	2
245	0788912		Pike Pole, 3' Fire Hooks Unlimited, New York Roof Hook, RH-3, w/D Handle Qty, - 02	2
246	0770578		Pike Pole Tubes, in Torque Box/Ladder Storage, ABS Qty, - 06	6
247	0765390		Pump House, Side Control, 42", 100AAT, Control Zone	1
248	0767048		Pump House Structure	1
249	0767622		Pump, Waterous, S100, 2000 GPM, Single Stage, 100' AAT	1
250	0504116		Seal, Mechanical, Waterous, w/S100 Pump	1
251	0559768		Trans, Pump, Waterous C20, S100 Pump Only	1
252	0635600		Pumping Mode, Stationary Only	1
253	0605126		Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	1
254	0003148		Transmission Lock-up, EVS	1
255	0004547		Auxiliary Cooling System	1
256	0014486		Not Required, Transfer Valve, Single Stage Pump	1
257	0746501		Valve, Relief Intake, Elkhart Qty - 1 Pressure Setting - 125 psig Intake Relief Valve Control - Behind Right Side Pump Panel	1
258	0794959		Controller, Pressure, Pierce, Pump Boss, PBA300	1
259	0072153		Primer, Trident, Air Prime, Air Operated	1
260	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
261	0602492		Plumbing, Stainless Steel and Hose, Single Stage Pump, 100AAT	1
262	0089437		Plumbing Without Foam System	1
263	0751029		Inlets, 6.00", (1) Left Side, (1) Right Side, 1500-2000 GPM Pump, 100AAT	1
264	0014650		Pump Suction Tube(s), Short, All	1
265	0004646		Cap, Main Pump Inlet, Long Handle, NST, VLH	1
266	0084610		Valves, Akron 8000 series- All	1
267	0016158		Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone" Qty, Inlets - 1	1
268	0004700		Control, Inlet, at Valve	1
269	0004660		Inlet (1), Left Side, 2.50"	1
270	0004680		Inlet, Right Side, 2.50"	1
271	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
272	0767284		Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing, 100AAT	1
273	0004905		Outlet, Tank Fill, 1.50"	1
274	0062133		Control, Outlets, Manual, Pierce HW if applicable	1
275	0890913		Outlet, Left Side, 2.50", 100AAT Qty, Discharges - 02	2

Line	Option	Type	Option Description	Qty
276	0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
277	0004945		Outlet, Right Side, 2.50" Qty, Discharges - 01	1
278	0025091		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
279	0767613		Outlet, 4" w/4" Right, Sm Handwheel, 100AAT Valve, Brand - Akron	1
280	0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz Qty, - 01	1
281	0738134		Outlet, Front, 1.50" w/2" Plumbing, 100AAT Fitting, Outlet - 1.50" NST with 90 degree swivel Drain, Front Outlet - Automatic Location, Front, Single - top of left bumper	1
282	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
283	0723042		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	1
284	0029106		Not Required, Deluge Outlet	1
285	0767110		Waterway Outlet & Control, 4" Akron, Sm HW, 100AAT	1
286	0762277		Crosslays Sngl Sheet Unpainted, (1+) 1.50" Std. Cap, 100AAT Qty, Crosslays - 2	2
287	0762275		Crosslays Sngl Sheet Unpainted, (1) 2.50" Std Cap, 100AAT	1
288	0625777		Hose Rest, Crosslays, 2" Nylon Web, Seat Belt Buckle in Corner, Tether, Sides Qty, - 03	3
289	0629069	SP	Strap(s), 2.00" Wide Black Nylon, Velcro Location - one each end of the crosslay over the top of the hose Qty, - 02	2
290	0044333		Not Required, Foam System	1
291	0012126		Not Required, CAF Compressor	1
292	0552517		Not Required, Refill, Foam Tank	1
293	0042573		Not Required, Foam System Demonstration	1
294	0045465		Not Required, Foam Tanks	1
295	0091110		Not Required, Foam Tank Drain	1
296	0091112		Not Required, Foam Tank #2 Drain	1
297	0738072		Approval Dwg, Pump Panel(s), Not Required	1
298	0032479		Pump Panel Configuration, Control Zone	1
299	0747651		Step, Slide-Out/Fold-Out, Pump Operator Platform, 100AAT	1
300	0667186		Light, Slide-Out Pump Operator Step, On Scene Solutions Access LED, Short Step	1
301	0629252		Material, Pump Panels, Side Control Black Vinyl Material Finish, Pump Panel, Side Control - Black Vinyl Material, Pump Panel, Side Control - Aluminum	1
302	0723264		Panel, Pump Access - Right Side Only, 100AAT Latch, Pump Panel Access, Side Mount - Flush Lift and Turn, Chrome, AAT	1
303	0583824		Light, Pump Compt, WIn 3SC0CDCR LED White Qty, - 01	1
304	0586382		Gauges, Engine, Included With Pressure Controller	1
305	0005601		Throttle, Engine, Incl'd w/Press Controller	1
306	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	1
307	0549333		Indicators, Engine, Included with Pressure Controller	1
308	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
309	0553643		Control, Air Horn at Pmp Pnl, Red Switch	1
310	0005689		Gauges, 4.50" Master, Class 1, 30"-0-600psi	1
311	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
312	0062586		Gauge, Water Level, Class 1, Pierce Std	1
313	0006774		Not Required, Foam Level Gauge	1
314	0735892		Light Shield, S/S LS & RS, 100AAT, Std LED	1
315	0762640		Air Horns, (2) Hadley, 6" Round, eTone, In Bumper, 100AAT	1
316	0606833		Location, Air Horns, Bumper, Each Side, Inside Frame (Pos #3 & #5)	1
317	0757092		Control, Air Horn, Multi Select	1
318	0743678		Control, Air Horn, Ft Sw, RS, Location Fet Location - on the engine tunnel	1
319	0743360		Control, Air Horn, Ft Sw, LS, Location Fet Location - on the rocker panel on the floor as far forward as possible	1
320	0525667		Siren, WIn 295SLSA1, 100 or 200 Watt	1

Line	Option	Type	Option Description	Qty
321	0510206		Location, Elect Siren, Recessed Overhead In Console	1
			Location, Elec Siren - Overhead, Above Eng Tunnel PS	
322	0076156		Control, Elec Siren, Head Only	1
323	0601306		Speaker, (1) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	1
			Connection, Speaker - siren head	
324	0601556		Location, Speaker, Frt Bumper, Recessed, Left Side, Outside Frame, Inbrd (Pos 6)	1
325	0895290		Siren, Federal Q2B, VEL, 100AAT	1
			Finish, Q2B Siren - Chrome	
326	0578974		Siren, Mechanical, Recessed In Grille, Imp/Vel	1
327	0748305		Control, Mech Siren, Multi Select	1
328	0898294		Control Mech Siren, Ft Sw RS, Loc	1
			Location - top of the engine tunnel	
329	0748280		Control Mech Siren, Horn Ring	1
330	0736164		Sw, Siren Brake, Momentary, LS Overhead Sw Pnl	1
331	0740391		Sw, Siren Brake, Momentary Chrome Push Button, RS	1
332	0746353		Not Required, Warning Lights Intensity	1
333	0605736		Lightbar, WIn, Freedom IV-*, 3-21.5", RRRWR RRRR RWRRR, 30 Deg	1
			Filter, Whl Freedom Ltbrs - No Filters	
334	0898734		Light, Front Zone, WIn M6** M6** M6** M6** Q Bzl	1
			Color, Lens, LED's - Clear	
			Color, Lt DS Frnt Outside - Left Red	
			Color, Lt PS Frnt Outside - Right Red	
			Color, Lt DS Front Inside - Left Red	
			Color, Lt PS Front Inside - Right Red	
			Color, Q Bezel and Trim - Polished Chrome	
335	0540692		Lights, Side Zone Lower, WIn 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 - Red	
			Color, Lt Side Rear - Red	
			Location, Lights Mid Side - Rearward of Crew Cab Doors	
			Location, Lights Rear Side - Centered Above Rear Wheels	
336	0743910		Lights, Side, WIn M6** LED, Trm Fet 1st	4
			Location, Lights - one each side above the forward wheel openings and one each side above the forward tandem axle wheel openings	
			Qty, - 04	
			Color, Lights, Warning - Red Flashing	
			Color, Lens, LED's - Clear	
			Color, Trim - Chrome Trim	
337	0742884		Lights, Side, WIn M6# Split Color LED 1st	2
			Location, Lights - one each side behind the crew cab doors as high as possible	
			Qty, - 02	
			Control, Light - b) side warning	
			Color, Lt Side Split - White and Red	
			Color, Trim - Chrome Trim	
338	0564655		Lights, Rear Zn Lwr, WIn M6*C LED, Clear Lens, For Tail Lt Housing	1
			Color, Lt DS Rear - r) DS Rear Lt Red	
			Color, Lt PS Rear - r) PS Rear Lt Red	
339	0740407		Lights, Rear, WIn M6** LED, Features 1st	2
			Location - on the rear body each side	
			Qty, - 02	
			Color, Lights, Warning - Red Flashing	
			Control, Light - c) rear lower warning	
			Color, Lens, LED's - Clear	
			Color, Trim - Chrome Trim	
340	0680854		Light, Rear Zone Up, WIn B6M7**1P, Super LED Beacon w/M7 LED Lt	1
			Color, Lights, Warning - gla) red	
			Color, Dome, Rear Warning - j) both domes clear	
			Control, Light - a) rear upper warning	
			Color, Lens, LED's - c)clear	
341	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
342	0779706		Receptacle Strip, 15A 120V 7-Place 90 Deg, FEL99089, Protect Metal Housing, Int	1
			Qty, - 01	

Line	Option	Type	Option Description	Qty
342			Location 1 - RS 2 high on the rear wall AC Power Source - Shoreline	
343	0519934		Not Required, Brand, Hydraulic Tool System	1
344	0649753		Not Required, PTO Driven Hydraulic Tool System	1
345	0771866		Aerial, Ascendant 100' Aerial Tower	1
346	0680821		Boom Panel, Pair	1
			Paint Color, Predefined - #90 Red	
347	0526890		Not Required, Indicator, Extension	1
348	0688232		Rung Covers, Aerial Device	1
			Rung Cover Color - Safety Yellow	
349	0728982		Box, Saw Storage, w/Cover, Base Section Above Boom Panel, 100AAT, Door Sw Qty, - 01 Finish - Painted, Aerial Device Color Latch, Door, Storage - "D" Handle Latch Location, Aerial Device - right side Louvers - no louvers	1
350	0623645		Aerial Stability Test, Max Tip Options	1
351	0678539		Brackets Only, Roof/Wall Ladder, Aerial Fly Section Finish - DA Finish Roof Ladder, Make/Model - 14' Alco-Lite PRL-14	1
352	0766887		Brackets, Stokes Storage, Base Section Above Boom Panel, 100AAT Qty, - 01 Finish - Painted, Aerial Device Color Location, Aerial Device - right side	1
353	0770598		Basket, 100AAT	1
354	0672813		Mounting Only, Pike Pole, PAP, 100AAT Qty, - 01 Pike Pole Make/Model - Fire Hooks Unlimited New York Roof Hook RH-6 Pike Pole Mount - PAC Trac 1004	1
355	0662436		Scabbard, Temporary Vent Saw Storage, DA Finish Make/Model - TBD Length - 16.00" Location, Aerial Basket - right Depth Gauge, Vent Saw - With Depth Gauge	1
356	0677439		Box, Hose Storage, Platform Qty, - 01 Latch, Door, Storage - Butterfly Latch Location, Aerial Basket - left Cover - cover Hose Size, Hosebox - 50' of 1.75"	1
357	0678780		Brackets Only, Axe, Platform Qty, - 01 Type of Axe - pickhead axe	1
358	0754365		Cover, MUX Display, Platform Latch, Door, Storage - Butterfly Latch Material - Stainless Steel, Brushed	1
359	0803225		Lights, Turntable Walkway, P25, On Scene, LED, 100AAT Color, Trim - Chrome Housing	1
360	0767535		Light, Turntable Console, TecNiq E-10, LED	1
361	0732762		Basket Heat Shields, 100AAT	1
362	0766953		Control Stations, 100AAT	1
363	0751349		Lights, Basket Interior, Amdor AY-LB-12HW020-0, 20" 100AAT	1
364	0771862		Stabilizers, 100AAT, Three Sets	1
365	0729051		Stabilizer Pan and Trim Material Stabilizer Panels - polished stainless steel Stabilizer Trim - polished stainless steel	1
366	0746173		Door, Stabilizer Control Box, Aerial MUX, 100AAT Latch, Door, Storage - Lift and Turn Latch, Flush Hinge Location - Inboard Door, Material & Finish, Stabilizer - Smooth aluminum	1
367	0615058		Stabilizer Placement, Cameras w/Command Zone Color Display, 1 Set	1
368	0771218		Hydraulic System, 100AAT	1
369	0767932		Swivels, w/Encoder, 36, 100AAT	1

Line	Option	Type	Option Description	Qty
370	0767931		Electrical System, 100AAT	1
371	0757381		Light, Tip, WIn P*H2* LED, Front of Basket Bail Brkt 100AAT 1lts Color, WIn Lt Housing - White Paint Scene Light Optics - flood Control, Tip Lts - Turntable and Tip	1
372	0752453		Lights, Tracking, WIn MPB* LED, 100AAT 2lts Color, WIn Lt Housing - White Paint Scene Lt Optics LH Base - L Spot Scene Lt Optics RH Base - R Spot	1
373	0743431		Basket Access, w/ Flip Down Step, Lift Bar Latch, 100AAT Finish, Step Well - aluminum treadplate	1
374	0894586		Lights, Step (4), P25, Ladder Style Access Steps, Both Sides Control, Light - i) park brake Color, Trim - Chrome Housing	1
375	0749120		Lighting, Rung, LED, TecNiq, 5 Section, Base, Low, Cent, Upper, Fly, 100AAT Control, Aerial Rung Lighting - Aerial Master Color, Lt Aerial Fly Sect - Blue Color, Lt Aerial Base Sect - Blue Color, Lt Aerial Lower Mid Sect - Blue Color, Lt Aerial Upper Mid Sect - Blue Color, Lt Aerial Mid Sect - Blue	1
376	0540743		Lights, Stabilizer Warn (2) Sets, WIn M6*C LED, Clear Lens Color, Lt Rr Stabilizr Pan - r) Pan Light Red Color, Lt Fr Stabilizr Pan - r) Pan Light Red	1
377	0068703		Lights, Grote Supernova LED, Stabilizer Beam, (1) Set	1
378	0762387		Lights, Stabilizer Scene, (3) sets, Amdor AY-LB-12HW012, 100AAT	1
379	0764091		DC Power To Tip, 12.88 Amp, 100AAT	1
380	0737244	SP	Light, HiViz, FT-MB-12-TR-*.*, 17.65" 12 Volt Under Corner Steps, 100AAT Qty, - 02 Location, Sw, Arl AC Lts - M)2 Pos Color, Lt Housing HiViz - White Scene Light Optics - flood Location, Lts Under 100'AAT Steps - LS Under Corner Step Center (US5) and RS Under Corner Step Center (US11)	2
381	0736393		Intercom, 3-Way Fire Research ICA910 Hands Free	1
382	0540918		Not Required, Breathing Air to Tip, Aerial Platform	1
383	0024742		Not Required, Mask, Breathing Air To Tip	1
384	0767396		Aerial Pedestal, 100AAT	1
385	0766834		Lyfe Brackets, 3-In-1, Used w/Duo-Safety 875 Ladders ONLY, 100AAT	1
386	0767149		Turntable Access, ManSaver Bar, Yellow	1
387	0804860		Waterway, 100AAT Aerial Waterway Drain 100AAT - Standard Location, Right Side	1
388	0016952		(1) Preconnect At Platform, 2 Monitors	1
389	0630798		Monitors, (2), Akron, 3481 StreamMaster II Manual, 3480 StreamMaster II Electric Nozzle, Monitor 1, PAP - Akron 3499 Tips/3485 Shaper Nozzle, Monitor 2, PAP - Akron 5178 Electric 1500 gpm	1
390	0086971		Flowmeter, Waterway, MUX, PAP	1
391	0009364		Inlet, 5.00", S/S, w/ Pump, Right Side, 100AAT	1
392	0003839		Adapter, Aerial Inlet, 5" FNST x 5" Storz w/Cap Qty, - 1	1
393	0047897		Tools, Aerial	1
394	0559491		Manuals and Training, 3 Consecutive Days, Platform	1
395	0007150		Bag of Nuts and Bolts Qty, Bag Nuts and Bolts - 1	1
396	0602497		NFPA Required Loose Equipment, Quint, NFPA 2016, Provided by Fire Department	1
397	0602397		Soft Suction Hose, Provided by Fire Department, Quint NFPA 2016 Classification	1
398	0027023		No Strainer Required	1
399	0602534		Extinguisher, Dry Chemical, Quint NFPA 2016, Provided by Fire Department	1
400	0602352		Extinguisher, 2.5 Gal. Pressurized Water, Quint, NFPA 2016, Provided by Fire Dept	1
401	0765595		Ladder Belts, Aerial Safety Belt, Large/XL - (2) two Large/XL (34"-42" waist) Safety Belt, Small/Medium - 0) small/medium (26"-34" waist) Safety Belt, XXL - (1) one XXL (42"-50" waist)	1

Line	Option	Type	Option Description	Qty
402	0007482		Not Required, Crowbars	1
403	0007484		Not Required, Claw Tools	1
404	0602883		Axe, Flathead, Quint NFPA 2016, Provided by Fire Department	1
405	0602670		Axe, Pickhead, Quint NFPA 2016, Provided by Fire Department	1
406	0007494		Not Required, Sledgehammers	1
407	0741569		Paint Process / Environmental Requirements, Appleton	1
408	0709846		Paint, Two-Tone Color, Velocity/Impel	1
			Paint Color, Upper Area, Predefined - #10 White	
			Shield, Cab - High Shield-Velocity/Impel	
			Paint Color, Lower Area, Predefined - #80 Red	
			Paint Break, Cab - Standard Two-Tone Cab Break	
409	0709845		Paint, Single Color, Body	1
			Paint, Body - Match Lower Cab	
410	0646901		Paint Chassis Frame Assy, With Liner, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Standard Black	
411	0693797		No Paint Required, Aluminum Front Wheels	1
412	0693792		No Paint Required, Aluminum Rear Wheels	1
413	0733739		Paint, Axle Hubs	1
			Paint, Axle Hub - Lower Job Color	
414	0007230		Compartment, Painted, Spatter Gray	1
415	0792638		Aerial Platform Paint	1
			Paint Color, Aerial Device - White 10	
			Paint Color, Turntable - red 80	
			Paint Color, Boom Support - red 80	
			Paint Color, Cylinders - red 80	
			Paint Color, Aerial Torque Box - red 80	
			Paint Color, Aerial Stabilizers - red 80	
			Paint Color, Aerial Basket - red 80	
			Paint Color, Aerial Rotation Motor - red 80	
			Paint Color, Aerial Control Console - red 80	
416	0544129		Reflective Band, 1"-6"-1"	1
			Color, Reflect Band - A - i) gold	
			Color, Reflect Band - B - l) white	
			Color, Reflect Band - C - ze) gold	
417	0510041		Reflective across Cab Face, Imp/Vel	1
418	0763907		Stripe, Chevron, Rear, Oralite, Aerial	1
			Color, Oralite Band - A - Fluorescent Lime V98-112	
			Color, Oralite Band - B - Red V98-12	
419	0598754		Stripe, Reflective/Diamond Grade, 4.00" on Stabilizers	1
			Color, Reflect Band - A - p) fluorescent yellow green diamond grade	
420	0079341		Jog, In Reflective Stripe "Hockey Stick"	1
			Qty, - 01	
421	0017359		Stripe, Black Outline, Vinyl on Reflective Band	1
			Qty, - 01	
422	0065687		Stripe, Reflective, Cab Doors Interior	1
			Color, Reflective - i) gold	
423	0027372		Lettering Specifications, (GOLD STAR Process)	1
424	0686426		Lettering, Gold Leaf, 3.00", (61-80)	1
			Outline, Lettering - Outline and Shade	
425	0686221		Lettering, Gold Leaf, 7.00", Each	8
			Qty, Lettering - 08	
			Outline, Lettering - Outline and Shade	
426	0686191		Lettering, Gold Leaf, 12.00", (21-40)	1
			Outline, Lettering - Outline and Shade	
427	0685979		Lettering, Reflective, 16.00", Each	4
			Qty, Lettering - 04	
			Outline, Lettering - Outline	
428	0686255		Lettering, Gold Leaf, 4.00", (1-20)	1
			Outline, Lettering - Outline and Shade	
429	0755303		Artwork File, Provided on Custom USB Drive	1
430	0666414		Emblem, Freedom Flag, Each	2
			Qty, - 02	
			Location, Emblem - each side of the cab	

Line	Option	Type	Option Description	Qty
430			Size, Flag - 9" - 11"	
431	0695610		Emblem, Reflective, Per Dept. Submittal, Each	2
			Qty, - 02	
			Location, Emblem - TBD	
			Size, Dept Seal, Reflect - 14" - 16"	
432	0766493		Emblem, American Flag Muted w/Thin Red Line, Ptd Cab Grille, All Custom Chassis	1
433	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	1
			Qty, - 01	
434	0772037		Manual, Chassis Service, USB Flash Drive, Custom	1
			Qty, - 01	
435	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
436	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
437	0611136		Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	1
438	0735523		Warranty, Engine, Paccar MX13, 5 Year	1
439	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
440	0595767		Warranty, Frame, 50 Year, Velocity/Impel, WA0038	1
441	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
442	0733305		Warranty, Tandem Axle, 5 Year, Meritor, General Service, WA0384	1
443	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
444	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
445	0744240		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
446	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
447	0695416		Warranty, Pierce Camera System, WA0188	1
448	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
449	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
450	0685945		Warranty, Transmission Cooler, WA0216	1
451	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
452	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
453	0693126		Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	1
454	0734463		Warranty, Pump, Waterous, 7 Year Parts, WA0382	1
455	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
456	0641372		Warranty, Foam System, Not Available	1
457	0006999		Warranty, Structure, 20 Year, Aerial Device, WA0052	1
458	0687388		Warranty, Swivels, 5 Year, Aerial Device, WA0197	1
459	0685727		Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200	1
460	0687327		Warranty, Waterway, 10 Year, Aerial Device, WA0198	1
461	0595860		Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047	1
462	0553455		Warranty, Electronics, 5 Year, MUX, WA0014	1
463	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
464	0595421		Warranty, Goldstar, 3 Year, Apparatus, WA0018	1
465	0683627		Certification, Vehicle Stability, CD0156	1
466	0807827		Certification, Engine Installation, VEL, Paccar MX13, 2024	1
467	0686786		Certification, Power Steering, CD0098	1
468	0892701		Certification, Cab Integrity, Impel/Veloccity FR, CD0190	1
469	0548950		Certification, Cab Door Durability, Velocity/Impel, CD0001	1
470	0548967		Certification, Windshield Wiper Durability, Impel/Veloccity, CD0005	1
471	0667411		Certification, Electric Window Durability, Velocity/Impel FR, CD0004	1
472	0549273		Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	1
473	0735950		Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	1
474	0545073		Amp Draw Report, NFPA Current Edition	1
475	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
476	0799248		Appleton/Florida BTO	1
477	0000053		Ascendant Tower	1
478	0000012		PIERCE CHASSIS	1
479	0735525		PACCAR MX13 ENGINE	1
480	0046396		EVS 4000 Series TRANSMISSION	1
481	0805943		WATEROUS PUMP S-100 AAT	1
482	0020009		POLY TANK	1
483	0028047		NO FOAM SYSTEM	1
484	0020006		SIDE CONTROL	1

Line	Option	Type	Option Description	Qty
485	0020007		AKRON VALVES	1
486	0020015		ABS SYSTEM	1
487	0755454		AERIAL MEDIUM	1



Fire and Rescue Apparatus

One (1) Year Material and Workmanship Basic Apparatus

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Twelve (12) months.
Conditions and Exclusions: See Also Paragraphs 2 thru 4	No specific exclusions apply

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Velocity and Impel Custom Chassis

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Three (3) Years, or 30,000 Miles, or 5000 Engine Hours
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies, where applicable, to Goldstar lamination, defroster heater coil and motor blower assembly (excluding the FET PWM module), heater, air conditioning condenser coil and fan/motor assembly, air conditioning evaporator coil and motor blower assembly (excluding the drain pan pump and thermostat), under seat heaters coil and motor blower assembly (excluding the FET PWM module), HVAC electronic switches, HVAC hoses and hard lines, heater water valve, Pierce PS6 seat frames and hardware, Pierce One-Eleven mirrors, Pierce hands-free scba holder, cracking or color loss of roto-molded components, Meritor rear axle, Wabco ABS system, cab door handles, Standen spring suspension components, and the gauge instrument cluster.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus



SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the purchaser who first puts the product in service ("Buyer"):

Coverage:	Covers any failures of the engine which result, under normal use and service, from a defect in material or factory workmanship.
Warranty Begins:	The date of the original buyer invoice.
Warranty Period Ends After:	Five (5) years or 100,000 miles, whichever occurs first
Conditions and Exclusions: See Also Paragraphs 2 thru 4	See warranty for exclusions.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

PACCAR ENGINE LIMITED WARRANTY

PACCAR MX Warranty

United States

THIS LIMITED WARRANTY (“LIMITED WARRANTY”) LISTS THE RESPECTIVE RIGHTS AND RESPONSIBILITIES OF PIERCE MANUFACTURING INC.’S END USER CUSTOMER THAT FIRST PUTS THE PACCAR ENGINE INTO SERVICE (“YOU” or “FIRST PURCHASER”), PACCAR INC (“PACCAR”), AND THE SERVICING PACCAR ENGINE DISTRIBUTORS (“AUTHORIZED DISTRIBUTORS”). PLEASE READ THIS LIMITED WARRANTY CAREFULLY.

PACCAR warrants directly to You that the PACCAR MX engine and related kitted parts (collectively, the “Engine”) will be free from defects in materials and factory workmanship (“Warrantable Failures”) appearing under normal commercial use and service during the time, mileage or hour limitations set forth in the attached Warranty Schedule. **This Engine warranty extends only to You, and not any subsequent owner or user of the Engine.** The Emissions warranty is made to all owners of the Engine in the chain of distribution until the end of the Emissions warranty coverage period. Warranty coverage relating to the Emissions components is outlined in the Emissions Warranty section of the PACCAR MX Operator’s Manual, the terms and conditions of which are incorporated herein by reference.

YOUR SOLE AND EXCLUSIVE REMEDY AGAINST PACCAR AND ITS SUBSIDIARIES AND AFFILIATES ARISING FROM YOUR PURCHASE AND USE OF THIS ENGINE IS LIMITED TO THE REPAIR OR REPLACEMENT OF WARRANTABLE FAILURES AT AUTHORIZED DISTRIBUTORS IN THE UNITED STATES AND CANADA AND IS SUBJECT TO PACCAR’S TIME, MILEAGE, AND HOUR LIMITATIONS LISTED IN THE ATTACHED WARRANTY SCHEDULES. The maximum time, mileage and hour limitations in the Warranty Schedules begin running on the Date of Delivery to the First Purchaser. **The accrued time, mileage, or hours is calculated when this Engine is brought into an Authorized Distributor for correction of Warrantable Failures.**

WARRANTY DISCLAIMER AND LIMITATIONS OF LIABILITY (ENGINE AND EMISSIONS)

This Limited Warranty is the sole warranty made by PACCAR and its Authorized Distributors to You relating to the Engine. Except for the above limited express warranty, PACCAR and its Authorized Distributors make no other warranties to You, express or implied. PACCAR AND ITS AUTHORIZED DISTRIBUTORS EXPRESSLY DISCLAIM ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IT IS AGREED THAT PACCAR AND ITS AUTHORIZED DISTRIBUTORS SHALL NOT BE LIABLE TO YOU FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO: LOSS OF INCOME OR LOST PROFITS; ENGINE OR VEHICLE DOWNTIME; THIRD PARTY DAMAGE, INCLUDING DAMAGE OR LOSS TO OTHER ENGINES, VEHICLES OR PROPERTY, ATTACHMENTS, TRAILERS AND CARGO; LOSS OR DAMAGE TO PERSONAL CONTENTS; COMMUNICATION EXPENSES; LODGING AND/OR MEAL EXPENSES; FINES; APPLICABLE TAXES OR BUSINESS COSTS OR LOSSES; ATTORNEYS’ FEES; AND ANY LIABILITY YOU MAY HAVE IN RESPECT TO ANY OTHER PERSON OR ENTITY.

This warranty does not apply to parts or accessories supplied by the vehicle manufacturer or third parties.

Failures of belts and hoses supplied by PACCAR are covered during the first year from the Date of Delivery of the Engine to the First Purchaser. PACCAR does not warrant antifreeze, lubricants, filters, filter elements, or any other part that is a maintenance or repair item. However, in its sole discretion, PACCAR may pay for lubricating oil, antifreeze, filter elements, belts, hoses, and other maintenance or repair items if the need for replacing such items is due to a Warrantable Failure of the Engine.

You are responsible for the safe operation and maintenance of the Engine and Emissions equipment as specified in the applicable Operator’s Manuals. You are responsible for providing proof that all recommended inspections and maintenance have been performed. Before the expiration of the applicable warranty, You must notify an Authorized Distributor of any Warrantable Failures and make the Engine available for Engine repair by such Authorized Distributor. You are responsible for delivery of the Engine to the Authorized Distributor. Locations in the United States and Canada of Authorized Distributors may be found at WWW.PACCARPOWERTRAIN.COM.

PACCAR IS NOT RESPONSIBLE FOR WEAR AND TEAR OR WEAROUT OF COVERED PARTS, storage deterioration, and changes in adjustment resulting from your use of the Engine. Damage due to accident, misuse, abuse, neglect, negligence, improper or insufficient maintenance, or unauthorized modification is not warranted. This may include, but is not limited to: operation without adequate coolants, lubricants, or other fluids; over-fueling; over-speeding; lack of maintenance of the lubricating, cooling or air intake systems; improper storage, starting, warm-up, run-in or shutdown practices; and unauthorized modifications to the Engine. **PACCAR is not responsible for damage or loss resulting from Engine horsepower/torque upgrades.**

Parts used to repair a Warrantable Failure may be new parts, approved remanufactured parts, or repaired parts. PACCAR is not responsible for failures resulting from the use of parts not approved by PACCAR. A new or approved remanufactured part used to repair a Warrantable Failure assumes the identity of the part it has replaced and is entitled to the remaining warranty coverage, if any.

PACCAR IS NOT RESPONSIBLE FOR DAMAGE OR LOSSES CAUSED BY INCORRECT OIL, FUEL, DIESEL EXHAUST FLUID, COOLANT, OR ADDITIVES; WATER, DIRT OR OTHER CONTAMINANTS IN THE FUEL, OIL OR DIESEL EXHAUST FLUID; OPERATION WITHOUT ADEQUATE COOLANTS OR LUBRICANTS; OVER-FUELING; OVER-SPEEDING; IMPROPER STORAGE, STARTING, WARM-UP, RUN-IN OR SHUT-DOWN PRACTICES; OR UNAUTHORIZED MODIFICATIONS OF THE ENGINE. Failure of replacement parts used in repairs due to the above non-warrantable conditions is not warrantable.

If your vehicle is disabled by a Warrantable Failure to the Engine during the base warranty period, PACCAR is not responsible for towing expenses to transport the vehicle to the nearest Authorized Distributor. In lieu of the towing expense and at the sole discretion of PACCAR,

PACCAR will pay the reasonable costs of an authorized mechanic to travel to and from the location of the disabled Vehicle in order to perform the Engine repair.

PACCAR will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

Warrantable Failures resulting in excessive oil consumption will be handled within the basic Engine coverage as stated in the attached Engine Schedule. Before a claim for excessive oil consumption, low power, or excessive fuel consumption will be considered for payment, You must submit adequate documentation to show that consumption exceeds PACCAR published standards

PACCAR reserves the right to inspect and download data from the Engine Electronic Control Module for purpose of failure analysis unless prohibited by applicable law.

TIME LIMIT ON COMMENCING LEGAL ACTION / OTHER TERMS

IT IS AGREED THAT YOU HAVE 12 MONTHS FROM THE ACCRUAL OF THE CAUSE OF ACTION TO COMMENCE ANY LEGAL ACTION ARISING FROM THE PURCHASE OR USE OF THE ENGINE, OR BE BARRED FOREVER.

To the extent any provision of this limited warranty is found to contravene the law of any jurisdiction, the remainder of the warranty shall not be affected thereby.

PACCAR ENGINE LIMITED WARRANTY SCHEDULE
PACCAR MX Warranty
United States

THIS ENGINE WARRANTY SCHEDULE APPLIES ONLY TO ORIGINAL FACTORY EQUIPMENT AND IS SUBJECT TO THE TERMS AND LIMITATIONS IN THE ATTACHED LIMITED WARRANTY. This Engine Warranty Schedule does not apply to the vehicle which is warranted separately. Pursuant to the terms of the attached Limited Warranty, PACCAR Inc ("PACCAR") will pay warranty claims for Warrantable Failures within the following maximum limits in time, mileage, or hours, **whichever shall occur first**. The Warrantable Failure must be brought to the attention of an Authorized Distributor within 30 days of discovery.

PACCAR MX Engine

Basic Engine -Twenty-four (24) months or 250,000 miles (or 400,000 km) or 6,250 hours - (all applications except fire apparatus)

Fire Apparatus Truck Applications Basic Engine - Sixty (60) months or 100,000 miles (or 160,000 km) or 6,250 hours

Major Engine Components - Sixty (60) months or 500,000 miles or 12,500 hours

Cylinder Block Casting	Crankshaft	Lube Pump Gear	Flywheel Housing
Main Bearing Bolts	Camshaft	Crankshaft Gear	Water Pump Housing
Cylinder Head Casting	Cam Follower Assemblies	Camshaft Gear	Thermostat Housing
Cylinder Head Capscrews	Connecting Rod Assemblies	Camshaft Idler Gear	

R. H. SHEPPARD CO., INC.
101 Philadelphia St.
Hanover, PA 17331
Pierce Manufacturing Inc.
2600 American Drive
Appleton, WI 54912

LIMITED WARRANTY: The R. H. Sheppard Co. Inc., (“Sheppard”) warrants all M110PKG1 and M110SAU1 steering gears manufactured and sold to Pierce Manufacturing Inc. (“Pierce”) for application on Pierce TAK-4 equipped vehicles to be free from defects of workmanship and material under normal use and service for a period of thirty six months from the in service date of the vehicle to its original owner.

Vehicle applications where Sheppard product is used require an application approval before production build. If Pierce uses Sheppard product for any purpose or application which has not been approved by Sheppard in advance, including aftermarket devices (defined as a device added to the steering system directly or indirectly affecting the performance or operation of the Sheppard product in its approved application) not tested and approved by Sheppard this limited warranty **SHALL NOT APPLY AND SHALL BE VOID. SHEPPARD MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED. SHEPPARD EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.** **SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT.** Pierce expressly acknowledges its obligation to inform all users (customers) of the above disclaimer.

CONDITIONS: Claims under this Limited Warranty may only be made by Pierce. In no event shall Sheppard be held liable for warranty charges by unauthorized persons. No allowance will be made for repairs or alterations, unless made with the written consent of Sheppard. Authorized Pierce dealers shall be the only authorized repair facility for Sheppard products applied to Pierce vehicles. Any warrantable repair made under this Limited Warranty must be made on or before 36 months of the in-service date for the Product to which the claim relates. Sheppard shall not be liable for claims made after such date. Sheppard product fitted to Pierce vehicles that are repaired at a repair facility other than an authorized Pierce dealer within the warranty period will be considered for payment under the guidelines of this agreement only by joint written consideration of Sheppard and Pierce warranty departments. It shall be the responsibility of the Pierce warranty department to notify Sheppard if and when this situation occurs. Sheppard will not be held responsible for damage to other steering components such as but not limited to pumps and reservoirs due to improper adjustment of steering gear relief plungers. Vehicle downtime and towing will not be considered under warranty.

REMEDIES: The sole and exclusive remedy of Pierce for Sheppard’s breach of the foregoing warranty is limited to the return and repair or reimbursement as follows:

R. H. SHEPPARD CO., INC. WARRANTY
Pierce Manufacturing Inc.
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Warranty Support: In support of the Pierce dealer network, Sheppard will provide a toll-free "Hotline" service to assist in the diagnosis and troubleshooting of steering problems. The R. H. Sheppard Co., Inc. Field Service Department can be reached at 1-800-274-7437 for assistance. Sheppard will require that Pierce dealers contact this toll-free "Hotline" for approval before product is removed from a vehicle in a warranty situation. When contacted regarding a warranty situation, the Sheppard representative will provide an authorization number for removal of the product. This Returned Goods Authorization (RGA) number must be included in all warranty correspondence and attached to all returned goods.

Procedure: In the event of a warranty situation, the servicing dealer shall contact the Sheppard Hotline and receive an RGA number before replacing any steering gear. For M110PKG1 and M110SAU1 steering gear models, the dealer will first obtain an RGA number from Sheppard, and then order the replacement gear from Pierce. Replacement M110PKG1 and M110SAU1 steering gears shall be shipped from Pierce once those models are in full production. A warranty claim for both parts and labor will then be generated by the dealer and sent to Pierce. After reviewing the claim, Pierce will submit it to Sheppard for reimbursement.

Parts Reimbursement: Sheppard agrees to reimburse Pierce at Pierce's purchase price plus 30% mark-up for parts found to be defective within the warranty period. Parts being returned for warranty consideration shall be sent to the R. H. Sheppard Company, 447 E. Middle St., Hanover, PA 17331 ATTN: Warranty Dept. Sheppard's determination as to whether the part is covered by the foregoing warranty is final and conclusive. Sheppard requires the return of complete steering gears only. Individual seals replaced under warranty **should not** be returned unless specifically requested by Sheppard. All parts being returned for warranty consideration must be clearly tagged with all pertinent warranty information including, but not limited to (1) Returned Goods Authorization number (RGA); (2) claim number; (3) date in service; (4) date of failure; (5) mileage; (6) part number; (7) labor hours; (8) dealer labor rate and; (9) dollar amount claimed. Claims submitted without prior authorization are subject to rejection under this agreement.

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of \$85.00 USD per hour for M110PGK1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PGK1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce's discretion.

R. H. SHEPPARD CO., INC. WARRANTY

Pierce Manufacturing Inc.

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Outside Purchases: Pierce authorized dealers shall be the only outlet for repair, warranty service and parts for Sheppard products applied to Pierce vehicles. Sheppard will not be responsible for consumables such as hoses, belts, fluids, fittings or miscellaneous shop material that may be required for the repair of the product.

Warranty Documentation: Warranty credit memos will be issued monthly to the Pierce Warranty Department. Monthly credit memos will include (1) claim number; (2) part number; (3) parts reimbursement; (4) labor reimbursement; (5) any applicable Pierce reference number and; (6) reason for rejection or acceptance of the claim. Credit memos will be issued in U.S. funds. Debits for warranty claims will not be accepted under this agreement. Claim disposition will constitute the final and conclusive resolution of warranty claims.

Parts Retention: Sheppard will retain parts submitted for warranty consideration for a period of sixty (60) days for any material found to be rejected for warranty. Sheppard will notify Pierce within sixty (60) days of receipt of Sheppard's determination as to whether any such part is covered by this warranty. Warranty reimbursement will be issued within thirty days of receipt of material at Sheppard.

Good-Will Requests: Good-Will requests will be considered jointly between Sheppard and Pierce for equitable compensation.

RECALLS: Sheppard retains the right to review information regarding federal motor vehicle recall and /or product repair programs if Sheppard products fitted to Pierce vehicles are alleged to be non-compliant with federal motor vehicle safety standards. Sheppard retains the right to review any claims of product defect or non-compliance before participating in reimbursement of expenses incurred as a result of alleged non-compliance or defect of its products. Sheppard agrees to negotiate in good faith for the reimbursement of expenses incurred by Pierce for all administrative, material and labor cost and expense associated with any recall where Sheppard product is found to be defective or non-compliant with federal motor vehicle standards.

MISCELLANEOUS: This writing constitutes the full complete and final statement of Sheppard's limited warranty for M110PKG1 and M110SAU1 products sold to Pierce. All prior oral or written correspondence, test data, negotiations, representations, understandings and the like regarding products are merged in this writing and extinguished by it. This limited warranty may not be altered, amended extended or modified except by a writing signed by the President or Vice President of Sheppard. No employee, vendor, dealer, distributor or other representative of Sheppard has authority to make statements to extend, expand, alter or amend the terms of this Limited Warranty. Sheppard expressly disclaims any statements contrary to the Limited Warranty. Sheppard's failure at any time to enforce any of the terms and conditions stated herein shall not constitute a waiver of any provisions herein. This Limited Warranty shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

R. H. SHEPPARD CO., INC. WARRANTY
Pierce Manufacturing Inc.
Page 4

Any legal actions which may arise as a result of disputes, controversies or claims arising out of or related to this limited warranty shall be in such forum as Sheppard and Pierce shall agree, or, in the absence of agreement, in a court of appropriate jurisdiction other than in the county in which either party is located. This Limited Warranty shall not be assigned by Pierce.

COOPERATIVE EFFORT: Sheppard and Pierce agree to work cooperatively toward expanding this warranty coverage to a period of sixty months from the in service date. These cooperative efforts shall focus on examining the effects of increased heat generated by 2007 model engines and its impact on the entire power steering system.

AGREEMENT: This agreement is effective April 3, 2006 and may be modified by mutual agreement between Sheppard and Pierce of a signed amendment to be attached to the original Limited Warranty. There are no third party beneficiaries to this Limited Warranty. This warranty agreement applies to Pierce authorized dealers only. It does not encompass any special arrangements that Pierce may now have or that Pierce may enter into, with any other segments of the trucking industry. This warranty agreement does not apply to non-conforming product removed at Pierce assembly plants.

This Limited Warranty agreement between the R. H. Sheppard Co., Inc and Pierce Manufacturing Inc. may be terminated by either party with thirty days written notice prior to termination.

Signed at Pierce Manufacturing Inc., Appleton, WI this _____ day of _____, 2006.

R. H. SHEPPARD CO., INC.

PIERCE MANUFACTURING INC.

Authorized Signature

Authorized Signature

Title

Title



Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity Chassis Frame & Crossmembers

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Custom chassis frame rail and cross members manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Fifty (50) Years (Expected Life of Apparatus)
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship TAK-4 Independent Front Suspension

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The TAK-4 Front Independent Suspension and Steering Gears shall be free from defects in material and workmanship.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Years -or- 30,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus



SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the purchaser who first puts the product in service ("Buyer"):

Coverage:	The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor warranty description shall apply.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

6/29/2020 WA0384

MERITOR® COMMERCIAL VEHICLE SYSTEMS

WARRANTY/MODEL YEAR 2020 VEHICLES



MERITOR





WARRANTY INFORMATION CONTENTS

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How to Read Warranty Coverage

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
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Notice:

Models or components that are approved for use by Meritor’s vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Advantage Program

Purchasing additional coverage on select components will continue to safeguard your investment against major repair costs after the initial base coverage expires. You can find out more about the Advantage Program by visiting www.meritor.com or by contacting Meritor at 866-OnTrac1 (866-668-7221).



LINEHAUL WARRANTY INFORMATION

Linehaul Vehicles

- Bulk Hauler
- Chip Hauler (Truck)*
- Doubles
- Flatbed
- General Freight
- Grain Hauler
- Livestock Hauler
- Moving Van
- Pipe Hauler
- Refrigerated Freight
- Tanker
- Triples

* Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

Linehaul Typically Is

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction
- Greater than 30 miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 5/750/P&L

FD-965	FF-967	MFS-12-122B-N	MFS-12-132C-N	MFS-13-122B-N	MFS-13B-122C-N
FF-941	FG-941	MFS-12-122C-N	MFS-12E-132B-N	MFS-13-122C-N	MFS-13B-132B-N
FF-942	FG-943	MFS-12E-122A-N	MFS-12E-132C-N	MFS-13-132B-N	MFS-13B-132C-N
FF-943	MFS-10-122A	MFS-12E-122B-N	MFS-12-143A-N	MFS-13-132C-N	MFS-14-122A-N
FF-944	MFS-10-143A-N	MFS-12E-122C-N	MFS-12E-143A-N	MFS-13-143A-N	MFS-14-124A-N
FF-961	MFS-10-144A-N	MFS-12-124A-N	MFS-12-144A-N	MFS-13-144A-N	MFS-14-143A-N
FF-966	MFS-12-122A-N	MFS-12-132B-N	MFS-13-122A-N	MFS-13B-122B-N	MFS-14-144A-N

Rear Drive Single Axles – 5/750/P&L

RS-19-144/145/A	RS-21-145	RS-23-160
MS-19-14X	RS-21-160	RS-23-161
MS-21-144	MS-23-17X	RS-23-186

Rear Drive Tandem/Tridem Axles – 5/750/P&L

RT-34-144/P/A	MA-40-165	MT-40-14XHE
RT-40-145/A	MA-40-175	MT-40-144/P
RT-40-160/P ^{1,2}	MT-34-14X/P	MT-40-943
RT-46-160/P ^{1,2}	MT-40-14T/P	MT-40-943-SP
RT-46-164EH/P ^{1,2}	MT-40-14X/P	RZ-166 ²
RT-50-160/P ^{1,2}	MT-40-14X/P	RZ-188

Drivelines

RPL	5/500/P, 1/Unl/P&L
MXL	3/350/P, 1/Unl/P&L
155N	1/Unl/P
92N	1/Unl/P

¹ These models required for Chip Hauler and Linehaul warranty consideration.
² Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



LINEHAUL WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes	5/500/P, 1/100/L
Q+ Drum Brake™	5/500/P, 1/Unl/P&L
ASA	5/500/P, 1/Unl/P&L
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
STEELite X30 Drum Brake™ ²	12-Years or Wearable Life/P
EX+ Air Disc Brake™	5/500/P, 1/Unl/L
EX+ Air Disc Brake Extended Standard Warranty ³	5/500/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 3/500/P&L.

² Based on stamped wear diameter max.

³ Applies only to MA761 friction material code CD brake assembly i.e. EX225LXXXCDXXX

Trailer Axles

Beam and Brackets	5/500/P, 1/100/L
Wheel End Systems ¹	
Standard System ²	1/100/P&L
PreSet by Meritor ³	5/500/P&L
AxlePak ⁴	5P/L
AxlePak ⁷	7P/L

¹ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

² When installed by Meritor.

³ Requires approved hubcap stating PreSet by Meritor on hubcap face.

⁴ When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L.

⁵ When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

TAG/Pusher Axles¹

TQ, TQD, TR, TRD Beam and Brackets	5/750/P&L
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¹ For brake components and ABS Coverage, refer to appropriate product warranties.

Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/500/P, 1/100/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/P, 3/L
PinLoc Air Controls	1/100/P&L
PinLoc Actuator	3/300/P&L
MPA20 (Single Axle Parallelogram)	
Major Structural Components	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/P, 3/L
MTA (Trailing Arm)	
Major Structural Components	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs & Rebound Straps	2/200/P, 1/100/L
Bushings	5/500/P, 3/300/L

¹ Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor (For axle and ABS coverage, refer to appropriate product warranties.)

² “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.



GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

- Auto Hauler
- Beverage Truck
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Trailer
- Tour Bus
- Wrecker

General Service Typically Is

- Lower mileage operations (less than 60,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 2/Uni/P&L

FD-965	FL-943	MFS-8-163B-N	MFS-12E-132B-N	MFS-13-132C-N	MFS-16-143A-N
FF-941	MFS-6-151A-N	MFS-10-122A	MFS-12-132C-N	MFS-13B-132B-N	MFS-18-133A-N
FF-942	MFS-6-153B-N	MFS-10-143A-N	MFS-12E-132C-N	MFS-13B-132C-N	MFS-18-135A-N
FF-943	MFS-6-162B-N	MFS-10-144A-N	MFS-12-143A-N	MFS-13-143A-N	MFS-18-193A-N
FF-944	MFS-6-153C-N	MFS-12-122A-N	MFS-12-144A-N	MFS-13-144A-N	MFS-20-133A-N
FF-946	MFS-6-162C-N	MFS-12E-122A-N	MFS-12E-143A-N	MFS-14-122A-N	MFS-20-135A-N
FF-961	MFS-7-113C-N	MFS-12-122B-N	MFS-13-122A-N	MFS-14-124A-N	MFS-20-192A-N
FF-966	MFS-7-153C-N	MFS-12E-122B-N	MFS-13-122B-N	MFS-14-143A-N	MFS-20-193A-N
FG-967	MFS-7-163C-N	MFS-12-122C-N	MFS-13B-122B-N	MFS-14-144A-N	MFS-22-135A-N
FG-941	MFS-8-113B-N	MFS-12E-122C-N	MFS-13-122C-N	MFS-16-122A-N	MFS-22H-135A-N
FH-941	MFS-8-143A-N	MFS-12-124A-N	MFS-13B-122C-N	MFS-16-133A-N	MFS-22-193A-N
FH-946 ¹	MFS-8-153B-N	MFS-12-132B-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N
FL-941					

¹ Can also be used with reduced steer angles in tag position in Coach Applications.

Front Drive/Non-Drive Steer Axles – 1/Uni/P&L

MX-08-130-FV (FSD-08A)	MX-16-130-FV (FSD-16A)	MX-21-130-SD (SDA-2100)
MX-10-130-FV (FSD-10A)	MX-18-130-FV (FSD-18A)	MX-23-130-FV (FSD-23A)
MX-12-130-FV (FSD-12A)	MX-18-130-SD (SDA-1800)	MX-23-130-SD (SDA-2300)
MX-13-130-FV (FSD-13A)	MX-20-130-FV (FSD-20A)	MX-29-130-FV (FSD-29A)
MX-14-130-FV (FSD-14A)	MX-21-130-FV (FSD-21A)	

Rear Drive Tandem/Tridem - 3/Uni/P&L

RT-40-160/P	RT-50-160/P
RT-46-160/P	RZ-166
RT-46-164EH/P	

Rear Drive Axles – 1/Uni/P&L

11170	RND-14H
523	RND-16A

Rear Drive Single Axles – 2/Uni/P&L

MS-17-13X	MS-21-14X	RC-23-160	RS-24-160	MS-30-616-SP
MS-17-14X	MS-21-144	RC-23-161	RC-25-160	RS-35-380
MS-19-13X	MS-23-17X	RC-23-162 ¹	RS-26-185	71162
MS-19-14X	RS-21-145/A	RC-23-165 ¹	MS-26-616	71163
RS-17-144/145/A	RS-21-160	RS-23-160	MS-26-616-SP	79163
RS-19-144/145/A	RC-22-145	RS-23-161	RS-30-185	
MS-21-13X	RC-22-145/A	RS-23-186	MS-30-616	

¹ 3/Uni/P&L if PreSet by Meritor.

Drivelines

RPL	4/400/P, 1/Uni/P&L
MXL	3/350/P, 1/Uni/P&L
155N	1/Uni/P
92N	1/Uni/P

Transmission – 1/Uni/P&L

516	FAT 30
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PTO – 1/Uni/P&L

MPT-318	MPT-526	MPT-1702
MPT-500	MPT-531	MPT-175
MPT-510	MPT-543	MPT-185
MPT-518	MPT-170	MPT-190

Rear Drive Tandem/Tridem Axles – 2/Uni/P&L

MT-34-14X/P	MT-40-14XHE	RT-44-145/P	MT-58-616
RT-34-144/P/A	MT-40-144/P	RT-46-169	RT-58-185 ¹
MT-40-14T/P	RT-40-145/A	MT-52-616	MT-70-380
MT-40-14X/P	MT-44-14X/P	RT-52-185 ¹	RZ-188

¹ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



GENERAL SERVICE WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes	3/Unl/P, 1/Unl/L
Cam P ³	2/200/P
Cam	3/Unl/P
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ ³	2/200/P&L
ASA	3/Unl/P
ASA ³	2/200/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
STEELite X30 Drum Brake™ ²	12-Years or Wearable Life/P
EX+ Air Disc Brake™	2/Unl/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.

² Based on stamped wear diameter max.

³ Applies to Tour Bus and Cross Country Coach only.

Trailer Axles

Beam and Brackets ¹	5/Unl/P, 1/Unl/L
Wheel End Systems ²	
Standard System ³	1/Unl/P&L
AxlePak ⁴	5/P&L
AxlePak ⁵	7/P&L

¹ 9000 Series is 3/Unl/P, 1/Unl/L

² Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

³ When installed by Meritor.

⁴ When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L.

⁵ When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

Chassis Axles (2000 Series/ChassiPak)

Beam & Brackets	6/Unl/P, 1/Unl/L
Wheel End Systems ¹	
Standard System	1/Unl/P&L
AxlePak7	7/P&L
Beam and Brackets	7/P, 1/L

¹ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/Unl/P, 1/Unl/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings	5/P, 3/L
PinLoc Air Controls	1/Unl/P&L
PinLoc Air Actuator	3/Unl/P&L
MPA20 (Single Axle Parallelogram)	
Major Structural Components	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings	5/P, 3/L
MTA (Trailing Arm)	
Major Structural Components	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs and Rebound Straps	2/Unl/P, 1/Unl/L
Bushings ³	5/Unl/P, 3/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

¹ Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor

² "Curbing damage" is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.

³ Raw wood applications 3/Unl/P, 1/Unl/L

TAG/Pusher Axles

TQ, TQD, TR, TRD Beam and Brackets ¹	3/Unl/P, 1/Unl/L
MC14002, MC16003, FH946	2/Unl/P&L

(For brake components and ABS coverage, refer to appropriate product warranties.)

¹ 3/Unl/P&L if sold with PreSet by Meritor.

Meritor® Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Heavy Service/Specialty Vehicle

- Airport Rescue Fire Fighting (ARFF)
- Airport Shuttle*
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Mixer
- Demolition
- Drill Rig
- Dump
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus*
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Utility Truck
- Winch Truck

*Commercial chassis only

Heavy Service/Specialty Vehicle Typically Is

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

FD-965	FL-941	MFS-10-143A-N	MFS-12-143A-N	MFS-13-144A-N	MFS-18-193A-N	MX-12-120
FF-941	FL-943	MFS-10-144A-N	MFS-12-144A-N	MFS-13-155	MFS-20-133A-N	MX-12-120 EVO
FF-942	MFS-6-151A-N	MFS-12-122	MFS-12-155	MFS-14-122	MFS-20-135A-N	MX-14-120
FF-943	MFS-6-153B	MFS-12E-122	MFS-13-122	MFS-14-124A-N	MFS-20-192A-N	MX-16-120
FF-944	MFS-6-162B	MFS-12-122B-N	MFS-13-122B-N	MFS-14-143A-N	MFS-20-193A-N	MX-18-120
FF-946	MFS-6-162C	MFS-12E-122B-N	MFS-13B-122B-N	MFS-14-144A-N	MFS-22-135A-N	MX-17-140
FF-961	MFS-7-113C-N	MFS-12-122C-N	MFS-13-122C-N	MFS-16-122A-N	MFS-22H-135A-N	MX-19-140
FF-966	MFS-7-153C-N	MFS-12E-122C-N	MFS-13B-122C-N	MFS-16-133A-N	MFS-22-193A-N	MX-21-140
FF-967	MFS-7-163C-N	MFS-12-124A-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N	MX-21-160
FG-941	MFS-8-113B-N	MFS-12-132B-N	MFS-13B-132B-N	MFS-16-143A-N	RF-16-145	MX-23-160
FG-943	MFS-8-153B-N	MFS-12E-132B-N	MFS-13-132C-N	MFS-18-133A-N	RF-21-160	MX-810
FH-941	MFS-8-163B-N	MFS-12-132C-N	MFS-13B-132C-N	MFS-18-135A-N	MX-10-120	
FH-946	MFS-10-122A	MFS-12E-132C-N	MFS-13-143A-N	MFS-18-192A-N	MX-10-120 EVO	

Front Drive/Non-Drive Steer Axles – 1/Unl/P&L

MX-08-130-FV (FSD-08A)	MX-16-130-FV (FSD-16A)	MX-21-130-SD (SDA-2100)
MX-10-130-FV (FSD-10A)	MX-18-130-FV (FSD-18A)	MX-23-130-FV (FSD-23A)
MX-12-130-FV (FSD-12A)	MX-18-130-SD (SDA-1800)	MX-23-130-SD (SDA-2300)
MX-13-130-FV (FSD-13A)	MX-20-130-FV (FSD-20A)	MX-29-130-FV (FSD-29A)
MX-14-130-FV (FSD-14A)	MX-21-130-FV (FSD-21A)	

Rear Drive Axles – 1/Unl/P&L

11170	RND-14H
523	RND-16A

Drivelines

RPL	3/Unl/P, 1/Unl/P&L
92N	1/Unl/P&L
MXL	1/Unl/P&L

Rear Drive Single Axles – 2/Unl/P&L

MS-17-14X	RS-21-160	RS-24-160	MS-35-380
RS-17-144/145/A	RC-22-145	RS-25-160	RS-38-380
MS-19-14X	RC-23-160	MS-26-616	RC-25-160
RS-19-144	RH-23-160	MS-26-616-SP	RC-26-633
MS-21-114	RS-23-160	RS-26-185/380	MT-58-616
MS-21-14X	RC-23-161	MS-30-616	MT-58-616-SP
RS-21-145	RS-23-161	MS-30-616-SP	
RS-21-145/A	RS-23-186/380	RS-30-185/380	

Transmission – 1/Unl/P&L

516
FAT 30

PTO – 1/Unl/P&L

MPT-318	MPT-526	MPT-1702
MPT-500	MPT-531	MPT-175
MPT-510	MPT-543	MPT-185
MPT-518	MPT-170	MPT-190



HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

MT-34-14X/P	RT-44-145/P	RT-52-185/380 ^{1,2}	MT-70-380
RT-34-144/P/A	RT-46-169	MT-58-616	RZ-188
MT-40-14X/P	RT-58-160	MT-58-616-SP	
RT-40-145/A	MT-52-616	RT-58-185/380 ^{1,2}	
MT-44-14X/P	MT-52-616-SP	RT-70-380	

¹ Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

² Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Brake Components

Cam P	3/Unl/P
Cam P ³	2/100/P
Cam Cast Plus™	2/100/P&L
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ ²	2/100/P&L
ASA	3/Unl/P
ASA ²	2/100/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
EX+ Air Disc Brake	2/100/P&L

¹ Based on stamped wear diameter max.

² Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

³ Warranty for all non-Meritor ASAs supplied by Meritor for all Heavy Service vocations is 1/100/P.

Rear Drive Tandem/Tridem - 3/Unl/P&L

RT-40-160/P/A ³
RT-46-160/P/A ^{1,3}
RT-46-164EH/P/A ^{2,3}
RT-50-160/P/A ³
RZ-166

¹ U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

² Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

³ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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Trailer Air Suspension Systems

MTA (Trailing Arm)	
Major Structural Components ¹	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings ¹	5/Unl/P, 3/Unl/L

¹ Raw wood applications 3/Unl/P, 1/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

Trailer Axles

Beam and Brackets ¹	5/Unl/P, 1/Unl/L
Wheel End Systems ²	
Standard System ³	1/Unl/P&L

¹ 9000 Series is 3/Unl/P, 1/Unl/L.

² Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

³ When installed by Meritor.

(For brake components and ABS coverage, refer to appropriate product warranties.)

Gearboxes – 1/Unl/P&L

MGX-240	MGX-376	MGX-448	MGX-506	MGX-528	MGX-546
MGX-279	MGX-377	MGX-456	MGX-514	MGX-533	MGX-550
MGX-279D	MGX-378	MGX-478	MGX-519	MGX-534	
MGX-280	MGX-380	MGX-480	MGX-520	MGX-536	
MGX-285	MGX-384	MGX-487	MGX-522	MGX-537	
MGX-292	MGX-402	MGX-488	MGX-524	MGX-541	
MGX-314	MGX-413	MGX-505	MGX-527	MGX-545	

Transfer Cases – 1/Unl/P

MTC-4213	MTC-3118-CV (358)	MTC-3209-GV (RTC-60/420)
MTC-4210	MTC-3120-FV (TC-143)	MTC-3209-GV (RTC-60/380)
MTC-4208	MTC-3124 (T-2119)	MTC-3209-GV (MTC-60/420)
MTC-4206-FV (TC-38)	MTC-3205-GV (MTC-25/247)	MTC-3209-GV (MTC-60/380)
MTC-3106-FV (TC-137)	MTC-3205-GV (MTC-25/350)	MTC-3212-CV (315 & 548B)
MTC-3111 (T-2111)	MTC-3205-GV (RTC-25/350)	MTC-3312-FV (TC-270)
MTC-3112-CV (529 & 548C)	MTC-3206-FV (TC-237)	MTC-3220-FC (TC-142)
MTC-3116 (T-2111)	MTC-3206-CS (544)	MTC-2212-CV (306)
MTC-3118-FV (TC-180 & TC-180-23)	MTC-3208-GV (RTC-50)	



FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Command Vehicle
- Crash Fire Rescue (CFR)
- Pumper
- Rapid Intervention Vehicle (RIV)
- Tanker

Fire and Emergency Typically Is

- Lower mileage operations (less than 20,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 5/Unl/P&L

FL-941	MFS-18-193A-N	MFS-22-135A-N
FL-943	MFS-20-133A-N	MFS-22H-135A-N
MFS-18-133A-N	MFS-20-135A-N	MFS-22-193A-N
MFS-18-135A-N	MFS-20-193A-N	MFS-22H-193A-N

Front Drive Steer Axles – 2/Unl/P&L

MX-19140	MX-21160	MX-23810
MX-21140	MX-23160	

Rear Drive Single Axles – 5/Unl/P&L

RC-23-160	RS-23-186	RS-26-185	RS-25-160
RS-23-160	RS-24-160	RS-30-185	
RS-23-161	RC-25-160	RS-35-380	

¹ 3/Unl/P&L if PreSet by Meritor.

Rear Drive Tandem/Tridem Axles – 5/Unl/P&L

MT-40-14X/P	RT-44-145/P	MT-52-616
MT-40-144/P	RT-46-160/P	RT-52-185 ¹
RT-40-145/A	RT-46-164EH/P	MT-58-616
RT-40-160/P	RT-46-169	RT-58-185 ¹
MT-44-14X/P	RT-50-160/P	MT-70-380

¹ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Brake Components

Cam	3/Unl/P
Q+ Drum Brake™	3/Unl/P&L
ASA	3/Unl/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
EX+ Air Disc Brake™	2/Unl/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.

Drivelines

RPL	4/400/P, 1/Unl/L
MXL	3/350/P, 1/Unl/L
155N	1/Unl/P
92N	1/Unl/P

Transfer Cases – 1/Unl/P

MTC-4208	MTC-3111 (T-2111)
MTC-4210	MTC-3116 (T-2111)
MTC-4213	MTC-3124 (T-2119)



TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

- Airport Shuttle
- City Bus
- Commuter Coach
- Shuttle Bus
- Transit Bus
- Trolley

Transit Bus Typically Is

- Moderate mileage operation (less than 50,000 miles per year)
- Moderate to frequent stops/starts (up to 10 stops per mile)

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 5/300/P&L

FH-946 MFS-12-155
 FH-941¹ MFS-13-155

¹ Commuter coach only – 2/Unl/P&L

Drivelines

RPL 3/Unl/P, 1/Unl/L
 92N 1/Unl/P&L
 MXL 1/Unl/P&L

Rear Drive Single Axles – 5/300/P&L

RS-23-160 79163 RS-21-160
 RC-23-161 RC-23-162¹
 71163 RC-23-165¹

¹ Commuter coach only – 2/Unl/P&L

Tag Axles – 2/Unl/P&L

MC-14002
 MC-16003
 FH-946

Brake Components

Cam Cast Plus™ 2/100/P&L
 Q+ Drum Brake™¹ 2/100/P&L
 ASA¹ 2/100/P
 Hubs/Cast Drums and
 Other Wheel-end
 Components 1/Unl/P
 All Other Brakes 1/Unl/P
 EX+ Air Disc Brake 2/100/P&L

¹ Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

Center Non-drive Axles – 5/300/P&L

MC-26000
 71063
 79063



TERMS AND CONDITIONS

Coverage Exclusions

Product Description

All

The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

For axle assemblies supplied by Meritor with suspension and interface brackets designed and/or attached by non-Meritor parties, Meritor warranty coverage does not apply to the brackets, bracket attachment methods, and field issues caused by brackets or bracket attachments to any covered component unless specified in a separate OEM agreement.

Front Axles

King Pin Bushings.

Rear Axles

Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

ASA

Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

Cam Brake

Brake lining wear and brake shoe “rust-jacking.”

Disc Brake

Pad wear, rotor wear.

Coverage Limitations

Product Description

All

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program. Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Front Axles

Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles

Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles

The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake

Limited to bracket, brake spider and camshaft structural integrity.

STEELite X30

Wearable life is up to the discard diameter of the drum.

Disc Brake

Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

Meritor Heavy Vehicle Systems, LLC warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM's vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) Designation of Vocational Use Required.

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor's warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

(3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not branded by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) Remedy.

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor's option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) Disclaimer of Warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

(7) Limitation of Remedies.

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) To Obtain Service.

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) Entire Agreement.

This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.

Product models, brands, names and trademarks depicted herein are the property of their respective owners and, except where otherwise indicated, are not in any way associated with Meritor Heavy Vehicle Systems, LLC, or any parent or affiliate, thereof.



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or visit meritor.com

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Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Meritor Wabco ABS Brake System Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor Wabco warranty description shall apply.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

WARRANTY

MODEL YEAR 2021 VEHICLES



Warranty coverage is essential to protecting your investment. But understanding the full details of your coverage can be challenging. This straightforward approach allows you, our valued customer, to better understand how your specific vehicle applications will be covered in your region. Our component warranty coverage is provided according to vocation/usage categories listed below.

- Linehaul covers high mileage operation (over 60,000 miles/year) on well-maintained major highways of concrete or asphalt construction.
- General Service covers moderate mileage operations (less than 60,000 miles/year) on well-maintained public roads (less than 10 percent off-road) typically with less than three (3) stops per mile.
- Heavy Service (Vocational) covers vehicles with more than 10 percent off-road OR moderate to frequent starts/stops typically with more than three (3) stops per mile.
- Off-Highway Service covers lower mileage operations. Vehicles are not typically licensed for highway use.

How to Read Warranty Coverage (Example)

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
3	300	P

- The standard aftermarket warranty for WABCO products - including WABCO Original parts, WABCO Reman Solutions, ProVia quality aftermarket parts and WABCO retrofit solutions - is one year, parts only from in-service date when purchased from ZF distributor networks or its affiliates and/or subsidiaries.

WARRANTY - MODEL YEAR 2021 VEHICLES

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler (Truck)
- Cross Country Coach
- Doubles
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Grain Hauler
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Triples
- Tour Bus
- Wrecker

LINEHAUL TYPICALLY IS

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction

GENERAL SERVICE TYPICALLY IS

- Moderate mileage operations (less than 60,000 miles/year)
- Well maintained public roads (less than 10% off-road)
- Less than three (3) stops per mile

WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Trailer Lift Axle Control Valve	
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow [®] TrailerSkirt	2/UnU/P
OptiFlow [®] Trailer Tail and AutoTail	2/UnI/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Trailer ABS (Anti-Lock Braking System) ³	
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/P&L
OptiRide [®] Automated Manual Transmission (AMT)	
OptiRide [®] Electronically Controlled Air Suspension (ECAS)	3/300/P&L

WABCO Components ¹ (cont.)	
Safety	
OnGuardACTIVE [®]	3/300/P&L
OnLane [®]	
OnLaneALERT [®]	
OnSide [®]	
Trailer SafeStart [™]	
Trailer TailGUARD [™]	
Telematics	
TrailerCAST [™] Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit [™] Slack Adjuster	6/600/P
MAXXUS [™] Truck Air Disc Brake	5/500/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 17 and 19 Air Disc Brake	2/UnI/P and 1/UnI/L
Pan 22 Air Disc Brake	5/500/P and 1/L
TRISTOP [™] D Actuator w/ IBV or IRB	6/600/P
TRISTOP [™] D Actuator	3/300/P
UNISTOP [™] Actuator	2/200/P
Trailer MAXX22T [™] Air Disc Brake	5/500/P and 1/L

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

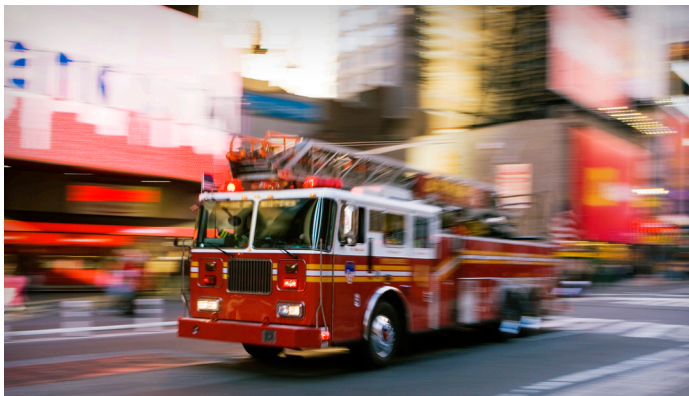
HEAVY SERVICE (VOCATIONAL) WARRANTY INFORMATION

HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery
- Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

HEAVY SERVICE TYPICALLY IS

- On/Off road vocations (10% or more off-road) OR
- Moderate to frequent starts/stops typically more than three (3) stops per mile



WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Air Compressors (ALL) ²	
Air Dryers (ALL)	
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	3/300/P&L
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Driveline Suspension Control	
OptiRide [®] Electronically Controlled Air Suspension (ECAS)	2/200/P&L
Leveling Valves	1/100/P&L
Clutch Controls	2/200/P&L
Safety	
OnGuardACTIVE [®]	3/300/P&L
OnLane [®]	
OnLaneALERT [®]	
OnSide [®]	
Trailer SafeStart [™]	
Trailer TailGUARD [™]	
Telematics	
TrailerCAST [™] Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit [™] Slack Adjuster	2/200/P
MAXXUS [™] Air Disc Brake	1/Unl/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
Trailer MAXX22T [™]	1/Unl/P&L
TRISTOP [™] D Actuator w/ IBV	3/Unl/P
TRISTOP [™] D Actuator	2/200/P
UNISTOP [™] Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

- Low mileage operation³
- Vehicles are not typically licensed for highway use

Market	Common Application Types
Agriculture	Fertilizer Spreader, Tractor, Heavy Duty Ag Trailers, Harvester, Sprayer, Skid Loader, Silage Bagger, Slurry Wagons, Grain Cart
Airport Support	Pushback Tractor, Towing Tugs, Aircraft Tow Tractor, Refueling Trucks, Food Service Trucks, Baggage Tractors, De-Icing Equipment, Runway Clearing Equipment
Construction	All-Terrain Crane, Rough Terrain Crane, Excavator, Compactor, Wheel Loader, Road Roller, Motor Grader, Articulated Dump Truck, Rubber Tire Road Roller, Backhoe Loaders, Haul Trucks, Scraper Rough Terrain Forklifts, Trenchers, Drills
Forestry	Logging Forwarder, Kidder, Loaders, Yard Forklifts, Harvesters Fellers
Material Handling	Port Tractor, Rail Yard Spotter, Stevedoring Tractor, Trailer Spotter, Yard Jockey, Scissor Lift, Straddle Carrier, Manlift, Forklift, Boom Lift Telehandlers, Aerial Work Platforms
Mining	Specialized Mining, Excavator, Haul Truck, Underground Loader, Service Trucks, Wheel Loaders, Scrapers, Load Haul Dumps, Personnel Transports, Bolters, Scalers
Municipal	Street Sweeper, Utility Tractor, Utility Trucks, Tree Trimmers, Dump Trucks, Tow Trucks, Flat Bed Trucks, Winch Applications
Oil & Gas	Fracturing Trailer, Injector Heads, Top Drives, Jack/Lift Boats, Wireline Trucks, Load-On / Load-Off
Rail	Railcar Mover, Track Layers, Grinders, Platform Crane, Locomotive Railcars, Ballast Equipment, Winch Applications



WABCO Components ¹	
Air Management	
Air Brake Valves	2/Unl/P
Air Compressors (ALL) ²	
Air Dryers (ALL)	
Brake Actuation	
Air/Hydraulic Actuators	2/Unl/P
Master Cylinders	
Remote Actuators	
Slave and Wheel Cylinders	
Two Fluid Actuators	
Brake Locks	
Brake Locks (ALL)	2/Unl/P
Electric Brake Locks	
Lever Locks	
Braking Systems	
ABS (Anti-Lock Braking System) Air	1/100/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Driveline Suspension Control	
Clutch Controls	1/100/P&L
Leveling Valves	
Electrohydraulics & Controls	
Electronic Pedals	2/Unl/P
Electrohydraulic Brake Valves (EBV)	
Pressure Switches	
Hydraulic Braking Solutions	
Accumulator Charging Valves	2/Unl/P
Hydraulic Throttle Controls and Switches	
Modulating Brake Valves	
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
Caliper Disc Brakes	2/Unl/P
MAXXUS™ Air Disc Brake	1/Unl/P&L
Multiple Disc Brakes	2/Unl/P
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
TRISTOP™ D Actuator w/ IBV	3/Unl/P
TRISTOP™ D Actuator	2/200/P
UNISTOP™ Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ Equivalent hours of service limit: 2,000 hours for all components.

TERMS AND CONDITIONS

COVERAGE EXCLUSIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

This Warranty shall not apply to the following, but not limited to: (1) damage to the product or its component parts caused by incorrect use, installation, maintenance or repair, including without limitation (a) improper fit of mating components or brackets, damaged threads, cut, broken, chafed, pinched or otherwise damaged wiring (sensors, harnesses and connectors), (b) sensors damaged during removal when seized in block, or associated with sensor adjustments/ alignments, and (c) damage resulting from the use or installation of non-genuine WABCO components or materials; (2) damage to the product, its component parts, or diminished product or component part performance due to incorrect operation, deviation from approved conditions or misapplication; (3) any unauthorized disassembly of the product or its component parts including without limitation (a) obliterated, defaced or missing WABCO or WABCO name plate, serial numbers or label identifying the device as a ZF product or WABCO component, (b) changes to sealed adjusting screws, and (c) opening or attempted repair of non-serviceable components; (4) malfunction of the component due to internal contamination of the vehicle system including without limitation (a) water and other contamination damage that is due to the use of a non-genuine air dryer cartridge or (b) valve failures due to contamination in air system, (5) complaints associated with noise, (6) damage resulting from corrosion (including oxidation of electrical devices and connections).

AIR DRYERS

Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

AIR SYSTEM COMPONENTS

Normal wear items; Gladhand seals, dash valve knobs, valve actuation handles, treadles, pedals.

ABS, ELECTRONIC STABILITY CONTROL (ESC), ROLL STABILITY CONTROL (RSC), OPTIRIDE®, ONGUARD® AND ONLANE®, COLLECTIVELY “ELECTRONICS”

Failure of electronic components due to overvoltage condition, improper grounding, electrostatic discharge (ESD), improper shielding, electromagnetic interference (EMI), or other wiring or installation issues. Malfunctions and failure codes caused by other electronic subsystem failures (data bus, engine, transmission, dashboard, etc.)

HYDRAULIC COMPONENTS

For certain components, brake fluid DOT3 or DOT4 is used as the operating medium. Use of any other fluid will void all warranties associated with that component. For hydraulic braking applications the brake fluid is considered a maintenance item. Maintenance intervals are listed in TB-1367.

COVERAGE LIMITATIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

Products purchased on an incomplete vehicle (glider) are limited to one year, 1/Unl/P.

For vehicles that operate full- or part-time outside of the United States and Canada, a 1-Year/Unlimited Miles parts only (1/Unl/P) will apply.

TOOLBOX PLUS™ DIAGNOSTIC SOFTWARE

Proper diagnostics of WABCO Electronics may require the latest version of TOOLBOX PLUS™. Additional labor due to use of an outdated version of TOOLBOX™ software and/or the time to purchase or install the latest version of TOOLBOX PLUS™ are not covered under product warranty.

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

ZF CV Systems North America LLC and its North American subsidiaries and affiliates (ZF) warrant to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment will be free from defects in material and workmanship. This warranty coverage begins from the original in-service date to the limits provided and runs concurrently with any warranties provided by OEMs and/or any distribution agreements and/or any service contracts that cover the components listed in this publication, if any. If the components listed in this publication are covered by an OEM warranty and/or service contract, then the OEM's warranty and/or service contract shall supersede ZF's warranty and Owner shall comply with all OEM's warranty and/or service contract requirements for claims under such OEM's warranty and/or service contract until those agreements expire. Once those agreements expire and provided the ZF warranty has not expired under the terms stated above, the ZF warranty will be in effect until its expiration date.

Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed previously in this publication. Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Additional diagnostic time due to use of an outdated version of TOOLBOX™, time to purchase or install latest version of TOOLBOX™ are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

(2) Designation of Vocational Use Required. To obtain warranty coverage, each Owner must notify ZF through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the WABCO components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with ZF directly. Failure to notify ZF of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date. A second Owner and each subsequent Owner must also notify ZF as to the intended vocational use of the vehicle. This notification can be sent directly to ZF or through

the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use. Coverage under ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.

- (3) What is the Cost of this Warranty? There is no charge to the Owner for this warranty.
- (4) What is not Covered by this Warranty? In addition to the items listed on "Coverage Exclusions," this warranty does not cover normal wear and tear, or service items; nor does it cover a component that fails, malfunctions or is damaged as a result of (a) improper handling, storage, installation, adjustment, repair or modification including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by ZF, (b) accident, fire or other casualty, natural disaster, road debris, negligence, misuse, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the brake system capacity), or (c) improper or insufficient maintenance (including deviation from maintenance intervals, approved lubricants, or lube levels). This warranty does not cover any component or part that is not sold by ZF.
- (5) To obtain service. If the owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.
- (6) Disclaimer of Warranty and Limitation of remedies. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR WARRANTY FOR HIDDEN OR LATENT DEFECTS, AND IN NO EVENT WILL ZF OR ANY OF ITS AFFILIATES BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, PROGRESSIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

- (7) Legal action. Any legal action or claim arising from or related to this Warranty, in contract or otherwise, must be commenced within one year from the accrual of that cause of action, or be barred forever. Any dispute arising in connection with this agreement shall be governed by and construed according to the laws of the State of Michigan and be brought, heard and determined exclusively in either the Circuit Court for the County of Oakland, State of Michigan or the United States District Court for the Eastern District of Michigan. The parties stipulate that the referenced venues are convenient.
- (8) Remedy. The exclusive remedy under this warranty shall be the repair or replacement of the defective component at ZF's option. ZF reserves the right to require that all applicable covered components are available and/or returned to ZF for review and evaluation. THE MAXIMUM LIABILITY, IF ANY, OF ZF FOR ALL DAMAGES, INCLUDING WITHOUT LIMITATION CONTRACT DAMAGES, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORT, IS LIMITED TO AN AMOUNT NOT TO EXCEED THE PURCHASE PRICE OF THE PRODUCT and where indicated in the product and application warranty information above, the inclusion of labor is limited to the standard repair time. THE PARTIES ACKNOWLEDGE AND AGREE THAT THE LIMITATION OF DAMAGES PROVISION SET FORTH IN THIS PARAGRAPH SURVIVES BETWEEN THE ORIGINAL END USER AND ZF EVEN IF THE EXCLUSIVE REMEDY SET FORTH ABOVE IS DEEMED TO FAIL OF ITS ESSENTIAL PURPOSE. ZF may change the design or make improvements to its Products without incurring any warranty obligation for previously manufactured Product .
- (9) Entire Agreement. This is the entire agreement between ZF and the Owner about warranty and no, ZF employee, or dealer is authorized to make any additional warranty on behalf of ZF unless in writing and signed by an authorized representative of ZF.





**For further product details contact your distributor or the
WABCO Customer Care Center at 855-228-3203.**

About ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 160,000 employees worldwide with approximately 260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO). For more information, visit: www.wabco-na.com



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity

Custom Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Exterior surfaces of the cab painted by Pierce shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship

Command Zone Electronics

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Command Zone control modules shall be free from failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

54 Months Material and Workmanship

Camera System

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period.
Warranty Begins:	The date of delivery.
Warranty Period Ends After:	Fifty - Four (54) months
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Material and Workmanship

Pierce 12V LED Strip Light

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Pierce 12V LED strip lights installed on the apparatus occurring during the warranty period.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

NEW PRODUCT WARRANTY



**PARTICIPATING OEM SALES
DISTRIBUTOR SALES**

LIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

- **WARRANTY APPLIES** — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.
- **REPAIRS COVERED** — The warranty covers repairs or replacement, at Allison Transmission’s option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.
- **TOWING** — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.
- **PAYMENT TERMS** — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section “APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE.”
- **OBTAINING REPAIRS** — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.
- **TRANSMISSION REMOVAL AND REINSTALLATION** — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.
- **WARRANTY PERIOD** — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

Demonstration Service - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

APPLICABLE MODELS	WARRANTY LIMITATIONS (Whichever occurs first)		ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER	
	Months	Transmission Miles Or Kilometers	Parts	Labor
MT, MD 3000, 3200, 3500, 3700	0-24	No Limit	No Charge	No Charge
HT with Hydraulic Controls	0-24	No Limit	No Charge	No Charge
AT, 1000 Series™, 2000 Series™, 2400 Series™	0-36	No Limit	No Charge	No Charge
HT with Electronic Controls	0-60	No Limit	No Charge	No Charge
HD 1000 EVS, 2100 EVS, 2200 EVS 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS	0-60	No Limit	No Charge	No Charge

WHAT IS NOT COVERED

- **DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION** — Defects and damage caused as the result of any of the following are not covered:
 - Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
 - Misuse of the vehicle;
 - Installation into unapproved applications and installations;
 - Alterations or modification of the transmission or the vehicle, and
 - Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
 - Anything other than defects in Allison Transmission material or workmanship

NOTE: This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

- **CHASSIS, BODY, and COMPONENTS** — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).
- **DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR'S MANUAL** — Defects and damage caused by any of the following are not covered:
 - Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
 - Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator's Manual.
- **MAINTENANCE** — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner's responsibility.
- **REPAIRS by UNAUTHORIZED DEALERS** — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.
- **USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS** — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.
- **EXTRA EXPENSES** — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.
- **"DENIED PARTY" OWNERSHIP** — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a "denied party" or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

** Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OTHER TERMS APPLICABLE TO OTHER END-USERS

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc.
P.O. Box 894
Indianapolis, IN 46206-0894
Attention: Warranty Administration PF-9



Five (5) Year Material and Workmanship - Transmission Oil Cooler
Three (3) Year Collateral Damage Coverage

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The transmission cooler shall be free from component or structural failures caused by defects in material and/or workmanship. Collateral damage up to \$10,000 per occurrence is available for the first three (3) years.
Warranty Begins:	The date of delivery to the first retail purchaser.
Warranty Period Ends After:	Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty.</p> <p>This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner.</p> <p>Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission.</p> <p>Labor costs for the removal and reinstallation of goods may be covered when necessary to make repairs. Please contact your OEM for authorization.</p> <p>Replacement of cooler during the warranty period is limited to 100% of reasonable labor costs up to a maximum of \$700 to remove, replace, or repair the oil cooler.</p>

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

 **UNITED PLASTIC FABRICATING, INC.**
WARRANTY
FOR: POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™

LIFETIME SERVICE WARRANTY

United Plastic Fabricating, Inc. (hereinafter called "UPF") warrants each POLY-TANK®, Booster/Foam Tank POLYSIDE® Wetside Tank, Integrator Tank/Body, ELLIPSE™ Elliptical Tank, Ellip-T-Tank Tank and DEFENDER™ Skid Tank to be free from defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in an emergency response for fire suppression). All UPF Tanks must be installed and operated in accordance with the UPF Installation and Operating Guidelines. Failure to do so can void the warranty.

Every UPF Tank is inspected and tested before leaving our facility. Should your UPF Tank require service, please notify UPF via email, fax, in writing or by calling UPF at 1-978-975-4520. Please provide the serial number, a description of the service request, the location along with the phone number and name of the contact person. Our goal is to have scheduled work completed within a reasonable time period.

Under a valid warranty claim, UPF will cover the cost to repair the UPF Tank including the customary and reasonable costs to make the tank accessible such as the removal and reinstallation of the tank if authorized in advance (pre-approved) by UPF. The warranty will not cover tanks that have been improperly installed, operated, misused, abused, or modified from its intended or designed use. Serial number must not have been altered, defaced or removed. Tanks that are not stored or installed properly which results in the tank suffering UV damage will not be covered by this agreement.

Should UPF determine that the service claim is valid under this warranty for a tank located outside of the United States and Canada, UPF will assume the costs for labor and material for the warranty repair as described above plus all travel costs to the U.S. port of embarkation. Costs for airline travel outside of the U.S. and Canada will not be the responsibility of UPF.

In the event the tank shall become stationed in an area of the world that is considered to be a war zone or where unsafe conditions exist for the safe passage of United States Nationals, as reported by the United States Department of State, (<http://www.state.gov>), and a request to perform service or warranty repairs, UPF reserves the right to refuse to honor such requests. It is the purchaser's responsibility to relocate the tank to an area where such repairs can be performed without undue risk to UPF employees or their designee. UPF will make every reasonable effort to support our products through alternative means.

For Ellipse™ elliptical tanks, a separate five year warranty provided by the subcontractor is applied to the sub-frames, chute linings (rubber isolation strips) and metal components. The stainless steel wrap provided by UPF shall be warranted by the subcontractor performing the wrap installation in accordance with their warranty in place at the time of the installation. UPF will not be liable for any warranty costs associated with the wrap, sub-frames, chute linings (rubber isolation strips) and metal components but will assist with all claims on behalf of its customer.

For PolySide® wetsided tanks and Integrator™ Tank/Body units, all polypropylene components related to the tank shall carry the standard UPF lifetime



UNITED PLASTIC FABRICATING, INC.

WARRANTY

FOR: POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™

service warranty. Other polypropylene components, including but not limited to compartments, wheel wells, fenders and other body related components shall be warranted by UPF for a period of ten years. The warranty for the PolySide® and Integrator™ units excludes paint or hardware, which shall be covered by the manufacturer of the paint/hardware.

All UPF tanks 50 gallons or less utilized for non-fire applications and installed on specialty vehicles such as ATVs, trailers, boats, etc. are covered under a separate warranty policy available from UPF. Further, UPF Protector™ foam and water trailers are warranted under a separate warranty policy available from UPF.

This UPF warranty is transferable within the United States only with prior written approval by UPF (except an original apparatus manufacturer may assign this warranty to the first titled owner/lessee of the apparatus).

UPF will NOT reimburse any unnecessary work and/or work that has not been pre-approved. Any and all third party charges must be pre-authorized and approved in writing by UPF prior to commencing the work. Any unauthorized third party repairs, alterations, actions or modifications will not be covered and can void the warranty. UPF will be the sole determining authority as to whether a service claim will be valid and covered under this warranty.

In no event will UPF be liable for an amount in excess of the purchase price of the booster/foam tank at the time of manufacture or for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of failure of its product. Loss of contents (water, foam, etc.) shall not be the responsibility of UPF. Further, UPF is not responsible for costs associated with service repairs to chassis, sub-frames, bodies, valves, dumps, hoses, pressure vacuum vents, and other components (i.e. liquid level transducers, etc.). Further, UPF will not cover the cost for travel of the vehicle to and from a repair facility.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. UPF neither assumes, nor authorizes any person supposing to act on its behalf to change, nor assume for it, any warranty or liability concerning its product.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion or limitation or incidental or consequential damage, so the above limitation or exclusion may not apply to you. Since some states do not allow limitations on the length of an implied warranty, the above limitation may not apply to you.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATION OR LIABILITIES ON THE PART OF UPF.

POLY-TANK®, & POLYSIDE® are registered trademarks of UPF, Inc. INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™ are trademarks of UPF, Inc. © 08/01/09 UPF, Inc. Printed in the USA



BULLETIN

TO: All Dealer Service Representatives
From: Kevin Hanegraaf
DATE: January 4, 2010
RE: UPF Tank Warranty Policy – Truck in Accident
Service Topic #292



To keep the UPF tank warranty valid on trucks that have been involved in a vehicular accident, it is UPF's policy that the customer must remove the tank from the truck and send it back to one of UPF's facilities for inspection. In the event that this does not take place, the warranty will be considered null and void.

The customer must remove and send the tank back to UPF for inspection in order to maintain the original warranty coverage, at which time it will be:

- Filled with water
- Visually inspected
- Ultraviolet spark tested on articulating test stand in the dark
- Recommendation for repairs if necessary provided by UPF
- Fully evaluated and repaired by UPF

If your customer chooses to leave the tank on the truck and wants a technician to inspect and/or repair the tank in the field, then **the warranty is no longer in effect.** This direction is upheld by UPF because the technician cannot inspect the entire tank when it is still installed on the truck.

Note: This memo is intended to relay the information Pierce has received on UPF's tank warranty for trucks that are in a vehicular accident. In the event of an actual claim, we direct you to consult with UPF's service Manager Maura Watts (800-638-8265 x253)



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity Apparatus Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The apparatus body shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



AMDOR Inc. TERMS OF BUSINESS AND GENERAL INFORMATION

Warranty:

All AMDOR Inc. roll-up door products are warranted for a period of 10 years from the date of delivery (with the exception of wet paint adhesion - please see below). AMDOR Inc. liability covers the replacement or repair of any component that fails due to defects in material and / or workmanship during the coverage period. We accept no liability for claims made for damages to any part (or parts) of a vehicle and / or machine (of any type) or injury claims by a person or persons assumed or alleged to have been brought about by the use or misuse of any product supplied by AMDOR Inc. Warranty coverage does not extend to door attachments including (but not limited to) decals, emblems, stripes and adhesives.

In order to initiate the claims process please contact your authorized representative of AMDOR Inc. Warranty claims must be accompanied by a written description providing full and reasonable details as to the nature of the defect. Upon receipt of your claim arrangements will be made to inspect the defective product (if necessary). Justified warranty claims will be repaired, exchanged, or credited to the customer's account at AMDOR Inc.'s discretion. All warranty claims must be approved in writing by the Customer Service Manager for AMDOR Inc. There are no exceptions to this clause.

Limited warranty coverage includes the labor associated with the disassembly and assembly of products deemed to be defective by AMDOR Inc. Labor allowances are based on a set time schedule as determined by AMDOR Inc. The maximum allowable hourly labor rate is \$ 50. All warranty labor claims must be approved in writing by an authorized representative of AMDOR Inc. prior to commencement of work. Allowances for removal and installation:

Curtain replacement:	3/4 hour
Balancer replacement:	1 hour
Door ajar switch	3/4 hour
Bottom Panel Assembly:	1/2 hour
Slat replacement:	3/4 hour
Door removal and replacement	1 1/2 hours

Items authorized for return must be accompanied by a Return Goods Authorization (RGA) number. We will accept collect shipments of items deemed to be defective provided that they are returned via the most economical carrier. Should items be

returned by means other than the most economical carrier the difference will be charged back to the sender.

AMDOR Inc. reserves the right to reject any claim when a product has been opened, interfered with or modified. Claims may also be rejected when damage to the product (or any sub-assembly) has been brought about by accident, misuse, abuse, vandalism, incorrect installation, temperature extremes, chemical exposure or any factor other than regular operating conditions.

Limited Wet Paint Match Adhesion Warranty

AMDOR Inc. warrants wet paint finishes applied by AMDOR utilizing our approved factory paint specification. All wet paint match colors must be approved in writing by an authorized OEM representative. AMDOR Inc. will provide a color spray out for this purpose. The time required for shipping and consideration of initial color spray outs will be considered over and above stated lead times. Warranty coverage will extend for a period of not less than 5 years from the date of delivery as determined by AMDOR Inc.'s Packing Slip. AMDOR reserves the right to determine whether individual units will be replaced and / or repaired by an AMDOR approved vendor. An allowance will be made for labor associated with the disassembly and assembly of individual units at the prescribed hourly rate of \$ 50 per hour. Compensation for labor will not exceed the maximum time allowance permitted for door removal and replacement. Written approval including specified allowance for time must be obtained from AMDOR prior to initiating work. Warranty coverage will extend to the following visible paint system defects:

- 1./ Loss of mechanical adhesion as evidenced by peeling, cracking or blistering which exposes the substrate material.
- 2./ Corrosion of the substrate due to paint system failure.
- 3./ Fading which results in a substantial departure from the primary AMDOR approved body color.

Wet paint adhesion limited warranty coverage will be excluded when damages to the system are determined by AMDOR Inc. to be a result of the following:

- 1./ Damage caused through the use of attachments including (but not limited to) decals, labels, adhesives, non factory approved coatings.
- 2./ Loss of gloss, discoloration or damage due to improper maintenance (including but not limited to) mechanical wash systems, pressure washers, steam cleaners, non approved wash or polishing agents.
- 3./ Abuse, acts of nature, excessive heat / cold, chemical exposure, vandalism and / or accidents.
- 4./ Scratches, chips, abrasions, or dents from any source.

This document supercedes all previous written and / or verbal warranties provided by AMDOR Inc. and / or it's affiliates.

Waterous Seven-Year Limited Warranty

WATEROUS warrants, to the original Buyer only, that products manufactured by WATEROUS will be free from defects in material and workmanship under normal use and service for a period of seven (7) years from the date the product is first placed in service, or seven and one-half (7-1/2) years from the date of shipment by WATEROUS, whichever period shall be the first to expire; provided the Buyer notifies WATEROUS, in writing, of the defect in said product within the warranty period, and said product is found by WATEROUS to be nonconforming with the aforesaid warranty. When required in writing by WATEROUS, defective products must be promptly returned by Buyer to WATEROUS at WATEROUS' plant at South St. Paul, Minnesota, or at such other place as may be specified by WATEROUS, with transportation and other charges prepaid. A Returned Material Authorization (RMA) is required for all products and parts and may be requested by phone, fax, email, or mail. The aforesaid warranty excludes any responsibility or liability of WATEROUS for:

- (a) damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes, use in non-firefighting applications, or improper maintenance, or attributable to written specifications or instructions furnished by Buyer;
- (b) defects in products manufactured by others and furnished by WATEROUS hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, WATEROUS will assign to Buyer, if requested by Buyer;
- (c) any product or part, altered, modified, serviced or repaired other than by WATEROUS, without its prior written consent;
- (d) the cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation; and
- (e) normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, mechanical seals, etc.).

ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER CAUSE OF ACTION, SHALL WATEROUS BE LIABLE FOR ANY PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR PERSONAL INJURY OR PROPERTY DAMAGES.

The exclusive remedy of Buyer and the sole liability of WATEROUS, whether based on contract, warranty, tort or any other basis of recovery whatsoever, is expressly limited at the election of WATEROUS to:

- (a) the replacement at the agreed point of delivery of any product or part, which upon inspection by WATEROUS or its duly authorized representative, is found not to conform to the limited warranty set forth above, or
- (b) the repair of such product or part, or
- (c) the refund or crediting to Buyer of the net sales price of the defective product or part.

BUYER'S REMEDIES CONTAINED HEREIN ARE EXCLUSIVE OF ANY OTHER REMEDY OTHERWISE AVAILABLE TO BUYER.

Waterous Company
125 Hardman Avenue South
South St. Paul, MN 55075 USA
www.waterousco.com





Ten (10) Year Material and Workmanship
Stainless Steel Piping
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Table with 2 columns: Label (Coverage, Warranty Begins, Warranty Period Ends After, Conditions and Exclusions) and Description (Stainless steel piping shall be free from structural failures... The date of the original purchase invoice... Ten (10) Years - or - 100,000 Miles... Pierce's obligation under this warranty is limited to repairing or replacing without charge... This warranty does not cover the use of fluoroprotein (FP) type foam...)

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce...
(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions...
(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce...
(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period...

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use.



Fire and Rescue Apparatus

Twenty (20) Year Structural Integrity Pierce Aerial Device

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Each new Pierce Aerial Device shall be free from defects in material and workmanship. Aerial Device Models Covered by this warranty include: Aerial Platforms Aerial Ladders SkyBoom
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Twenty (20) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the torque box, turntable, aerial sections and other structural components of the aerial device, as identified in the Pierce specifications for the aerial device. This warranty shall be void if, or to the extent that the aerial device is not maintained in strict compliance with NFPA Standard 1911 in effect at time of sale, including such periodic inspections and testing by qualified third parties as are required by that Standard as it may be in effect from time to time. Proof of such compliance shall accompany any claims under this warranty. Third party testing agencies known to Pierce to be qualified for such purposes may be obtained from the Pierce Customer Service Department This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



AMITY FIRE AND SAFETY, INC.

3750 CHESTNUT ROAD
ALBURTIS, PA 18011-0451
Phone: 610-966-3115
Fax: 610-965-6313

* STANDARD FIVE YEAR WARRANTY *

(standard warranty is in effect for parts shipped after 4/15/10)

Three Function Swivel

A. PRESHIPMENT TESTING The Three Function Swivel fabricated by Amity which is exposed to pressure during normal use is subject to final inspection using the following pressure minimums:

1. Hydrostatic applications will be tested to 400 PSI unless specified otherwise on approved drawings. Operating pressures on installed systems are not to exceed 250 PSI at any point in the system. Warranty will be voided and Amity will not be held liable for failure and/or damage occurring from Water Hammering or freezing of water in any system.
2. Hydraulic applications will be tested to 4000 PSI. System operating pressure in application to be 3000 PSI maximum.
3. Dielectric and Continuity Test all circuits. 30 Amp max current loading.

B. THREE FUNCTION SWIVEL MAINTENANCE – Our Three Function Swivel has been fully tested at assembly. Under no circumstances is there to be any maintenance performed internally or externally to the Three Function Swivel by Purchaser or any other third party other than an authorized representative of or Amity itself. The Three Function Swivel is sealed and must remain so. The Three Function Swivel is designed for a long maintenance free life. Should any problems occur or replacement be necessary, first contact Amity. There is to be no field maintenance performed on the Three Function Swivel .

C. MOUNTING REQUIREMENTS – The following are the mounting requirements for the Three Function Swivel:

1. Mounting points and methods are to be determined at the initial design stage. All drawings and applicable documentation must be signed off by both parties and filed for future reference. No deviation to the approved mounting is allowed without approval from Amity.
2. The Three Function Swivel is to be mounted concentric to the center of the turntable bearing.
3. All inlet and outlet plumbing to conform to swivel mounting, under no circumstances is the Three Function Swivel to be positioned to match connections. This will avoid putting excessive loads on the Three Function Swivel. All tubing or piping to be supported by means other than the Three Function Swivel.

D. LIMITED WARRANTY, LIMITATIONS, CONDITIONS AND PROCEDURES REQUIRED.

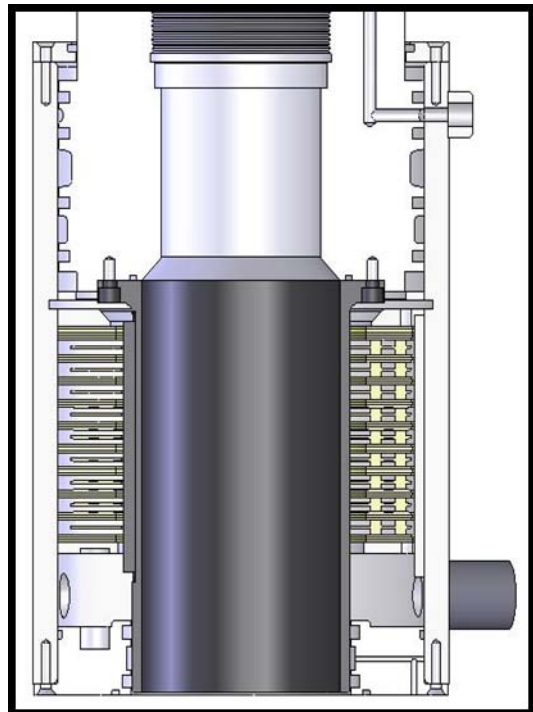
1. The Three Function Swivel is warranted to be free of defects in labor and/or materials for a period of five (5) years from the Date of Service. For purposes here, "Date of Service" shall mean the date when the Three Function Swivel, or the unit to which the Three Function Swivel is incorporated, passes final Underwriters Laboratory testing, or similarly compliant testing, and is certified for service. Evidence of such Date of Service shall be required in connection with any warranty claim by Purchaser.
2. The Three Function Swivel shall be repaired or replaced at the sole option and expense of the Amity provided the Three Function Swivel alleged to be defective was used for its intended normal use of operation and subject to the following qualifications and limitations.
3. Any alteration of the Three Function Swivel without consent from Amity is strictly forbidden and shall void warranty.
4. No welding shall be performed on finished Three Function Swivel.
5. No responsibility is assumed for any malfunctions or damages which are occasionally caused by foreign objects which may be ingested into water or hydraulic systems such as, but not limited to stones, sand or metal chips.
6. Amity assumes responsibility for our Three Function Swivel, which is defective only, and therefore, it will not assume responsibility for labor to either remove or install our Three Function Swivel unless it agrees in writing to assume such responsibility.
7. Unless otherwise approved in writing by the Amity all returns of defective Three Function Swivels (or allegedly defective Three Function Swivels) are at Purchaser's expense and must include a RGA number issued by the Amity.

8. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly's Amity's label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated and resolved.
9. Amity will not be held liable for damage incurred during shipment.
10. No responsibility shall be assumed for misuse or improper mounting, unreasonably use or abuse of the Three Function Swivel and or failure to provide or use improper maintenance, failure to follow written installation and use in instruction or any use other than the customary designed use.

THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE ARE LIMITED IN DURATION AS SET FORTH ABOVE. IN NO EVENT SHALL THE AMITY ASSUME OR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THE WITHIN DESCRIBED WARRANTY SHALL ONLY BE AFFORDED TO THE ORIGINAL PURCHASER OR FOR INCORPORATION INTO ANOTHER UNIT AND TO FIRST PURCHASER AS PART OF COMPLETED UNIT, HOWEVER, THE WARRANTY PERIOD OF FIVE YEARS IS FROM THE DATE OF SERVICE WITH THE UNDERSTANDING IT IS INSTALLED WITHIN A REASONABLE TIME PERIOD.

Dated: _____, 20__





Fire and Rescue Apparatus

Five (5) Year Material and Workmanship Aerial Hydraulic System Components

Three (3) Year Material and Workmanship Aerial Hydraulic System Seals

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The aerial hydraulic system components and seals shall be free from component or structural failures caused by defects in material and/or workmanship.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years and Three (3) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	Pierce's obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the hydraulic lines, fittings, valves, seals, cylinders, filters, pumps, hydraulic motors, rotary actuators, or components which Pierce determines to have failed due to defective material and workmanship. This warranty shall not apply unless the aerial device is inspected in accordance with NFPA 1911 Standard for Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus and the applicable Pierce Operator and Maintenance Manuals.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



AMITY FIRE AND SAFETY, INC.

3750 CHESTNUT ROAD
ALBURTIS, PA 18011-0451
Phone: 610-966-3115
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* STANDARD TEN YEAR WARRANTY *

(standard warranty is in effect for parts shipped after 4/15/10)

Telescopic Waterways

A. PRESHIPMENT TESTING All waterways fabricated by Amity are final inspected using the following pressure minimums:

1. Hydrostatic applications will be tested to 400 PSI unless specified otherwise on approved drawings. Operating pressures on installed systems are not to exceed 250 PSI at any point in the system. Warranty will be voided and Amity will not be held liable for failure and/or damage occurring from Water Hammering or freezing of water in any system.

B. COMPONENTS DESCRIPTION AND MAINTENANCE

1. All components are thoroughly greased at assembly. Since internally lubricated seals are used, regular greasing is not required. We recommend components not be greased at installation.
2. Slip Tube Assemblies may be greased at the Amity's regularly scheduled Aerial Inspections. The seals in the Slip Tube Assemblies are self-lubricating, so greasing is not mandatory. We do recommend a visual inspection of the Slip Tube Assembly while it is fully extended after initial installation, from that point on we recommend inspection every ten hours of aerial operation. If any deposits of aluminum appear, they are to be rubbed off using a Teflon scouring pad. Slip Tube Assemblies are designed to give long maintenance free service; however, like any product, problems may occur and periodic visual inspections will aid in determining if a potential problem exists and warrants a call to us. Care must be taken to keep debris off of extended tubes. We recommend wiping tubes with light oil (10 weight) or hydraulic oil after use, if tubes appear to have contamination on them. Under no circumstance are tubes to be cleaned with lacquer thinner, or any other solvent.

C. LIMITED WARRANTY, LIMITATIONS, CONDITIONS AND PROCEDURES REQUIRED.

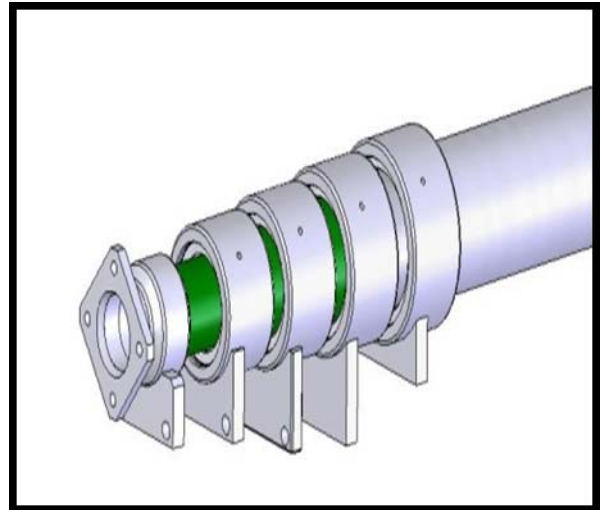
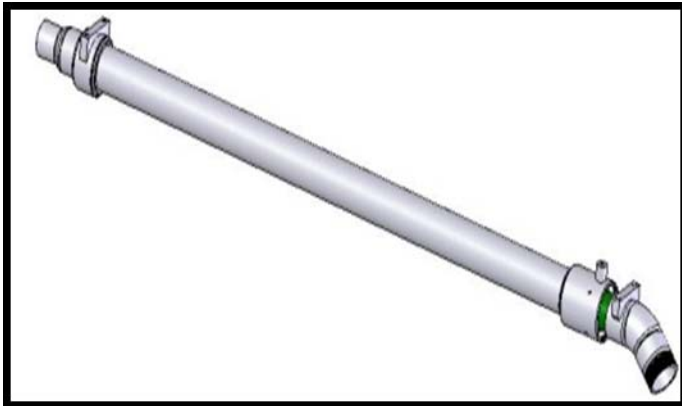
1. Products are warranted to be free of defects in labor and/or materials for a period of ten years from the date of purchase from the Amity and shall be repaired or replaced at the sole option and expense of the Amity provided the products alleged to be defective was used for its intended normal use operation and subject to the following qualifications and limitations.
2. Any alteration of product without consent from Amity is strictly forbidden and shall void warranty.
3. No welding shall be performed on finished product.
4. No responsibility is assumed for any malfunctions or damages which are occasionally caused by foreign objects which may be ingested into water system such as, but not limited to stones, sand or metal chips.
5. Amity assumes responsibility for our product, which is defective only, and therefore, it will not assume responsibility for labor to either remove or install our product unless it agrees in writing to assume such responsibility.
6. Unless otherwise approved in writing by the Amity all returns of defective (or allegedly defective products) are at Purchaser's expense and must include a RGA number issued by the Amity.
7. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly's Amity's label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated and resolved.
8. Amity will not be held liable for damage incurred during shipment.
9. No responsibility shall be assumed for misuse or improper mounting, unreasonably use or abuse of the Product and or failure to provide or use improper maintenance, failure to follow written installation and use in instruction or any use other than the customary designed use.

THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR

FITNESS FOR A PARTICULAR PURPOSE OR USE ARE LIMITED IN DURATION AS SET FORTH ABOVE. IN NO EVENT SHALL THE AMITY ASSUME OR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THE WITHIN DESCRIBED WARRANTY SHALL ONLY BE AFFORDED TO THE ORIGINAL PURCHASER OR FOR INCORPORATION INTO ANOTHER UNIT AND TO FIRST PURCHASER AS PART OF COMPLETED UNIT, HOWEVER, THE WARRANTY PERIOD OF TEN YEARS COMMENCES UPON INSTALLATION INTO FINAL ASSEMBLY WITH THE UNDERSTANDING IT IS INSTALLED WITHIN SIX MONTHS OF PURCHASE.

Dated: _____, 20__





Fire and Rescue Apparatus

Four (4) Year Pro-Rated Paint and Corrosion

Aerial Device

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Aerial device shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Four (4) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-24 months 100% 25-48 months 50%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-24 months 100% 25-48 months 50%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-24 months 100% 25-48 months 50%</p> <p>Corrosion Perforation 0-24 months 100% 25-48 months 50%</p> <p>This limited warranty applies only to exterior paint.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship

Command Zone Electronics

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Command Zone control modules shall be free from failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Custom Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship

Goldstar® Gold Leaf Lamination

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

Proposal for **Canaveral Fire Rescue**

Prepared by **Ten-8 Fire & Safety, LLC**

06/19/2023



PERFORM. LIKE NO OTHER.™

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TEN-8 FIRE EQUIPMENT, INC. is pleased to submit a proposal to Cape Canaveral Fire Rescue 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 two (2) 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 TEN-8 FIRE EQUIPMENT, INC. 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".

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*.

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA 1901 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: 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.

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

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.

Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible.

APPROVAL DRAWING

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

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

ELECTRICAL WIRING DIAGRAMS

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

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 271.00.

GVW RATING

The gross vehicle weight rating will be 76,000.

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 mainframe internal liner will be provided. The liner will be an internal "C" design that steps to an internal "L" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear portion of the liner. Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 1,494,042 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 turning angle of up to 45 degrees.

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 Michelin 445/65R22.50 radials, 20 ply all-position XZY3 wide base tread, rated for 25,600 lb maximum axle load and 65 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 13.00" 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 on the rear axle 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/96KPH.

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) Michelin 12R22.50 radials, 16 ply XDN2 all season 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.

CHROME LUG NUT COVERS

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

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.

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 7.00" cam operated with automatic slack adjusters. Dust shields will be provided.

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor will be a Wabco single piston compressor with a 26.8 CI displacement.

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.

COMPRESSION FITTINGS

Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable.

ENGINE

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

Make:	Paccar
Model:	MX13
Power:	510 hp at 1600rpm
Torque:	1850 lb-ft at 1000rpm
Governed Speed:	1900 rpm
Emissions Certification:	EPA 2024
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	12.9L
Starter:	DP60
Fuel Filters:	Dual cartridge style with check valve, water separator, and water in fuel sensor

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

The compression release brake option is a fully integrated MX engine braking system. It utilizes the turbocharger and backpressure valve, but adds in a hydraulically operated compression brake to increase overall retarding power.

To maximize the effectiveness of the compression brake the MX engine brake system works in conjunction with the turbocharger and back pressure valve.

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

CLUTCH FAN

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

ENGINE AIR INTAKE

The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille.

The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine.

The ember separator will be easily accessible by tilting the cab.

EXHAUST SYSTEM

The exhaust system will include a Single Module™ aftertreatment device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the aftertreatment device, and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

RADIATOR

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

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes.

Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator will be compatible with commercial antifreeze solutions.

The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator will include a de-aeration/expansion 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.

Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES

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

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

FUEL TANK

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

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

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

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

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

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

DIESEL EXHAUST FLUID TANK

A 7.3 gallon diesel exhaust fluid (DEF) tank will be provided and mounted under the cab on the driver's side.

A fill inlet will be provided on the driver's side of the cab.

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.

AUXILIARY FUEL PUMP

An auxiliary electric fuel pump will be added to the fuel line for priming the engine. A switch located on the cab instrument panel will be provided to operate the pump.

FUEL COOLER

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

FUEL FILL DOOR

A brushed stainless steel fuel fill door will be installed.

TRANSMISSION

An Allison 6th generation, Model EVS 4000P, 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 an amber 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	3.51 to 1.00
2nd	1.91 to 1.00
3rd	1.43 to 1.00
4th	1.00 to 1.00
5th	0.75 to 1.00
6th	0.64 to 1.00
R	4.80 to 1.00

TRANSMISSION COOLER

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

TRANSMISSION FLUID

The transmission will be provided with TranSynd heavy duty synthetic transmission fluid.

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 Paccar 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 HORN BUTTON

The steering wheel 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: CANAVERAL

The second row of text will be: FIRE RESCUE

The third row of text will be: Leave Blank

BUMPER

A one (1) piece aluminum bumper minimum of 10.00" high and 45 degree corners containing a 3/8" bend radius and 1.50" top and bottom flange will be attached to the modular frame extension. The bumper will be extended 27.00" from the front face of the cab. The first 11.00" of extension will be provided for the aerial stabilizers. The remaining 16.00" extension will be provided forward of the front stabilizers.

It will have fully covered stabilizer cylinders that tip within a pocket inside the covers allowing the bumper to be a single wrap around piece.

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.

CENTER HOSE TRAY

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

The tray will have a capacity of 75' of 1.75" double jacket cotton-polyester hose.

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

Center Hose Tray Restraint

There will be one (1) pair of hose tray restraint straps located over the center mounted tray.

The restraints will be a pair of 2.00" wide black nylon straps with Velcro® fasteners provided. The strap(s) will be used to secure the hose in the tray.

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 EYES

Two (2) painted steel tow eyes will be installed under the bumper and attached to the front frame members. The tow eyes will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.

The inner and outer edges of the tow eyes will have a .25" radius.

The tow eyes will be painted black.

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

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

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

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

INTERIOR CAB INSULATION

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

FENDER LINERS

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

PANORAMIC WINDSHIELD

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

WINDSHIELD WIPERS

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

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

FAST SERVICE ACCESS FRONT TILT HOOD

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

ENGINE TUNNEL

To provide structural strength, the engine tunnel sidewalls will be constructed of .50" aluminum plate that is welded to both the .25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered.

The engine tunnel will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.

CAB REAR WALL EXTERIOR COVERING

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

CAB LIFT

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

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

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

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

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

Cab Lift Interlock

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

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 1.00" polished stainless steel scuffplate, mounted on the striker side of the jamb.

FRONT CAB TRIM

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

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

MIRRORS

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

CAB DOORS

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

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

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

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The finish of the door handle will be chrome/black. 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.

ELECTRIC CAB DOOR LOCKS

The front driver and passenger doors will have a door lock master switch (custom designed rotary lock knob) built into the interior door latch that will control all front and rear side exit door locks. Each rear cab door will have its own lock control. Each door will have a keyed exterior lock mechanism built into the door handle assembly.

There will be one (1) concealed switch on the exterior of the cab, located under the front bumper on the driver side, that operates the cab door locks.

The lock system will include two (2) key FOBs that allow for keyless entry into the vehicle. The key FOB system will use code hopping technology for high security and be FCC part 15 compliant.

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

STEP LIGHTS

There will be four (4) white P25 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 light(s) will have a chrome housing.

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

FENDER CROWNS

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

CREW CAB WINDOWS

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

WINDOWS INTERIOR TRIM

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

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 0.25" 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 1.00" to allow for wire routing below the plate.

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

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.

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 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

DEFROST/AIR CONDITIONING SYSTEM

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

Cab Defroster

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

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

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

Cab/Crew Auxiliary Heater

There will be no auxiliary heater provided in the rear facing seat risers.

Air Conditioning

A 13.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.

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

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

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

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

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

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

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

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

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

Climate Control

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

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

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

Gravity Drain Tubes

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

SUN VISORS

Two (2) smoked Lexan™ sun visors will be 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 LIGHTS

There will be two (2) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.

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

ACCESS TO ENGINE DIPSTICKS

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

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

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

SEATING CAPACITY

The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) 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. 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. 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 be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

OFFICER SEAT

A Pierce, PS6® seat will be provided in the cab for the officer. The seat will be a cam action type, with air suspension. For increased convenience, the seat will include 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 buckled. The seat back will be an SCBA back style with 7.50 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 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.

The cabinet will be 21.00" wide x 28.00" high x 24.00" deep with one (1) Gortite rollup door with satin anodized finish, non-locking. The frame to frame opening will be 18.50" wide x 22.75" high. The minimum clear door opening will be 15.75" wide x 16.87" high.

The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lippainted to match the cab interior.

The cabinet will include no louvers.

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

Cabinet Light

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

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 19.00" wide x 28.00" high x 26.50" deep with one (1) Gortite rollup door with satin anodized finish, non-locking. The frame to frame opening will be 16.50" wide x 22.75" high. The minimum clear door opening will be 13.75" wide x 16.87" high.

The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lip painted to match the cab interior.

The cabinet will include no louvers.

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

Cabinet Light

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

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing, Pierce PS6® foldup seat provided at the driver side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 0 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 back will be an SCBA back style. 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 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 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 four (4) SCBA brackets.

SEAT BELTS

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

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

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

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

SHOULDER HARNESS HEIGHT ADJUSTMENT

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

A total of 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.

ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS

The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed.

The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.

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.

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)
 - Low volts (11.8 VDC)
 - Amber indicator on gauge assembly with alarm
 - High volts (15 VDC)
 - Amber indicator on gauge assembly with alarm
 - Very low volts (11.3 VDC)
 - Amber indicator on gauge assembly with alarm
 - Very high volts (16 VDC)
 - Amber indicator on gauge assembly with alarm
- Tachometer (RPM)
- Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)

- Fuel level gauge (Empty - Full in fractions)
 - Low fuel (1/8 full)
 - Amber indicator on gauge assembly with alarm
 - Very low fuel (1/32) fuel
 - Amber indicator on gauge assembly with alarm
- Engine oil pressure gauge (PSI)
 - Low oil pressure to activate engine warning lights and alarms
 - Red indicator on gauge assembly with alarm
- Front air pressure gauge (PSI)
 - Low air pressure to activate warning lights and alarm
 - Red indicator on gauge assembly with alarm
- Rear air pressure gauge (PSI)
 - Low air pressure to activate warning lights and alarm
 - Red indicator on gauge assembly with alarm
- Transmission oil temperature gauge (Fahrenheit)
 - High transmission oil temperature activates warning lights and alarm
 - Amber indicator on gauge assembly with alarm
- Engine coolant temperature gauge (Fahrenheit)
 - High engine temperature activates an engine warning light and alarm
 - Red indicator on gauge assembly with alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
 - Low fluid (1/8 full)
 - Amber indicator on gauge assembly with alarm

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

Indicator Lamps

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

The following amber telltale lamps will be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Aux brake overheat (Auxiliary brake overheat)
- Air rest (air restriction)
- Caution (triangle symbol)
- Water in fuel
- DPF (engine diesel particulate filter regeneration)
- Trailer ABS (where applicable)
- Wait to start (where applicable)

- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- SRS (supplemental restraint system) fault (where applicable)
- DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

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

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:

- High beam

Alarms

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

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

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for 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 3 to 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 air conditioning control panel.

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 Whelen Model 3SR00FRR flashing red LED indicator light with a Whelen, Model 3FLANGEC chrome surface mount flange 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 steady tone 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 appliqué. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver 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

The following aerial hour meter messages will be included in the information centers:

- Aerial Hours, that keeps track of the time the aerial device is in motion.
- Aerial PTO Hours, that keeps track of the time the aerial master switch is on and the aerial PTO is engaged.

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 six (6) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power
- The negative wire will be connected to ground
- Wires will be protected to 15 amps at 12 volts DC
- Power and ground will terminate officer side dash area and Centered front of engine tunnel
- Termination will be with 15 amp, power point plug with rubber cover
- Wires will be sized to 125 percent of the protection

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

SPARE CIRCUIT

There will be one (1) 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 2.0 amps at 12 volts DC.
- Power and ground will terminate forward of the power outlet on the passenger's side dash area.
- Termination will be a Blue Sea Systems part number 1016 dual USB charger socket.
- Wires will be sized to 125 percent of the protection.

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

SPARE CIRCUIT

There will be one (1) 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 20 amps at 12 volts DC
- Power and ground will terminate behind officer seat
- Termination will be with a 10-place bus bar with screws and removable 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 High on the rear wall, both EMS compartments..
- Termination will be with a 10-place bus bar with screws and removable cover.
- Wires will be sized to 125 percent 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 20 amps at 12 volts DC.
- Power and ground will terminate RS 4 and LS4 body compartment on the forward bulkhead up high.
- Termination will be with a 10-place bus bar with screws and removable cover.

Wires will be sized to 125 percent of the protection.

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

DASH PANEL RECESS

The dash panel across from the officer will be recessed to accommodate the mounting of miscellaneous items. The recess will be 7.25" down x 7.81" back and 20.88" wide.

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

- General Truck Data
- Maintenance
 - Engine oil and filter
 - Transmission oil and filter
 - Pump oil (if equipped)
 - Foam (if equipped)
 - Aerial (if equipped)
- Setup
 - Clock Setup
 - Date & Time
 - 12 or 24 hour format
 - Set time and date
 - Backlight
 - Daytime
 - Night time
 - Sensitivity
 - Unit Selection
 - Home Screen
 - Virtual Button Setup
 - On Scene Screen Setup
 - Configure Video Mode
 - Set Video Contrast
 - Set Video Color
 - Set Video Tint
- Do Not Move
 - The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be 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
 - 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.

COLLISION MITIGATION

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

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

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

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

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

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

VEHICLE DATA RECORDER

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

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

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

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle

- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

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

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

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

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

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

RADIO ANTENNA MOUNT

There will be two (2) standard 1.125", 18 thread antenna-mounting base(s) installed on the cab roof evenly spaced behind the light bar 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.
- One (1) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal.
- One (1) camera located on the left side of the apparatus, pointing rearward, displayed automatically with the left side turn signal.

The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be not provided.

The following components will be included:

- One (1) SV-CW134639CAI Rear Camera
- Two (2) CS134404CI Side Cameras
- All necessary cables

VEHICLE CAMERA GUARD

There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located at rear

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, electronic control modules to include black housings, a power indicator and status indicator 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 programmable to accommodate changes to the vehicle's operating parameters

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 32 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 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

Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU 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 communicate through a black WiFi antenna 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 TCU 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 TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU information and update software in the device.

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.

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. Component and partial

(incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

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 SYSTEM PROGNOSTICS

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

The system will send automatic indications to the Command Zone™ information center and/or wireless enabled devices to proactively alert of upcoming service intervals.

Prognostics will include the following:

- Engine oil and filter
- Transmission oil and filter

TELEMATICS SYSTEM

There will be a cellular based vehicle telematics system consisting of a Telematic Control Unit (TCU) with external cellular WiFi and GPS antenna, and access to a web-based user interface portal provided.

The TCU will be fully integrated into the electrical system. It will monitor the vehicle through the CAN data bus and transmit data through a secure 4G LTE cellular connection, and be provided with a 3 year subscription..

After accepting the end user license agreement, the vehicle administrator will have access to vehicle location information and vehicle data via a secure web-based interface portal.

The web-based interface will allow users to access vehicle data and configure monitoring tools, providing a global view of the location of each connected asset and a summary of fleet data, which include:

- User defined interval notifications
- User defined fault alerts
- Remote access to Command Zone diagnostics
- Vehicle analytics and activity monitoring
- Vehicle system status

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 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 Stryten/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
- 1140 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.

The battery charger will be located in the cab behind the driver seat.

BATTERY CHARGER

There will be a Kussmaul™, Chief Series Smart Charger 4012, product code 091-266-12-40, 40 amp battery charger with build-in touch screen display provided.

The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.

AUTO EJECT FOR SHORELINE

There will be a Kussmaul™, part number 091-55-20-120, 20 amp 120 volt AC shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus.

The inlet will include a Kussmaul Chief Series part number 091-55-266-XX weatherproof flip up cover with OLED DC display. The color of the cover will be red.

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to Battery charger and 120 volt receptacles.

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 of cab, above wheel.

ALTERNATOR

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

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

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

The system will include the following features:

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

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

- Load managed items list, with priority levels and item condition.

- Individual load managed item condition:
 - ON = not shed
 - SHED = shed

SEQUENCER

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

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

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

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

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

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

HEADLIGHTS

There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

- the outside light on each side will contain a part number 055***1 low beam module
- the inside light on each side will contain a part number 055***1 high beam module
- the headlights to include chrome bezels

The low beam lights will be activated when the headlight switch is on.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

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 the same color as the LED's.

INTERMEDIATE LIGHT

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

CAB CLEARANCE/MARKER/ID LIGHTS

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

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

REAR CLEARANCE/MARKER/ID LIGHTING

There will be 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 lighting will include the following:

- Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs
- Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern.
- The lens color(s) to be clear.
- The lights to include chrome trim.

There will be two (2) Whelen® Model M62BU, 4.31" high x 6.75" wide x 1.37" deep backup lights with white LEDs, clear lenses and chrome trim provided.

LICENSE PLATE BRACKET

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

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

BACK-UP ALARM

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

CAB PERIMETER SCENE LIGHTS

There will be four (4) Amdor, Model AY-LB-12HW012, 190 lumens each, 12.00" white LED strip lights provided.

- 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 and the respective door is open and whenever control has been selected for the body perimeter lights.

PUMP HOUSE PERIMETER LIGHTS

There will be one (1) Amdor, Model AY-LB-12HW012, 190 lumens each, 12.00" LED weatherproof strip lights with brackets provided under the passenger's side pump panel running boards.

The light will be activated when the battery switch is on, and controlled by the same means as the body perimeter lights.

BODY PERIMETER SCENE LIGHTS

There will be three (3) Amdor®, Model AY-LB-12HW012, 190 lumen, 12.00" long, white 12 volt DC LED strip lights provided.

The lights will be mounted in the following locations.

- One (1) light will be provided under the left side turntable access steps
- One (1) light will be provided under the left side basket access steps
- One (1) light will be provided under the right side basket access steps

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

ENHANCED SOFTWARE FOR PERIMETER LIGHTS

All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected.

The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.

STEP ILLUMINATION

The running board(s) under the pump panel(s) will be illuminated by the lights included in the overhead pump panel light shield.

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

12 VOLT LIGHTING

There will be a HiViz Model FT-B-72-*, 72.00" 12 volt LED combination spot/flood light provided in front of the cab roof above the windshield.

The painted parts to be white.

The light will be controlled by four (4) master battery activated switches located in a switch panel centered:

- One (1) switch will activate the 10 degree spot beam light
- One (1) switch will activate the 25-40 degree narrow flood light
- One (1) switch will activate the 60-90 degree wide flood light
- One (1) master switch to activate all three (3) patterns at once

These light may be load managed when the parking brake is set.

12 VOLT LIGHTING

There will be one (1) HiViz®, Model FT-GESM, 20,500 equivalent lumens 8.65" high x 10.61" wide x 2.78" deep light(s) with white LEDs installed on the cab PS of cab high behind crew doors. The light(s) to include chrome optic holders, chrome bezel and white fixture body paint and white circuit boards.

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

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

12 VOLT LIGHTING

There will be one (1) HiViz®, Model FT-GESM, 20,500 equivalent lumens 8.65" high x 10.61" wide x 2.78" deep light(s) with white LEDs installed on the cab DS of cab high behind crew doors. The light(s) to include chrome optic holders, chrome bezel and white fixture body paint and white circuit boards.

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

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

12 VOLT LIGHTING - BODY

There will be two (2) HiViz®, Model FT-GESM, surface mount, 20,500 equivalent lumens, 8.65" high x 10.61" wide x 2.78" deep with white LED's installed on the body Each side high rear of body. The light(s) to include chrome optic holders, chrome bezel and white fixture body paint and white circuit boards. The light(s) will be activated by a switch at the driver's side switch panel and by a switch in a recessed cup located at the passenger's side rear bulkhead.

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

12 VOLT LIGHTING

There will one (1) HiViz Model FT-B-72-*, 21,067 effective lumens 2.56" high x 72.69" long x 2.45" deep 12 volt DC light(s) with white LEDs and with a combination of spot, and flood optics installed on the apparatus located, PS Top of body compartment centered in front of boom panel.

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

The light(s) will be controlled by the same control that has been selected for the passenger's side scene light(s).

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

12 VOLT LIGHTING

There will one (1) HiViz Model FT-B-72-*, 21,067 effective lumens 2.56" high x 72.69" long x 2.45" deep 12 volt DC light(s) with white LEDs and with a combination of spot, and flood optics installed on the apparatus located, DS Top of body compartment centered in front of boom panel.

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

The light(s) will be controlled by the same control that has been selected for the driver's side scene light(s).

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

HOSE BED LIGHTS

There will be 12 volt DC light strips with stainless steel protective covers and white LEDs provided to illuminate the hose bed area per the following:

- A light strip will be installed along the front edge of the hose bed facing rearward.
- A light strip will be installed under the boom support facing forward.

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

WALKING SURFACE LIGHT

There will be two (2) Model P25 12 volt DC LED lights with chrome housing 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 hose bed will be located between the aerial boom support and water tank.

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.

The hose bed/cargo area walls will be unpainted and dual action finished.

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 red 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 bottom step shall be a flip down, stirrup step. 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. All steps will have a height no greater than 14.00" from top surface to top surface.

The access steps will be located just behind the front body and in front of the middle stabilizer.

The swing down step assembly will be constructed of D/A finished aluminum with bright aluminum treadplate steps. The steps shall have a punched grip pattern design.

The stepwell will be lined with bright aluminum treadplate to act as scuffplates.

A knurled aluminum handrail will be provided on the left side of the steps.

Holes will be provided in each side step plate for hand holds.

The steps will be connected to the "Do Not Move Truck" indicator in the cab.

STEP LIGHTS

There will be three (3) white P25 LED step lights provided for the aerial turntable 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 activated by when the parking brake is applied.

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. Each tow eye will be rated for 9000lb. The tow eyes will be painted to match the lower job color.

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.

LEFT SIDE COMPARTMENTATION

The override door forward of the stabilizer will include a pair of flush lift and turn latches.

A full height double door compartment ahead of the rear wheels will be approximately 29.13" wide x 28.25" high x 27.13" deep inside with a clear door opening of approximately 25.13" wide x 26.37" high.

One (1) liftup door compartment above the fender compartments and over the rear axles will be provided. The compartment will be approximately 84.00" wide x 22.13" high x 27.13" deep inside with a clear door opening of approximately 81.25" wide x 19.13" high.

A full height double door compartment behind the rear wheels will be approximately 41.25" wide x 55.75" high x 27.13" deep. There will be a blister in the upper right side of this compartment for the boom support. The clear door opening will be approximately 37.25" wide x 52.00" high.

One (1) single lap door compartment behind the rear stabilizer will be provided. The compartment will be approximately 18.13" wide x 45.75" high x 27.13" deep inside with a clear door opening of approximately 14.87" wide x 43.87" high.

RIGHT SIDE COMPARTMENTATION

A full height single lap door compartment ahead of the front stabilizer will be provided. The compartment will be approximately 18.38" wide x 35.25" high x 9.91" deep inside with a clear door opening of approximately 15.00" wide x 33.37" high.

A full height double door compartment ahead of the rear wheels will be approximately 29.13" wide x 28.25" high x 27.13" deep inside with a clear door opening of approximately 25.13" wide x 26.37" high.

One (1) liftup door compartment above the fender compartments and over the rear axles will be provided. The compartment will be approximately 59.00" wide x 22.13" high x 15.75" deep inside with a clear door opening of approximately 56.25" wide x 19.13" high.

A full height double door compartment behind the rear wheels will be approximately 41.25" wide x 55.75" high. It will be 27.13" deep in the lower 41.50" of compartment height and 15.75" deep in the remaining upper portion. The clear door opening will be approximately 37.25" wide x 52.00" high.

One (1) single lap door compartment behind the rear stabilizer will be provided. The compartment will be approximately 18.13" wide x 45.75" high x 27.13" deep in the lower 38.63" of compartment height and 9.00" deep inside the remaining upper portion. The clear door opening will be approximately 14.87" wide x 43.87" high.

SIDE COMPARTMENT DOORS

All hinged compartment doors will be lap style with double panel construction and fabricated of .09" 5052H32 aluminum. Doors will be a minimum of 1.50" thick. To provide additional door strength, a "C" section reinforcement will be installed between the outer and interior panels.

Doors will be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core will be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.

All compartment doors will have polished stainless steel continuous hinge with a pin diameter of .25", that is bolted or screwed on with stainless steel fasteners. A dielectric substance will be applied to each hinge fastener.

All door lock mechanisms will be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.

Doors will be latched with recessed, polished stainless steel "D" ring handles and Eberhard 106 locks.

To prevent corrosion caused by dissimilar metals, compartment door handles will not be attached to outer door panel with screws. A rubber gasket will be provided between the "D" ring handle and the door.

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 ten (10) shelves with a capacity of 500 lb provided.

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

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

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

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

SLIDE-OUT FLOOR MOUNTED TRAY

There will be four (4) floor mounted slide-out tray(s) with 2.00" sides provided TBD. 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 spatter gray.

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

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

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

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

DRAWER INSERT

A slide-out drawer insert will be installed TBD. The drawer insert will not be in an enclosed cabinet.

The clear dimensions starting at the top with the first drawer will be 5.00" with a face plate that is 6.00" high x 21.00" deep. The clear dimensions of the second drawer will be 5.75" with a face plate that is 6.00" high x 21.00" deep. The clear dimensions of the third drawer will be 9.75" with a face plate that is 10.00" high x 21.00" deep. The clear dimensions of the fourth drawer will be 9.75" with a face plate that is 10.00" high x 21.00" deep. Each drawer will be the same width and not exceed 24.00".

The drawers will have a capacity of 250 pounds.

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

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

SLIDE-OUT TOOLBOARD

There will be two (2) slide-out toolboard(s) provided.

The toolboard will be a minimum of 0.188" thick with .281" 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. A handhold cutout will be provided on the outboard edge of the toolboard.

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

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

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

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

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

The toolboard(s) will be spatter gray painted and installed in LS2, 12.00" from the forward door frame and in LS2, 24.00" from the forward door frame.

SWING OUT TOOLBOARD

Two (2) swing out aluminum toolboards will be provided.

They 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 boards will be mounted on a pivoting device at each side 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. A center latch for each toolboard will be mounted to the floor. The board attached to the forward side compartment wall will span approximately one-half of the width of the compartment. The board attached to the rearward side compartment wall will span one-half of the compartment width. The boards will open similar to a double door compartment opening from the center latch.

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

The board will have a D-ring handle to secure it in the stowed position.

The board will be mounted on adjustable tracks from front to back within the compartment.

There will be Two (2) toolboard(s) provided, will be painted spatter gray to match compartment interior, and installed TBD.

SWING OUT TOOLBOARD

A swing out aluminum toolboard will be provided.

It will be a minimum of .188" thick with .281" 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 have a D-ring handle to secure it in the stowed position.

The board will be mounted on adjustable tracks from front to back within the compartment.

There will be Two (2) toolboard(s) provided. The toolboard(s) will be spatter gray painted and installed in LS3 full height and width and RS3 full height and width.

MOUNTING PLATE

A quantity of four (4) 3/16" thick aluminum mounting plate(s) will be provided. The aluminum plate(s) will be painted spatter gray to match compartment interior. The plate(s) will be as large as possible for the area in size and mounted TBD .

RUB RAIL

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

Trim will be 3.12" high with 1.50" flanges turned outward for rigidity.

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

BODY FENDER CROWNS

Polished stainless steel fender crowns will be provided around the rear wheel openings.

An unpainted fender liner will be provided to avoid paint chipping. The liners will be removable to aid in the maintenance of rear suspension components.

A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

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

HARD SUCTION HOSE

Hard suction hose will not be required.

HANDRAILS

The handrails will be 1.25" diameter knurled aluminum to provide a positive gripping surface.

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

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

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

A step shall be provided below the right side runningboard.

THREE AIR BOTTLE/EXTINGUISHER STORAGE COMPARTMENT

A total of two (2) air bottle compartments will be provided and located on the left side and 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 flush lift & turn latches will be provided for each compartment. The door will be brushed 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 four (4) 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, on the left side rearward of the rear wheels, on the right side forward of the rear wheels and on the right side rearward of the rear wheels. The compartment will be square with angled corners. A brushed stainless steel door with a chrome plated flush lift & turn 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.

EXTENSION LADDER

There will be two (2) 35', two (2) section, aluminum, Alco-Lite, Series PEL-35 extension ladder(s) provided.

AERIAL EXTENSION LADDERS

There will be one (1) 28' two (2) section aluminum Alco-Lite Series PEL-28 extension ladder(s) provided and located in the aerial torque box.

ROOF LADDER

There will be one (1) 16' aluminum Alco-Lite Series PRL-16 roof ladder(s) provided.

ADDED ROOF LADDER

There will be one (1) 14' roof, Series PRL-14 provided.

ADDED ROOF LADDER

There will be one (1) 20' aluminum Series PRL-20 roof ladder(s) provided and located in the aerial torque box.

AERIAL FOLDING LADDER

There will be two (2) 10' aluminum Alco-Lite Series FL-10 folding ladder(s) provided and located in the aerial torque box.

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 6.00" tall 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 roll-up door together with a Southco raised trigger C2 chrome lever latch on each side of the plate will secure the plate in the vertical position.

GENERATOR STORAGE

Provisions will be made in the compartment below the ladder storage for locating a hydraulic generator.

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.

BACKBOARD STORAGE

There will be two (2) stainless steel storage trough provided for backboard storage in the torque box ladder storage area. Each trough will be sized to accommodate backboard(s) 72.00" long x 18.00" wide x 2.00" high.

PIKE POLES

There will be two (2) Fire Hooks Unlimited NYFG-12, 12' pike pole(s) with fiberglass handles and a ram knob end provided. The pike pole(s) will be stored on the apparatus.

8' PIKE POLE

There will be two (2) Fire Hooks Unlimited, New York Hook , 8' long roof hook with steel shaft and ram knob end provided.

6 FT PIKE POLE

There will be two (2) Fire Hooks Unlimited, Model RH-6, 6' pike pole(s) with steel shaft and ram knob end provided.

3' PIKE POLE

There will be two (2) New York roof hook pike pole(s), Fire Hooks Unlimited RH-3 with d-handle and fiberglass pole provided.

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE

There will be ABS tubing provided in the torque box/ladder storage area for a total of six (6) pike poles.

If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided.

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.

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 a separate unit. It will be installed in the pump or engine compartment with the control located on the pump operator's control panel. The exchanger will be plumbed to the master drain valve.

INTAKE RELIEF VALVE - PUMP

There will be One (1) Elkhart Style 40 relief valve(s) installed on the suction side of the pump preset at 125 psig.

The relief valve(s) will have a working range of 75 psi to 250 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.

The relief valve pressure control will be located behind behind the right side pump panel with a stainless steel access door .

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.

MAIN PUMP INLETS

Two (2) 6.00" pump inlets will be provided. One (1) on the left side and One (1) 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.

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.

MAIN PUMP INLET CAP

The main pump inlets will have National Standard Threads with a long handle chrome cap.

The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

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.

The location of the valve for the one (1) inlet will be recessed behind the pump panel.

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.

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.

RIGHT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the right 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.

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 "T" 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.

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.

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.

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 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.

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 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.

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.

FRONT DISCHARGE OUTLET

There will be one (1) 1.50" discharge outlet piped to the front. The plumbing will be routed along the left of the apparatus and terminate on the top of the left side of the front bumper.

Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 1.50" NST with 90 degree stainless steel swivel.

There will be automatic drains provided at all low points of the piping.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with chain will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.

Chrome plated, rocker lug, plugs with chain will be furnished for all auxiliary inlets 1.00" thru 3.00" in size.

The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a T 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 T 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.

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

Two (2) crosslays 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 three (3) 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, while the top outside corners are attached with seat belt buckles, and a small piece of hinge, keeping the buckles beneath the height of the crosslays and avoiding a tripping hazard. The female end of the seat buckle will be permanently attached at the top, inboard forward and rearward, corners of the opening facing outboard. A nylon strap will be attached to the female seat belt buckles to allow a center pull for releasing the buckles on the webbing.

RESTRAINT PULL STRAP

two (2) 2.00" wide nylon Velcro strap(s) and footman loop(s) will be located one each end of the crosslay over the top of the hose.

FOAM SYSTEM

A foam system will not be required on this apparatus.

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 an On Scene Solutions, Model Night Stick Access, 20.00" 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 black vinyl finish. A polished aluminum trim molding will be provided around each panel.

PUMP ACCESS

Right Side Panel

The right side upper pump panel will be removable.

Panel Fastener

The removable panels will be secured with chrome flush lift and turn latch.

The left side pump panels will be attached with screws.

The right side lower pump panel (drain bank) will be attached with screws.

PUMP COMPARTMENT LIGHT

There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the pump compartment.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

Also provided at the pump panel will be the following:

- Master Pump Drain Control

THROTTLE READY GREEN INDICATOR LIGHT

There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.

OK TO PUMP INDICATOR LIGHT

There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.

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 4.50" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

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 polished stainless steel plugs. They will be marked with a label.

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.

PUMP PANEL ILLUMINATION

There will two (2) stainless steel light shields installed over the pump operators panels per the following:

- One (1) shield over the left side pump panel
- One (1) shield over the right side pump panel

The shields will include three (3) 12 volt DC lights with white LEDs to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. The outside lights will be activated by the pump panel light switch. The left side center 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 applied. This is to afford the operator some illumination when first approaching the control panel.

AIR HORN SYSTEM

Two (2) Hadley round air horns with 6.00" bell will be 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. The horns will be in position 3 & 5.

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:

- Left side foot switch will be on the rocker panel on the floor as far forward as possible.
- Right side foot switch will be on the engine tunnel.

ELECTRONIC SIREN

A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the overhead console above the engine tunnel on the officer side.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER

There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.

The speaker will be recessed in the left side of the front bumper, just outside of the frame rail.

AUXILIARY MECHANICAL SIREN

There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus.

The Q2B siren will be chrome finish.

The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on.

The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.

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:

- Steering wheel horn ring with horn/siren selector switch.
- Right side foot switch top of the engine tunnel.

A momentary switch will be included in the left side overhead switch panel to activate the siren brake.

A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.

FRONT ZONE UPPER WARNING LIGHTS

There will be three (3) Whelen® Freedom IV 21.50" lightbars mounted on the cab roof.

The driver's side lightbar will be installed at a 30 degree angle from the front of the cab. This lightbar will include the following:

- One (1) red flashing LED module in the outside end position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside front position.
- One (1) white flashing LED module in the inside front position.
- One (1) red flashing LED module in the inside front corner position.

The center lightbar will be installed parallel to the front of the cab. This lightbar will include the following:

- One (1) red flashing LED module in the driver's side front corner position.
- One (1) red flashing LED module in the driver's side front position.
- One (1) red flashing LED module in the passenger's side front position.
- One (1) red flashing LED module in the passenger's side front corner position.

The passenger's side lightbar will be installed at a 30 degree angle from the front of the cab. This lightbar will include the following:

- One (1) red flashing LED module in the inside front corner position.
- One (1) white flashing LED module in the inside front position.
- One (1) red flashing LED module in the outside front position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside end position.

There will be clear lenses included on the lightbar.

There will be a switch in the cab on the switch panel to control the lightbars.

The white flashing LEDs will be disabled when the parking brake is applied.

The red flashing LED modules in the center lightbar and the red flashing LED module in front inside corners in the side lightbars may be load managed when the parking brake is applied.

CAB FACE WARNING LIGHTS

There will be four (4) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights installed on the cab face, above the headlights in a housing that matches the headlights per the following:

- The left side outside warning light to include red LEDs.
- The left side inside warning light to include red LEDs.
- The right side inside warning light to include red LEDs.
- The right side outside warning light to include red LEDs.
- The warning light lens color(s) to be clear.
- The housing to be polished and the trim shall be chrome.

The lights will be controlled per the following:

- A switch in the cab, on the switch panel will control the lights.
- White LEDs will be deactivated when the parking brake is applied.
- Amber LEDs will be deactivated when the parking brake is released.
- Amber, blue, green or red LEDs in the inside positions may be load managed when the parking brake is applied.

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 red.
- Two (2) lights, one (1) each side, centered above rear wheels. The side rear lights to be red.
- 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 two (2) Whelen®, Model M6#, 4.31" high x 6.75" long x 1.37" deep flashing LED warning light(s) with chrome trim and clear lenses provided per the following:

The lights will be installed one each side behind the crew cab doors as high as possible.

The color of the light(s) to be white to the front and red to the rear.

The lights will be activated with the side warning switch.

White LEDs will be deactivated when the parking brake is applied.

Amber, blue or red LEDs may be load managed when the parking brake is applied.

SIDE WARNING LIGHTS

There will be four (4) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided, one each side above the forward wheel openings and one each side above the forward tandem axle wheel openings.

The light(s) to include red flashing LEDs.

The warning light lens color(s) to be clear.

There will be a switch in the cab on the switch panel to control the lights.

White LEDs will be deactivated when the parking brake is applied.

Amber, blue, green and 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 red
- The passenger's side rear light to be red

Both lights will include a lens that is clear.

There will be a switch located in the cab on the switch panel to control the lights.

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, on the rear body each side.

The light(s) to include red flashing LEDs. The warning light lens color(s) to be clear.

These light(s) will be controlled with the rear lower warning switch.

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

REAR OF HOSEBED WARNING LIGHTS

There will be two (2) Whelen, Model B6M7**1P Super LED beacon with lower LED flashing warning lights provided at the rear of the truck, one (1) each side.

Each light will include a Super LED flashing beacon and a Whelen, Model M7* LED flashing light, mounted in a polished aluminum housing.

The beacons will have red LEDs and be provided with both domes clear.

The color of the Whelen, Model M7* LED flashing lights will be red and include a lens that is clear .

A switch will be provided in the cab, on the switch panel to control the beacons. The lower Whelen, M7* LED lights will be activated with the rear upper warning switch.

POWER OUTLET STRIP

There will be one (1) Fellowes Model FEL99089 receptacle strip(s) with seven (7) 15 amp 120 volt AC straight blade receptacles at 90 degrees with a 12' power cord and surge protective metal housing provided RS 2 high on the rear wall.

The strip(s) selected will be powered from the shoreline inlet through a receptacle located adjacent to the strip(s).

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

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

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:

- Automatic deceleration as you near a cab or body collision zone
- 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 #90 red.

The boom panels will be designed so no mounting bolts are in the face of the panel. This will keep the lettering surface free of holes.

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 safety yellow.

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.

SAW STORAGE BOX

There will be a total of one (1) storage box(es) provided at the base section of the aerial ladder, one (1) on the right side of the aerial device while viewed from the turntable. 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 gas struts to secure the saw. The cover will have the same finish as the box. The cover will be tied in to the open door indicator circuitry when in the open position. The box will have no louvers.

The maximum capacity of each box will be 25 lb.

STABILITY TEST

An aerial stability test will be run on this apparatus using the maximum weight allowance for tip options.

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 painted to match the aerial device and include locking pins to secure the basket.

LADDER STORAGE MOUNTING BRACKETS

There will be brackets that are DA finished provided near the end of the fly section of the aerial for mounting a roof ladder.

The mounting brackets will accommodate a 14' Alco-Lite PRL-14 roof/wall ladder as determined by the type of aerial device and the available space.

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. Each lifting eye will be rated for 500lb.

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.

AXE MOUNTING BRACKETS

Brackets will be provided in the aerial platform basket for mounting one (1) fire axe(s). The type of axe mounted here will be a pickhead axe. The mounting plates for this installation will be stainless steel.

HOSE BOX AT PLATFORM

There will be one (1) hose storage box(es) with a cover and butterfly latch provided at the platform. A brushed stainless steel scuffplate will be provided under each latch. The box(es) will be located at the left side of the basket when viewed from the turntable and will match the finish of the aerial basket. The box(es) will be sized to fit 50' of 1.75" diameter hose.

Drain holes will be provided in the bottom corners of each box and a louver will be provided on each side near the top of the box, below the latches.

TEMPORARY SCABBARD AT AERIAL BASKET

There will be a vent saw scabbard provided at the aerial basket. The scabbard will be mounted on the right side of the basket when viewed from the turntable. The scabbard will be DA finished. The make and model of the saw will be TBD. The bar length of the vent saw will be 16.00" long. The vent saw will have a depth gauge.

MULTIPLEX DISPLAY COVER

A cover will be provided for the multiplex display in the platform basket. The cover will be hinged at the front of the basket and when down it will cover the multiplex display. The cover will be constructed of brushed stainless steel.

The cover will be held down with a butterfly latch.

PIKE POLE MOUNTING

Mounting for storage of one (1) pike pole(s) will be provided in the platform basket. The pole(s) will be mounted vertically in PAC Trac 1004 handlelok mount and accommodate a Fire Hooks Unlimited 6' roof hook.

LIGHTS FOR TURNTABLE WALKWAY

There will be On Scene Model 73006-WHW 6.00" long white LED lights and P25 white LED lights with chrome housing 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.

The front, side and access door heat shields will be painted to match the aerial basket.

The heat shields on the bottom of the basket will be easily removable for ease of servicing components located under the basket. These heat shields will be provided with a non-glare finish.

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) Amdor Model AY-LB-12HW020-0, 350 lumens 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 pan that will be a maximum of 14.00" wide so as to allow the extension of the stabilizer between parked cars or other obstacles. This pan 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 stabilizer deployment audible warning alarm will be provided and activated by the stabilizer movement.

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 PAN AND TRIM MATERIAL

The aerial stabilizer pans will be polished stainless steel and the aerial stabilizer trim will be polished stainless steel .

STABILIZER CONTROL BOX DOOR

A vertically hinged smooth aluminum door will be provided over the stabilizer control box. The door will be hinged along the inboard edge and provided with a flush lift and turn latch.

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 aerial power 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
 - One (1) green light that illuminates when module has power (B+) and ground
 - 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
 - Main controller for the system
 - USB connection allows for computer diagnostics
- Power Module
 - Built-in fault sensing
 - Eight (8) digital outputs
 - Pulse width modulating (PWM) capable
 - 10A continuous per output
 - Circuit protection based on actual current draw (not affected by heat)
- Current Control Module
 - Built-in fault sensing
 - Three (3) analog inputs
 - Eight (8) digital outputs
 - Pulse width modulating (PWM) capable

- 3A continuous per output
- Closed Loop System
- Circuit protection based on actual current draw (not affected by heat)
- Input Module
 - 16 software selectable (digital or analog) inputs
- Output Module
 - 16 digital outputs
- Input/Output Module
 - Eight (8) software selectable (digital or analog) inputs
 - Eight (8) digital outputs
- Valve Module
 - 36 digital inputs
 - 36 digital outputs

TIP LIGHTS

There will be one (1) Whelen® Model P*H2*, 18,520 lumens 12 volt DC light with white LEDs and vertically adjustable bail mount installed on the front of the basket per the following:

- The painted parts of this light assembly to be white.
- The flood optics.
- The lights will be controlled at the turntable and tip.

TRACKING LIGHTS

There will be two (2) Whelen® MPB*, 5,695 lumens 12 volt DC LED lights with bail bracket 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.

- One (1) located on the left side with spot optics
- One (1) located on the right side with spot optics
- The painted parts of this light assembly to be white.

Power to the lights will be controlled by a master on/off switch at the turntable control operator's position.

BASKET ACCESS

Access to the basket will be provided by a pull-out, swing-down climbing ladder. The 2.25" deep climbing ladder surfaces will be constructed with Traction Tread®. The bottom step will be a flip-down, stirrup step. The access ladder will be recessed into the angled corners of the rear body on each side. Hand holds will be provided in each side of the ladder.

The step well finish will be aluminum treadplate.

All stepping surfaces will have a height not greater than 14.00" from top surface to top surface.

The bottom stepping height will not exceed 24.00" from the ground to the top of the stepping surface at any time.

STEP LIGHTS

There will be two (2) white LED step lights with chrome housing 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 when parking brake is applied.

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, middle, 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 blue.
- The lower mid section of the ladder to be blue.
- The mid section of the ladder to be blue.
- The upper mid section of the ladder to be blue.
- The fly section of the ladder to be blue.

The LED rung lighting will be activated when the aerial master switch is activated.

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-12-TR-*-* , 4,435 effective lumens 2.36" high x 17.65" long x 3.11" deep light(s) with white LEDs, flood optics and trunnion 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 white.

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.

3-WAY AERIAL COMMUNICATION SYSTEM

There will be a Fire Research model ICA910 three-way intercom system provided. There will be two (2) control modules located, one (1) at the turntable operator console and one (1) at the pump panel. Each control module will have and an LED volume display and push-button volume control. A hands free module will be located at the aerial tip or platform and constantly transmit to the other module unless the 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 MANSAYER™ 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. The drain will be located below the body on the right side rearward of the running board .

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.

One (1) - 2.50" preconnect will be provided at the front of the platform with a swivel elbow. The preconnect will be gated at the platform. The preconnect will be furnished with 2.50" NST threads and chrome plated cap.

AERIAL MONITOR

Two (2) Akron monitors will be provided at the platform.

One (1) will be a 3481 StreamMaster II manual handwheel controlled with a Akron 3499 stacked tips and 3485 stream shaper.

One (1) will be a 3480 StreamMaster II electronic control with stow and deploy and a Akron 1500 gpm Model 5178 electric nozzle with built in stream shaper.

The controls for the electronic monitors 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.

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 three (3) 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" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.

- One (1) automatic external defibrillator (AED).
- 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:

- no small/medium belts
- 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 PROCESS

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.
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 manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color

standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be 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 painted 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.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

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 percent 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 percent. Water wash systems will be 99.97 percent 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 recycled 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.

CAB TWO-TONE PAINT

The cab will be painted two-tone, with the upper section painted #10 white and the lower section painted #80 red. There will be a standard two-tone cab paint break provided.

There will be a high cab shield provided.

BODY PAINT

The body will be painted to match the lower section of the cab.

PAIN CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components 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.

AXLE HUB PAINT

All axle hubs will be painted to match lower job color.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

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: red 80
- Aerial device ladder sections and extension cylinders: white 10
- Aerial turntable and leveling cylinders (if applicable) at turntable: red 80
- Aerial control console: red 80
- Aerial lift cylinders: red 80
- Aerial rotation motor (if applicable): red 80
- Aerial torque box, support structure and components below the rotation point: red 80
- Aerial stabilizers (middle and rear only): red 80
- Aerial boom support: red 80

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" gold stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" gold 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. Covered surfaces will include the rear wall and aluminum doors. Rear compartment doors, stainless steel access doors, and the rear bumper will not be covered.

The colors will be Fluorescent Lime V98-112 and Red V98-12 oralite.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

REFLECTIVE STRIPE ON STABILIZERS

There will be a 4.00" wide fluorescent yellow green diamond grade reflective stripe provided on the forward and rear facing side of all aerial stabilizers.

JOG IN REFLECTIVE STRIPE

There will be one (1) "Hockey Stick" style jog(s) in the reflective stripe located each side of the vehicle. Each stripe will be angled upward at approximately a 45 degree angle.

REFLECTIVE STRIPE OUTLINE

A black outline will be applied on the top and the bottom of the reflective band. There will be one (1) set of outline stripes required.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" gold reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

LETTERING

The lettering will be totally encapsulated between two (2) layers of clear vinyl.

LETTERING

Sixty-one (61) to eighty (80) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

LETTERING

Twenty-one (21) to forty (40) genuine gold leaf lettering, 12.00" high, with outline and shade will be provided.

LETTERING

There will be genuine gold leaf lettering, 7.00" high, with outline and shade provided. There will be eight (8) letters provided.

LETTERING

There will be reflective lettering, 16.00" high, with outline provided. There will be four (4) letters provided.

LETTERING

One (1) to twenty (20) genuine gold leaf lettering, 4.00" high, with outline and shade will be provided.

ARTWORK ON CUSTOM USB DRIVE

There will be a custom USB drive with department specific artwork files provided to the Fire Department.

Stock artwork, or artwork developed exclusively by Pierce Manufacturing, and proprietary fonts will not be included on the USB drive.

EMBLEM

There will be two (2) reflective emblem(s), approximately 14.00" - 16.00" in size, installed TBD. the emblem will be modeled after the department submitted information (art, patch, etc).

EMBLEM

There will be two (2) emblem(s), approximately 9.00" - 11.00" wide in size, installed each side of the cab. The emblem will feature a "Flying American Flag" and an "Eagle Head".

CAB GRILLE DESIGN

A muted American flag with a thin red line 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 Paccar five (5) year limited engine warranty will be provided. A limited warranty certificate, XX, 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.

TDM REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle 5 year limited warranty will be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY

A Pierce fifty four (54) month warranty will be provided for the camera system.

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of **ten (10) years**. A **five (5) year** limited warranty will be provided on painted roll up doors.

The limited warranty certificate, WA0185, is included with this proposal.

PUMP WARRANTY

The Waterous pump will be provided with a Seven (7) year material and workmanship limited warranty.

A copy of the warranty certificate will be submitted with the bid package (no exception).

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

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.

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of 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:

- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Side Impact

The cab will be subjected to dynamic preload where a 14,320-lbs moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lbs of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Roof Crush

The same cab will be subjected to a roof crush force of 22,050 lbs. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lbs. (Four and a half times the load criteria of ECE 29)

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lb 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-lb 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.

There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION

Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

PERFORMANCE CERTIFICATIONS

Cab Air Conditioning

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 *Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles*. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
 - The nameplate rating of the alternator.
 - The alternator rating under the conditions specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - The minimum continuous load of each component that is specified per:
 - Applicable NFPA 1901 or 1906 (Current Edition).
 - Additional loads that, when added to the minimum continuous load, determine the total connected load.
 - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

Meeting Date

June 28, 2023



AGENDA ITEM REQUEST

Section:	
Item Number:	4.A
Department:	Real Estate
Requested Action:	Consideration of approving a Mutual Lease Termination between Canaveral Port Authority (“CPA”) and Inboard Marine Center, LLC (“Tenant”) to terminate the lease effective June 30, 2023. This document has been reviewed and approved by General Counsel. (Mark Milisits)
<p>Summary Explanation & Background: Tenant has been operating from the premises as a boat mechanic since June 2019. According to Tenant, due to changes in the workforce since the coronavirus pandemic, Tenant has not been able to hire and retain qualified mechanics to perform Tenant’s work. Tenant has endeavored to identify a suitable subtenant since early 2022 with no success but has continued to pay the monthly rent in good faith. Tenant has requested to terminate the lease effective June 30, 2023, thereby foregoing the remaining rent obligation (\$2,819.63 + taxes) through the expiration date on May 31, 2024.</p> <p>Landlord: Canaveral Port Authority Tenant: Inboard Marine Center, LLC Premises: 720 Mullet Road, Cape Canaveral, FL 32920 Size: Approximately 3,250 SF consisting of 2,500 SF warehouse space and 750 SF office space Term: June 1, 2019 - May 31, 2024</p> <p>Recommendation: Staff recommends approval.</p>	
Financial Impact:	No
Reviewed by General Counsel:	Yes
Reviewed by Port Attorney:	No
Financial Review:	

Attachments:

