

City of Alvin, Texas

Paul Horn, Mayor

Glenn Starkey, Mayor Pro-tem, District D
Brad Richards, At Large Pos. 1
Joel Castro, At Large Pos. 2
Martin Vela, District A



Adam Arendell, District B
Keith Thompson, District C
Gabe Adame, District E

ALVIN CITY COUNCIL AGENDA

THURSDAY, MARCH 5, 2020

7:00 P.M.

(Council Chambers)

Alvin City Hall, 216 West Sealy, Alvin, Texas 77511

Persons with disabilities who plan to attend this meeting that will require special services please contact the City Secretary's Office at 281-388-4255 or droberts@cityofalvin.com 48 hours prior to the meeting time. City Hall is wheel chair accessible and a sloped curb entry is available at the front east entrance to City Hall.

NOTICE is hereby given of a Regular Meeting and Executive Session of the City Council of the City of Alvin, Texas, to be held on **THURSDAY, MARCH 5, 2020**, at 7:00 p.m. in the Council Chambers at: City Hall, 216 W. Sealy, Alvin, Texas.

REGULAR MEETING AGENDA

1. CALL TO ORDER

2. INVOCATION AND PLEDGE OF ALLEGIANCE

3. PRESENTATION

- A. Proclamation – celebrating the DeMolay's 101st Anniversary and 50th Anniversary of the local John Wayne Chapter #3667.

4. PUBLIC COMMENT

- 5. CONSENT AGENDA: CONSIDERATION AND POSSIBLE ACTION:** An item(s) may be removed from the Consent Agenda for full discussion by the request of a member of Council. Item(s) removed will automatically become the first item up for discussion under Other Business.

- A. Consider approval of the February 11, 2020 City Council workshop meeting minutes.

- B. Consider approval of the February 20, 2020 City Council workshop meeting minutes.

- C. Consider approval of the February 20, 2020 City Council meeting minutes.

- D. Consider a final plat of Midtown Park Section 3 (located north of Midtown Park Section 1 near the intersection of Gordon Street and FM 528), being a subdivision of 16.60 acres situated in the Hooper and Wade Survey, Abstracts 420 and 421, and the M. O'Donnell Survey, Abstract 485, City of Alvin, County of Brazoria, State of Texas.

- E. Consider the Master Preliminary Plat of Imperial Forest (located near the southwest corner of the Bypass 35 and Wheeler Road intersection), being a planned unit development of 55.90 acres located in the Hooper and Wade Survey, Section 21, Abstract 421, Brazoria County, Texas.

- F. Consider Resolution 20-R-07, canceling the established procedures for the May 2, 2020 General Election in Alvin, Texas; as the position for Mayor and City Council District E are certified as Unopposed; and providing for other related matters thereto.
- G. Consider Resolution 20-R-08, designating the Mayor, City Manager, City Secretary, and Chief Financial Officer as authorized signatories for contractual documents and documents for requesting funds pertaining to the Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery Program (CDBG-DR) – Contract Number 20-065-060-C175, from the Texas General Land Office.
- H. Consider Resolution 20-R-09, adopting required policies pertaining to the Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery Program (CDBG-DR) – Contract Number 20-065-060-C175, from the Texas General Land Office.
- I. Proclaim the month of April 2020 as Fair Housing month in the City of Alvin, Texas.

6. OTHER BUSINESS

- A. Consider award of bid to Texas Pride for the City of Alvin's Exclusive Solid Waste and Recycling Services, RFP-20-02, dated November 3, 2019, for a seven (7) year initial term, and two (2) additional three (3) year renewal options, and authorize the City Manager to begin contract negotiations.
- B. Consider the appointment of Mohamad "Mo" Ghuneim as the Presiding Municipal Judge for the City of Alvin Municipal Court for a two (2) year term ending March 5, 2022, and authorize the Mayor to sign the Employment Agreement.
- C. Consider Resolution 20-R-10, appointing Mike Merkel to serve as an Associate Municipal Judge for the City of Alvin Municipal Court for a two (2) year term ending March 5, 2022; and approving the Memorandum of Understanding between the City of Alvin and Mike Merkel, and authorize the Mayor to sign.
- D. Consider Resolution 20-R-11, setting two (2) public hearings for April 2, 2020, and April 16, 2020, for the limited purpose annexation of 18.2173 acres, more or less, a commercial parcel of land within Municipal Utility District No. 24 (Martha's Vineyard), situated along State Highway 6 in Brazoria County, Texas.
- E. Consider Ordinance 20-G, amending Chapter 21, Subdivisions and Property Development Section 110, of the Code of Ordinances, City of Alvin, Texas, for the purpose of revising the requirements for Planned Unit Developments; and setting forth other provisions related thereto.
- F. Consider an award of bid to Siddons Martin Emergency Group, LLC, for the construction of a 2020 Ladder Truck through the HGAC Cooperative Purchasing Program, in an amount not to exceed \$1,424,686.

7. REPORTS FROM CITY MANAGER

- A. Items of Community Interest and review preliminary list of items for next Council meeting.

8. ITEMS OF COMMUNITY INTEREST

Pursuant to 551.0415 of the Texas Government Code reports or an announcement about items of community interest during a meeting of the governing body. No action will be taken or discussed.

- A. Hear announcements concerning items of community interest from the Mayor, Council members, and City staff, for which no action will be discussed or taken.

9. EXECUTIVE SESSION

City Council will meet in Executive Session pursuant to:

- A. **Section 551.071 (2)** of the Local Government Code: on a matter in which the attorney has a duty to confidentially advise the City regarding Civil Service Law.

10. RECONVENE TO OPEN SESSION

11. ADJOURNMENT

I hereby certify that a copy of this notice was posted on the City Hall bulletin board, a place convenient and readily accessible to the general public at all times, and to the City's website: www.alvin-tx.gov, in compliance with Chapter 551, Texas Government Code, on MONDAY, MARCH 2, 2020 at 4:30 P.M.

(SEAL)



A handwritten signature in blue ink, appearing to read "Dixie Roberts", is written over a horizontal line.

Dixie Roberts, City Secretary

Removal Date: _____

**** All meetings of the City Council are open to the public, except when there is a necessity to meet in Executive Session (closed to the public) under the provisions of Chapter 551, Texas Government Code. The Council reserves the right to convene into executive session on any of the above posted agenda items that qualify for an executive session by publicly announcing the applicable section of the Open Meetings Act, including but not limited to sections 551.071 (litigation and certain consultation with the attorney), 551.072 (acquisition of interest in real property), 551.073 (contract for gift to city), 551.074 (certain personnel deliberations), or 551.087 (qualifying economic development negotiations).**

**MINUTES
CITY OF ALVIN, TEXAS
CITY PLANNING COMMISSION
January 21, 2020**

BE IT REMEMBERED, that on the above date, the Planning Commission met in the First Floor Conference Room, at Public Services Facility, 1100 West Highway 6, Alvin, Texas, at 6:00 P.M. with the following members present, Ashley Davis, Vice Chair; Abrin Brooks; Richard Garivey; Santos Garza; Chris Hartman; Randy Reed; and Keko Moore. Also present were staff members Michelle Segovia, City Engineer and Shana Church, Executive Secretary. Jake Starkey and Carrie Parker were absent.

Call To Order

Call to order at 6:00 p.m.

Petition and Requests from the Public

There were no petitions or requests from the public.

Oath of Office to newly appointed members

Deputy City Secretary administered the oath of office to newly and reappointed Commission Members Abrin Brooks, Keko Moore, Randy Reed, and Santos Garza.

Re-organize board

Commission member Ashley Davis was nominated by Richard Garivey for the position of Chair. Seconded by Randy Reed, Ashley Davis was elected unanimously.

Commission member Richard Garivey was nominated by Santos Garza for the position of Vice Chair. Seconded by Ashley Davis, Richard Garivey was elected unanimously.

Commission member Santos Garza motioned to table the nomination for Secretary. Seconded by Richard Garivey, the motion was tabled on a vote of 7 ayes, 0 nays.

Approve the Minutes of the Planning Commission meeting of December 17, 2019.

Commission Member Richard Garivey motioned to approve the minutes of the regular Planning Commission meeting of December 17, 2019. Seconded by Chris Hartman, the motion carried on a vote of 7 ayes and 0 nays.

Consider replat #2 of Savannah Plantation, Section Four, a replat of the Reserve, Block One of Savannah Plantation, Section Four, being a subdivision of 1.941 acres located in the Francis Moore League, Abstract No. 100 in the City of Alvin ETJ, Brazoria County, Texas.

City Engineer recommends final plat for discussion and approval. Commission Member Hartman motioned to recommend for approval to City Council. Seconded by Member Reed, the motion carried on a vote of 7 ayes, 0 nays.

Consider proposed amendments to Chapter 21, Subdivisions and Property Development, in the City of Alvin Code of Ordinances.

Michelle Segovia discussed the proposed amendments to Chapter 21 and suggested possibly revising Sec. 21-110 (5) to state an average lot width of sixty (60) feet as measured at the front building setback line with no lot to be less than fifty (50) feet wide at the building setback line.

Items of Community Interest.

Ashley Davis mentioned the Queen of Hearts Networking Event is on February 11th.

Staff report and update.

Michelle Segovia reported the RV Resort Ordinance amendment was approved by City Council January 16th. Randy Reed and Jake Starkey attended the City Council meeting and spoke on the Commission's behalf.

Items for the next meeting.

Michelle Segovia stated the Planning Commission may see plats for Southern Colony and Kendall Lakes Section 10 at the next meeting.

Adjournment

Commission Member Reed motioned to adjourn the meeting, seconded by Member Garza. The motion carried on a vote of 7 ayes. The meeting ended at 6:33 p.m.

Passed and approve the 18th day of February 2020.

/s/Ashley Davis, Vice Chair

ATTEST: Abrin Brooks, Member



Office of the Mayor, City of Alvin, Texas

Proclamation

- WHEREAS:** DeMolay is a character-building organization of young men from age 12-21; and
- WHEREAS:** these young men are seeking to prepare themselves to become better citizens and leaders for tomorrow; and
- WHEREAS:** DeMolay helps develop those traits of character which have strengthened good men in all ages; and
- WHEREAS:** locally, John Wayne Chapter #3667 of the Order of DeMolay will celebrate its 50th Anniversary, as the most outstanding chapter in Texas; and
- WHEREAS:** the members of John Wayne Chapter # 3667 will observe the year of 2020 as the **101st Anniversary of DeMolay.**

NOW, THEREFORE, I, Paul A. Horn, as Mayor of the City of Alvin, Texas and on behalf of the City Council do hereby proclaim the month of **March 2020** as:

DeMolay Month

in the City of Alvin and urge citizens to join in saluting the young men of DeMolay, and in expressing our grateful appreciation for the fine example they set in contributing to the welfare of our community.

WITNESS my hand and seal this
5th day of March 2020.

Paul A. Horn, Mayor

**MINUTES
CITY OF ALVIN, TEXAS
216 W. SEALY STREET
CITY COUNCIL WORKSHOP
TUESDAY FEBRUARY 11, 2020
7:00 P.M.**

CALL TO ORDER

BE IT REMEMBERED that, on the above date, the City Council of the City of Alvin, Texas, met in a Workshop Session at 7:00 p.m. in the first floor Conference Room at City Hall, with the following members present: Paul A. Horn, Mayor; Glenn Starkey, Mayor Pro-Tem and Councilmembers: Gabe Adame, Adam Arendell, Joel Castro, Keith Thompson, and Martin Vela.

Staff members present: Junru Roland, City Manager; Suzanne Hanneman, City Attorney; Dixie Roberts, City Secretary; Larry Buehler, Director of Economic Development; Michelle Segovia, City Engineer; Dan Kelinske, Parks Director; Rex Klesel, Fire Chief; Ron Schmitz, EMS/Emergency Management Director; Brandon Moody, Interim Director of Public Services; and Robert E. Lee, Police Chief.

WORKSHOP BUSINESS

Visioning and goalsetting which includes the Capital Improvement Program, city budget and financing, operations/services to the citizens, future residential developments, and policymaking. No formal action will be taken by City Council during this workshop.

Mr. Roland reviewed the following information with all in attendance.

Benefits of Strategic Planning & Goal Setting: Council's early involvement, direction for the city manager, expedites the council work-sessions on the proposed budget.

Objectives for workshop: presentation of future developments northwest of the City, review the budget calendar, strategic planning, 2020 Bond Issue, tax rate analysis, following the game plans, 5-year Capital Improvement Program, transportation initiatives, solid waste, and closing remarks from Mayor/Council.

Representatives from Cole Development and Lando Development were present to discuss the proposed subdivision developments in the northwest area of the City. The next steps in the process: utility agreements, development agreements and annexation.

Mr. Roland stated that members of City Council were asked to participate in a SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis of city services. The vision elements derived from the SWOT analysis that will be the major focus in the FY21 Budget: maintain infrastructure, enhance communication, enable growth & revitalization, maintain a well-managed City, and enhance quality of life.

Proposed 2020 tax supported bond issues: \$3.7M Phase 2 of Moller Road Drainage, \$1.78M Pearson Park Improvements (lighting & concession stand).

Athletic field lighting: all light fixtures are 1500W metal halide, all fixtures are affixed to wooden poles, many poles are bending and twisting, electrical hardware is wearing out and in need of replacement.

East end concession stand: Exterior weather proofing is needed, roof repair/replacement, replacement circulation vents, recommend replacement of metal doors and frames, mold remediation is required on the interior walls, replacement of ceiling insulation and drop ceiling frame w/tiles.

Mr. Higgins reviewed the current tax rate information and how the rate is calculated, and discussed the potential increase of the tax rate in FY21.

Mr. Roland reviewed the current plans that are being worked: Parks Master Plan, Thoroughfare Plan, M-1 Ditch Watershed Plan, 2035 Comprehensive Master Plan, and the Utility Master Plan.

2020 Revenue Bond Issue - (Water & W/Water Fees) - \$16.6M

- \$4.3M Phase 2 of LS 30
- \$3.0M Waterline Improvement
- \$5.9M Phase 2 of 54' Eastside Interceptor
- \$2.1M Ground Storage Tank (Waterplant #4)
- \$1.3M Peak Flow Storage Basin

Ms. Segovia stated that a few lift stations may be able to be decommissioned therefore bringing a cost savings to the water and wastewater capital improvement plan phase 2 project.

Council and staff discussed the current street and sidewalk replacement program. Further discussion will be needed to prioritize the schedule of streets to be replaced in FY21.

The 5 year Capital Improvement projects were discussed including the use, need, and repair, of various city facilities. Mr. Kelinske stated that the Parks and Recreation Department would like to move the entire department from the Public Services Facility into the Fire Station #1 building after the new Fire/EMS station is built. This would allow for additional space needed for various Parks and Recreation programs.

Alvin Community College proposed the extension of Childress Dr to Briscoe Dr. ACC desires to make Childress more of the main entrance to the campus which provides for better ingress/egress during large events at Briscoe Park, and gives additional connectivity to the ACC campus.

Steps on ACC Property: Continue Childress as 2-lane, concrete, curb roadway, relocate ACC trail on both sides of proposed route, relocate current ditch to right side of new roadway, relocate two major and two minor storm inlets, relocate trail solar lighting, relocate/replant trees next to the trail. Steps on City of Alvin City Property: intersect Briscoe Dr. with perpendicular intersection, install two concrete reinforced pipes under roadway. Design will be coordinated with TxDOT Segment B Plans.

The traffic impact analysis for the northwest development was discussed.

Michael Higgins discussed the Solid Waste and Recycling Bidding process and stated that the team is recommending the selection of Texas Pride. This will be brought to City Council in a workshop format for discussion and will be placed on a future City Council agenda for authorization to negotiate the terms of the contract.

ADJOURNMENT

Mayor Horn adjourned the meeting at 9:20 p.m.

PASSED and APPROVED the 5th day of March 2019.

Paul A. Horn, Mayor

ATTEST: _____
Dixie Roberts, City Secretary

**MINUTES
CITY OF ALVIN, TEXAS
216 W. SEALY STREET
CITY COUNCIL WORKSHOP MEETING
TUESDAY FEBRUARY 20, 2020
6:00 P.M.**

CALL TO ORDER

BE IT REMEMBERED that, on the above date, the City Council of the City of Alvin, Texas, met in a Workshop Session at 6:00 P.M. in the Council Chambers at City Hall, with the following members present: Mayor Paul A. Horn; Mayor Pro-Tem Glenn Starkey; Councilmembers: Gabe Adame, Adam Arendell, Joel Castro, Brad Richards, Keith Thompson and Martin Vela.

Staff members present: Junru Roland, City Manager; Suzanne Hanneman, City Attorney; Dixie Roberts, City Secretary; Michael Higgins, Chief Financial Officer; Dan Kelinske, Parks and Recreation Director; Brandon Moody, Interim Public Services Director; and Robert E. Lee, Police Chief.

WORKSHOP ITEM

Discuss the Solid Waste Review Team's recommendation for the selection of a company for RFP-20-02 Exclusive Solid Waste and Recycling Disposal Services.

Mr. Higgins introduced Kevin Atkinson, Owner and Chief Executive Officer of Texas Pride Disposal.

Mr. Atkins reviewed the members of his team. He stated that Texas Pride has over 170 years of Solid Waste Management experience. Brand new equipment (trucks and containers) will be purchased for use in the City of Alvin, with an investment of \$4M.

He said that Texas Pride will aid in the transition of service providers in the City by participating in City events leading up to and after the commencement date, provide a utility bill insert, advertise on the website, social media, and newspaper. The delivery of containers will coincide with the last service provided by the current hauler. The container will have a service flier attached detailing the new program, and the use of educational mailers will continue on a regular basis. Only three holidays will be observed: New Year, Thanksgiving and Christmas.

Texas Pride will have a dedicated webpage with Alvin details (www.texaspridedisposal.com/Alvin), a dedicated email address for Alvin inquiries Alvin@texaspridedisposal.com, a dedicated phone number for Alvin inquiries, will provide containers with hot-stamped lids, and yellow tags will be left on unacceptable items.

Mr. Atkins reviewed the simple service plan. Pick up will not be limited to just the cart, overflow can be placed beside the cart in personal cans or bags, and it will be collected. Up to 8 piles of branches per service day (bundling not required) is allowed, two heavy items per service day, complimentary valet service for disabled residents, and simplified schedule based off quadrants.

Service collection will never be automated, but will be done manually. Residents are not limited to their cart, meaning overflow is collected every service day. Allows for heavy and bulky collection every service day. Two helpers on the back of every truck are able to see and collect any dropped or spilled waste. Manual service guarantees containers are placed back properly, not in street,

blocking driveways, left on side, or lid open. Both sides of street are collected with a lighter truck, meaning less wear and tear on City streets.

A dedicated City Route Supervisor will be provided to observe routes daily to ensure services are being delivered to the expected standards. This supervisor will also observe routes to ensure employees are performing safely and wearing proper safety equipment, will check in with City Hall on a routine basis, will allow for questions/concerns to be addressed promptly and ensure that container requests are delivered daily.

Texas Pride will hire local and will host a job fair and continue to prioritize the hiring of Alvin residents. He stated that the Texas Pride storage yard that holds all of their equipment will be located outside of the City near Beltway 8.

City Council discussed the location of the yard, with concern to it being located outside of the City. Council member Adame would like to see additional references checked.

Brief discussion continued.

ADJOURNMENT

Mayor Horn adjourned the meeting at 6:47 p.m.

PASSED and APPROVED the 5th day of March 2020.

Paul A. Horn, Mayor

ATTEST: _____
Dixie Roberts, City Secretary

**MINUTES
CITY OF ALVIN, TEXAS
216 W. SEALY STREET
REGULAR CITY COUNCIL MEETING
THURSDAY FEBRUARY 20, 2020
7:00 P.M.**

CALL TO ORDER

BE IT REMEMBERED that, on the above date, the City Council of the City of Alvin, Texas, met in Regular Session at 7:00 P.M. in the Council Chambers at City Hall, with the following members present: Mayor Paul A. Horn; Mayor Pro-Tem Glenn Starkey; Councilmembers: Gabe Adame, Adam Arendell, Joel Castro, Brad Richards, Keith Thompson and Martin Vela.

Staff members present: Junru Roland, City Manager; Suzanne Hanneman, City Attorney; Dixie Roberts, City Secretary; Michael Higgins, Chief Financial Officer; Michelle Segovia, City Engineer; Dan Kelinske, Parks and Recreation Director; and Robert E. Lee, Police Chief.

INVOCATION AND PLEDGE OF ALLEGIANCE

Eric Garcia with Grace Christian Center gave the invocation.

Council member Castro led the Pledge of Allegiance to the American Flag; and Council member Thompson led the Pledge to the Texas Flag.

PRESENTATIONS

City Secretary Departmental Update.

Dixie Roberts, City Secretary, gave a departmental update.

PUBLIC COMMENT

There were no comments from the public.

CONSENT AGENDA

Consider approval of the February 6, 2020 City Council meeting minutes.

Acknowledge receipt of the 2019 Alvin Police Department's Racial Profiling Report.

Acknowledge receipt of the Parks and Recreation Department's five-year list of recommended park improvement projects.

The City Charter requires the Parks and Recreation Board to make recommendations to the City Council for improvement and betterment of public parks and recreational facilities by March 1st of each year. On January 11, 2020, the Parks and Recreation Board took a tour of 17 City locations including 12 parks, the Hike and Bike trail, the pool, and other City-owned property. Based on that tour, the Board recommended the five-year list of improvements, which was unanimously approved the regular Board meeting on February 3, 2020. This list was presented to City Council during the February 11, 2020, workshop with the other recommended City of Alvin Capital Improvement Projects. The park improvement projects will remain part of the City's comprehensive Capital Improvement Project list, reviewed by the Planning Commission and presented again, to City Council.

The five-year park improvement projects list is a planning document. City staff recognizes that funding may not be available to fund all projects listed.

Consider an Interlocal Agreement with Brazoria County for the Fiscal Year 2019-2020 Asphalt Improvement Project, and authorize the Mayor to sign the Agreement, subject to legal review.

The proposed Interlocal Agreement between the City and the County provides the mechanisms for the County to provide the City of Alvin with equipment and personnel to assist in the construction, improvement, maintenance and/or repair of

up to two miles of asphalt streets in various locations within the city limits of Alvin. The City of Alvin entered into this partnership with Brazoria County in 1991 and has continued to use the program since that time. This program provides for low cost paving and rehabilitation of asphalt streets and has improved over 34 miles of asphalt streets since the start in 1991.

Should City Council authorize this agreement, staff will make recommendations of streets to be serviced using the Asphalt Street Assessment. Staff recommended approval of this Agreement.

Council member Castro moved to approve the consent agenda as presented. Seconded by Council member Thompson; motion carried on a vote of 7 Ayes.

OTHER BUSINESS

Consider an Engineering Services Agreement with LJA Engineering in an amount not to exceed \$1,389,800 for engineering design services for the Lift Station 23 Expansion Project, and authorize the City Manager to sign the Agreement, subject to legal review.

The Lift Station 23 Expansion project was identified in the 2015 Utility Master Plan that was approved by City Council on March 3, 2016, and in the February 14, 2019, Utility Capacity Analysis that Freese and Nichols performed for the proposed 900+ lot developments northwest of Forest Heights. As presented at the February 11, 2020, City Council Workshop, preliminary survey data has been reviewed by LJA and by expanding the scope of the Lift Station #23 Expansion Project to include additional deeper gravity mains, lift stations #15 and #16 will be eliminated. Lift Stations #15 and #16 were identified in the 2015 Utility Master Plan to be expanded prior to 2025.

The revised scope of the Lift Station #23 Expansion Project consists of the expansion of lift station #23 from a firm capacity of 2.02 Million Gallons Daily (MGD) to a firm capacity of 9 MGD and elimination of lift stations #15 and #16. The project also includes the replacement of sanitary gravity mains along Steele Road, North Gordon, Rice Street, and Avenue E ½, with approximately 14,720 linear feet of new gravity mains, ranging in size from 15-inch to 30-inch, and replacing approximately 7,000 linear feet of 16-inch and 12-inch sanitary force (pressurized) main along Highway 35 Bypass with 24-inch force main.

The Engineering Services Agreement being considered will provide surveying and geotechnical data, preliminary and final engineering design, complete plan set with bid package, and construction phase services for this important wastewater system expansion CIP project. It is proposed that design services culminating in a final bid package will be complete in a period of nine months. Approval of this Agreement will ensure that construction plans are available and ready for bid in December 2020.

These design services will be funded by savings from the Wastewater Treatment Plant Optimization Project Phase II (2015 Certificates of Obligations). Staff recommended approval of this Agreement.

Council member Castro moved to approve an Engineering Services Agreement with LJA Engineering in an amount not to exceed \$1,389,800 for engineering design services for the Lift Station 23 Expansion Project, and authorize the City Manager to sign the Agreement, subject to legal review. Seconded by Council member Arendell; motion carried on a vote of 7 Ayes.

Consider Ordinance 20-D, establishing a “No Parking” zone along a certain portion of Adoue Street; authorizing the installation of appropriate signage; providing for a penalty and publication; and making other findings related thereto.

Ordinance 20-D establishes a “No Parking” zone along the south side of Adoue Street beginning at the east side of the bridge over Mustang Bayou and extending a distance of 837 feet to meet the existing no parking zone in front of the Morgan Oaks Apartments. This Ordinance is being proposed due to concerns regarding vehicles parking along Adoue adjacent to the new retail center that is currently under construction just east of Mustang Bayou. Staff recommended approval of Ordinance 20-D.

Council member Arendell moved to approve Ordinance 20-D, establishing a “No Parking” zone along a certain portion of Adoue Street; authorizing the installation of appropriate signage; providing for a penalty and publication; and making other findings related thereto. Seconded by Council member Castro; motion carried on a vote of 7 Ayes.

Consider Ordinance 20-E, granting consent to and authorizing the reduction of City of Alvin's Extraterritorial Jurisdiction by a total of approximately 5.161 acres of land located entirely within Brazoria County Municipal Utility District No. 44, in Brazoria County, Texas; providing an effective date; and making other findings related thereto.

On November 20, 2019, the City received a Petition Requesting Release of Extraterritorial Jurisdiction filed by WB Pradera Oaks Land 1, LLC, a Texas Limited Liability Company, the owner of the 5.161 acres of land, more or less, to be released, and Brazoria County MUD No. 44.

The property lies on the west side of SH 288, and abuts the Village of Bonney ETJ. Pradera Oaks intends to build a storm water drainage detention pond on the property to be released, which will ultimately be owned and operated by Brazoria County MUD 44.

Section 42.043 of the Texas Local Government Code requires a city to provide its written consent and authorization to the reduction of its ETJ. This release of ETJ will benefit the City and MUD 44 by providing additional draining and detention in the area. Staff recommends approval of Ordinance 20-E.

Council member Castro moved to approve Ordinance 20-E, granting consent to and authorizing the reduction of City of Alvin's Extraterritorial Jurisdiction by a total of approximately 5.161 acres of land located entirely within Brazoria County Municipal Utility District No. 44, in Brazoria County, Texas; providing an effective date; and making other findings related thereto. Seconded by Council member Starkey; motion carried on a vote of 7 Ayes.

Consider Ordinance 20-F, granting consent to the addition of approximately 9.99 acres of land to Brazoria County Municipal Utility District No. 73; making findings of fact; providing a severability clause; and providing an effective date.

On January 18, 2018, the City consented to the creation of Brazoria County Municipal Utility District No. 73 (the "District") by Ordinance No. 18-E. The District was created by an order of the Texas Commission on Environmental Quality on August 6, 2018 and operates pursuant to Chapters 49 and 54 of the Texas Water Code.

On January 21, 2020, the City of Alvin, Texas received a Petition for Consent to Include Additional Land from the District and M/I Homes of Houston, LLC, to include approximately 9.99 acres into the District. Section 54.016 of the Texas Water Code provides that no land within the corporate limits of a city or within the extraterritorial jurisdiction of a city, shall be included within a municipal utility district unless such city grants its written consent to the inclusion of the land within the district. Staff recommended approval of Ordinance 20-F.

Council member Thompson moved to approve Ordinance 20-F, granting consent to the addition of approximately 9.99 acres of land to the Brazoria County Municipal Utility District No. 73; making findings of fact; providing a severability clause; and providing an effective date. Seconded by Council member Arendell; motion carried on a vote of 7 Ayes.

Consider Resolution 20-R-06, confirming and ratifying the Second Amendment to the Utility Services Contract between the City of Alvin Texas, and Brazoria County Municipal Utility District No. 73 (the "District"), and authorize the Mayor to sign the amended Contract upon legal review.

The City and Rooted Development Group, LLC ("RDG"), on behalf of itself and the Brazoria County Municipal District No. 73 (the "District"), entered into a Utility Services Contract dated September 21, 2017 (the "Original Agreement"), providing for water and sanitary sewer service for approximately 69.728 acres of land situated within the boundaries of the City and the District (the "Original Tract").

On August 16, 2018, RDG assigned all of its rights, benefits and obligations in and to the Original Agreement to the District, all as contemplated by and in accordance with Section 5.8 of the Original Agreement.

On June 6, 2019, in Ordinance 19-O, the City approved the addition of approximately 18.65 acres of land into the District (the "MC Detention Pond No. 1"), thereby conferring ownership and maintenance of the detention pond currently located thereon.

On June 6, 2019, in Ordinance 19-P, the City approved the addition of approximately 55.90 acres of land into the District (the "Stanton Tract").

On February 20, 2020, in Ordinance 20-F, the City approved the addition of approximately 9.99 acres of land into the District (the "Planka Tract").

The District is requesting a Second Amendment to the Utility Services Contract to amend certain provisions of the Original Agreement in connection with the proposed addition of the 9.99 acres to the District. Staff recommended approval of Resolution 20-R-06.

Council member Starkey moved to approve Resolution 20-R-06, confirming and ratifying the Second Amendment to the Utility Services Contract between the City of Alvin Texas, and Brazoria County Municipal Utility District No. 73 (the "District"), and authorize the Mayor to sign the amended Contract upon legal review. Seconded by Council member Arendell; motion carried on a vote of 7 Ayes.

Consider a Legal Services Agreement with Attorney Julie Gannaway and the law firm of Ross Gannaway, PLLC, to serve the City of Alvin as legal counsel to provide legal advice regarding civil service issues, and authorize the City Manager to sign the Agreement, subject to legal review.

As the Alvin Police Officers Association obtained sufficient signatures for placement of the Civil Service proposition on the May 2020 ballot, the Legal Department has contacted Julie Gannaway, an attorney with Ross Gannaway, PLLC, to provide legal consultation to the City regarding Civil Service issues. Ms. Gannaway is an expert in this area and has advised cities across the state regarding civil service issues. Staff recommended approval the agreement.

Council member Starkey moved to approve the Legal Services Agreement with Attorney Julie Gannaway and the law firm of Ross Gannaway, PLLC, and authorize the City Manager to sign the Agreement, subject to legal review. Seconded by Council member Arendell; motion carried on a vote of 7 Ayes.

Consider award of bid to Texas Pride for the City of Alvin's Exclusive Solid Waste and Recycling Services, RFP-20-02, dated November 3, 2019, for a seven (7) year initial term, and two (2) additional three (3) year renewal options, and authorize the City Manager to begin contract negotiations.

The City of Alvin's current Solid Waste and Recycling Services contract was entered into on August 18, 2005 with IESI, with a subsequent name change to Progressive Waste Solutions and eventually the latest change to Waste Connections. The contract's initial term was a ten (10) year term from October 1, 2005, to September 30, 2015. On August 20, 2015, the City extended the contract for an additional five (5) years, with an ending date of September 30, 2020. No further extensions were allowed in the contract beyond September 30, 2020. As a result, the City was required to seek bids for the City's refuse and collection services.

On November 3, 2019, the City of Alvin issued and advertised RFP-20-02, entitled, "Exclusive Solid Waste and Recycling Disposal Services." Proposals were due January 14, 2020. The City received four (4) proposals from the following bidders: Waste Management, Waste Connections, Texas Pride Disposal, and Republic Services. Staff reviewed the RFP's and interviewed each bidder. The scoring system used a combination of sources from the content of the information in the proposals including: 1) Qualifications and Experience; 2) Service Yard, Facilities and Equipment; 3) Project Methodology; 4) Customer Service and Public Education; 5) Rates and Fees; 6) Transition Plan (if needed); and 7) Interview questions.

Staff provided different service options in the RFP, such as once a week or twice a week trash pickup, 65 or 95 gallon containers, and many different types of commercial containers. Staff did not recommend any specific service to bidders, as the intent of the RFP was to obtain a variety of service options and prices to review. Also, there were 32 service options for commercial services. These include 2-yard to 8-yard containers, each with varying number of days of service options.

Below is a brief summary of the residential rates provided by the bidders:

Cart Size	Weekly Garbage Frequency	Heavyby Trash Frequency	Current Price	Texas Pride	Waste Connections	Waste Management (a)	Republic
95 Gal	Once	Once	\$13.29	\$12.55	\$14.65	\$14.51	\$18.00
95 Gal	Twice	Once		\$15.05	\$18.30	\$17.15	N/A
65 Gal	Twice	Once		\$14.65	\$20.80	N/A	N/A

(a) Waste Management submitted alternate bids with slight variations to the bulky waste sections. This chart compares the most similar type to other bidders.

The most responsive bidder based on the proposals received was Texas Pride Disposal. In addition to very attractive pricing for residential pickup, Texas Pride Disposal has committed to hiring a Route Supervisor and a Customer Service Representative dedicated to the City of Alvin to manage operational areas as well as customer service needs. Texas Pride Disposal also included an improved route schedule, with Wednesday dedicated for weekly heavy trash pickup. This allows less trucks traveling during the week creating less wear and tear on City streets. Other added benefits of Texas Pride Disposal include construction debris pickup, increased heavy trash limits, extra carts at a minimal cost, increased bulky item services, penalties for missed services, and improved communication with the City.

Texas Pride Disposal also submitted the most service price reductions for commercial containers, with 25 of the 32 offered services resulting in reduced costs. This would result in estimated annual savings of \$214,000 compared to the same data over an annual fiscal year.

Upon City Council approval to award the City's Exclusive Solid Waste and Recycling Services to Texas Pride Disposal, an award letter will be sent with contract negotiations to follow. Staff anticipates 30-60 days for the contract phase to be completed. Council will then have the opportunity to decide on which service option to choose from (i.e. once a week service, twice a week service, 65 gal or 95 gal trash containers, etc.) at a later council meeting.

Michael Higgins presented the information before City Council. Discussion was had.

Council member Adame suggested that the item be tabled so that staff could check further references.

Council member Adame moved to table the award of bid to Texas Pride Disposal for the City of Alvin's Exclusive Solid Waste and Recycling Services, for a seven (7) year initial term beginning October 1, 2020, through September 30, 2027, and an option to extend the agreement up to two (2) additional three (3) year terms, and authorize the City Manager to conduct contract negotiations. Seconded by Council member Thompson; motion carried on a vote 5 Ayes and 2 Nos by Council member Thompson and Starkey.

REPORTS FROM CITY MANAGER

Items of Community Interest and review preliminary list of items for next Council meeting.

Mr. Junru Roland announced items of community interest; and he reviewed the preliminary list for the March 5th City Council meeting.

ITEMS OF COMMUNITY INTEREST

Hear announcements concerning items of community interest from the Mayor, Council members, and City staff, for which no action will be discussed or taken.

Mrs. Roberts reviewed items of community interest.

Council member Thompson thanked staff and Texas Pride for the preparation of the solid waste and recycling contract. He thanked Brandon Moody, Interim Public Services Director and his staff for assisting with the work in the Somerset neighborhood.

Council member Arendell urged citizens to get their flu shot.

Council member Castro congratulated Mayor Horn and Councilmember Adame for running unopposed; and he expressed his appreciation to be working with them on Council.

Council member Adame thanked the staff and Texas Pride for preparing the solid waste and recycling contract. He announced that the Alvin Noon Lions Club will be hosting a disc golf tournament on March 6th and 7th.

Mayor Horn thanked Council member Adame and staff for their work in bringing a disc golf course to Alvin.

ADJOURNMENT

Mayor Horn adjourned the meeting at 7:51 p.m.

PASSED and APPROVED the 5th day of March 2020.

Paul A. Horn, Mayor

ATTEST: _____
Dixie Roberts, City Secretary



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Engineering

Contact: Michelle Segovia, City Engineer

Agenda Item: Consider a final plat of Midtown Park Section 3 (located north of Midtown Park Section 1 near the intersection of Gordon Street and FM 528), being a subdivision of 16.60 acres situated in the Hooper and Wade Survey, Abstracts 420 and 421, and the M. O'Donnell Survey, Abstract 485, City of Alvin, County of Brazoria, State of Texas.

Type of Item: ☐Ordinance ☐Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☒Discussion & Direction ☐Other

Summary: On January 30, 2020, the Engineering Department received the final plat of Midtown Park Section 3 for review. The property is located north of Midtown Park Section 1 near the intersection of Gordon Street and FM 528. This section consists of ninety (90) single-family lots, seven (7) reserves, and five (5) blocks. The Midtown Park Subdivision currently consists of two previously platted sections containing 164 single-family residential lots of which approximately 107 have homes on them. This plat complies with all requirements of the City's Subdivision Ordinance.

The Planning Commission unanimously approved the plat at their meeting on February 18, 2020.

Staff recommends approval.

Funding Expected Revenue ☐ **Expenditure** ☐ **N/A** ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☐

Legal Review Required N/A ☒ Required ☐ **Date Completed:** 2/25/2020 SLH

Supporting documents attached:

- [Click HERE to view Final Plat of Midtown Park Section 3.](#)

Recommendation: Move to approve the final plat of Midtown Park Section 3 (located north of Midtown Park Section 1 near the intersection of Gordon Street and FM 528), being a subdivision of 16.60 acres situated in the Hooper and Wade Survey, Abstracts 420 and 421, and the M. O'Donnell Survey, Abstract 485, City of Alvin, County of Brazoria, State of Texas.

Reviewed by Department Head, if applicable ☒

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Engineering

Contact: Michelle Segovia, City Engineer

Agenda Item: Consider the Master Preliminary Plat of Imperial Forest (located near the southwest corner of the Bypass 35 and Wheeler Road intersection), being a planned unit development of 55.90 acres located in the Hooper and Wade Survey, Section 21, Abstract 421, Brazoria County, Texas.

Type of Item: ☐Ordinance ☐Resolution ☐Contract/Agreement ☐Public Hearing ☒Plat ☐Discussion & Direction ☐Other

Summary: On January 30, 2020, the Engineering Department received the master preliminary plat of Imperial Forest for review. The property is located along the south side of Wheeler Road just west of Bypass 35. This master preliminary plat consists of 177 single-family residential lots, 13 reserves, and 7 blocks, and complies with the City of Alvin's Planned Unit Development section of the Subdivision Ordinance.

The City Planning Commission unanimously approved the plat at their meeting on February 18, 2020.

Staff recommends approval of the plat.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☒ Required ☐ **Date Completed:** 2/25/2020 SLH

Supporting documents attached:

- [Click HERE to view the Master Preliminary Plat of Imperial Forest.](#)

Recommendation: Move to approve the Master Preliminary Plat of Imperial Forest (located near the southwest corner of the Bypass 35 and Wheeler Road intersection), being a planned unit development of 55.90 acres located in the Hooper and Wade Survey, Section 21, Abstract 421, Brazoria County, Texas.

Reviewed by Department Head, if applicable ☒

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: City Secretary

Contact: Dixie Roberts, City Secretary

Agenda Item: Consider Resolution 20-R-07, canceling the established procedures for the May 2, 2020 General Election in Alvin, Texas; as the position for Mayor and City Council District E are certified as Unopposed; and providing for other related matters thereto.

Type of Item: ☐ Ordinance ☒ Resolution ☐ Contract/Agreement ☐ Public Hearing ☐ Plat ☐ Discussion & Direction ☐ Other

Summary: This Resolution will officially cancel the General Election scheduled for May 2, 2020 that was called by City Council's adoption of Resolution 20-R-03 on February 6, 2020. The position of Mayor and City Council member District E are both uncontested races and will be certified as Unopposed Candidates upon the adoption of this Resolution. The ballot will list both positions and candidates along with the following wording: Unopposed Candidates Declared Elected.

Both Mayor Horn and City Council member to District E, Gabe Adame, will begin their new term on May 21, 2020, after the Oath of Office is administered at said City Council meeting.

The City's Special Election for the civil service law petition will still be held on May 2, 2020, as called. Staff recommends the approval of Resolution 20-R-07.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 2/25/2020 SLH

Supporting documents attached:

- Resolution 20-R-07
 - Certificate of Unopposed Candidates
-

Recommendation: Move to approve Resolution 20-R-07, canceling the established procedures for the May 2, 2020 General Election in Alvin, Texas; as the position for Mayor and City Council District E are certified as Unopposed; and providing for other related matters thereto.

Reviewed by Department Head, if applicable ☐

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

RESOLUTION 20-R-07

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, CANCELING THE ESTABLISHED PROCEDURES FOR THE MAY 2, 2020 GENERAL ELECTION IN ALVIN, TEXAS; AS THE POSITION FOR MAYOR AND CITY COUNCIL MEMBER DISTRICT E ARE CERTIFIED AS UNOPPOSED; AND PROVIDING FOR OTHER RELATED MATTERS RELATED THERETO

WHEREAS, on February 6, 2020, City Council called for a General Election to be held on May 2, 2020, by adoption of Resolution 20-R-03, to elect the following officials for this City: a member to the position of Mayor and City Council District E; for a term of three (3) years; and

WHEREAS, as the following candidates have been certified as unopposed and are hereby elected as follows, the General Election scheduled to be held on May 2, 2020, in accordance with Section 2.053(a) of the Texas Election Code should be canceled:

Paul A. Horn
Mayor

Gabe Adame
City Council member District E

NOW, THEREFORE, BE IT RESOLVED AND ORDERED BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS:

Section 1. General Election Ordered. The General Election of the City ordered for Saturday, May 2, 2020, to elect members to the position of Mayor and City Council District E; for a term of three (3) years is hereby canceled. The ballot shall list the candidates and position with the wording: Unopposed Candidates Declared Elected.

Section 2. Special Election Ordered. The Special Election ordered by Resolution 20-R-04 will still be held and conducted by the Brazoria County Election Officer in compliance with the *Texas Election Code* and the Election Agreement.

Section 3. Attachments. Attachment A is the Official Certification of Unopposed Candidates Form as prescribed by the Texas Secretary of State. Attachment B is the Official Order of Cancellation Form as prescribed by the Texas Secretary of State. A copy of such order (Attachment B) will be posted on Election Day at each polling place that would have been used for the General Election.

Section 4. Open Meetings Act. It is hereby officially found and determined that this meeting was open to the public, and public notice of the time, place and purpose of said meeting was given, all as required by the Open Meetings Act, Chapter 551 of the Texas Government Code.

Section 5. Effective Date. This Resolution shall be in force and effect from and after its passage on the date shown below.

PASSED AND APPROVED on this the 5th day of March 2020.

CITY OF ALVIN, TEXAS

ATTEST

By _____
Paul A. Horn, Mayor

By _____
Dixie Roberts, City Secretary



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: City Secretary

Contact: Dixie Roberts, City Secretary

Agenda Item: Consider Resolution 20-R-08, designating the Mayor, City Manager, City Secretary, and Chief Financial Officer as authorized signatories for contractual documents and documents for requesting funds pertaining to the Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery Program (CDBG-DR) – Contract Number 20-065-060-C175, from the Texas General Land Office.

Type of Item: ☐Ordinance ☒Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: The grant application submitted by the City of Alvin to the Texas General Land Office's (GLO) Hurricane Harvey Local Infrastructure Program has been approved.

The GLO allocated \$413 million to the Local Infrastructure Program and \$275 million to the Local Buyout and Acquisition Program from HUD Community Development Block Grant for Disaster Recovery (CDBG-DR). The GLO allocated the funds to regional Council of Governments' (COGs) based on a HUD approved needs assessment. The locally-led COGs then conducted methods of distribution (MODs) for determining infrastructure and buyout and acquisition amounts for cities and counties within each jurisdiction.

The City of Alvin's grant application for \$1,012,332 is intended to install generators to facilitate the proper functioning of critical wastewater-system, water-system, and public-facility components to reduce the impact of sewage contamination and backflow and ensure optimum water service in emergency situations.

In order to begin the grant implementation, the GLO requires the City to adopt a Resolution designating signatories for the Contract. Staff recommends approval of Resolution 20-R-08.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 3/2/2020 SLH

Supporting documents attached:

- Resolution 20-R-08
-

Recommendation: Move to approve Resolution 20-R-08, designating the Mayor, City Manager, City Secretary, and Chief Financial Officer as authorized signatories for contractual documents and documents for requesting funds pertaining to the Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery Program (CDBG-DR) – Contract Number 20-065-060-C175, from the Texas General Land Office.

Reviewed by Department Head, if applicable ☐

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

RESOLUTION 20-R-08

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, DESIGNATING AUTHORIZED SIGNATORIES FOR CONTRACTUAL DOCUMENTS AND DOCUMENTS FOR REQUESTING FUNDS PERTAINING TO THE HURRICANE HARVEY – INFRASTRUCTURE COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RECOVERY PROGRAM (CDBG-DR) – CONTRACT NUMBER 20-065-060-C175 FROM THE TEXAS GENERAL LAND OFFICE (GLO).

WHEREAS, the City of Alvin, Texas, has received a Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery program award to provide Water Generators/Public Facilities Generator; and

WHEREAS, it is necessary to appoint persons to execute contractual documents and documents requesting funds from the Texas General Land Office; and

WHEREAS, an original signed copy of the CDBG-DR Depository/Authorized Signatories Designation Form is to be submitted with a copy of this Resolution; and

WHEREAS, the City of Alvin acknowledges that in the event that an authorized signatory of the City changes (elections, illness, resignations, etc.), the City must provide CDBG-DR with the following:

- a resolution designating the new authorized signatory (not required if this original resolution names only the title and not the name of the signatory); and
- a revised CDBG-DR *Depository/ Authorized Signatories Designation Form*.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, THAT:

Section 1. The Mayor, City Manager, City Secretary, and Chief Financial Officer are authorized to execute contractual documents between the Texas General Land Office and the City for the Hurricane Harvey – Infrastructure Community Development Block Grant Disaster Recovery Program.

Section 2. The Mayor, City Manager, City Secretary, and Chief Financial Officer are authorized to execute the *State of Texas Purchase Voucher* and *Request for Payment Form* documents required for requesting funds approved in the Hurricane Harvey – Infrastructure Community Development Block Grant Disaster Recovery Program.

Section 3. Severability. Should any section or part of this Resolution be held unconstitutional, illegal, or invalid, or the application to any person or circumstance thereof ineffective or inapplicable, such unconstitutionality, illegality, invalidity, or ineffectiveness of such section or part shall in no way affect, impair or invalidate the remaining portion or portions

thereof; but as to such remaining portion or portions, the same shall be and remain in full force and effect and to this end the provisions of this Resolution are declared to be severable.

Section 4. Open Meetings. It is hereby officially found and determined that the meeting at which this Resolution is passed was open to the public as required and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code.

PASSED AND APPROVED this the 5th day of March 2020.

CITY OF ALVIN, TEXAS

ATTEST:

By: _____
Paul A. Horn, Mayor

By: _____
Dixie Roberts, City Secretary



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: City Secretary

Contact: Dixie Roberts, City Secretary

Agenda Item: Consider Resolution 20-R-09, adopting required policies pertaining to the Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery Program (CDBG-DR) – Contract Number 20-065-060-C175, from the Texas General Land Office.

Type of Item: ☐Ordinance ☒Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: The grant application submitted by the City of Alvin, Texas, to the Texas General Land Office's Hurricane Harvey Local Infrastructure Program has been approved.

The GLO allocated \$413 million to the Local Infrastructure Program and \$275 million to the Local Buyout and Acquisition Program from HUD Community Development Block Grant for Disaster Recovery (CDBG-DR). The GLO allocated the funds to regional Council of Governments' (COGs) based on a HUD approved needs assessment. The locally-led COGs then conducted methods of distribution (MODs) for determining infrastructure and buyout and acquisition amounts for cities and counties within each jurisdiction.

The City of Alvin's grant application for \$1,012,332 is intended to install generators to facilitate the proper functioning of critical wastewater-system, water-system, and public-facility components to reduce the impact of sewage contamination and backflow and ensure optimum water service in emergency situations.

In order to begin the grant implementation, the GLO requires the City to adopt a Resolution approving the following policies and procedures, which are included as part of the Resolution:

1. Citizen Participation Plan and Grievance Procedures;
2. Section 3 Policy;
3. Excessive Force Policy;
4. Limited English Proficiency (LEP) Standards Plan;
5. Section 504 Policy and Grievance Procedures;
6. Code of Conduct Policy; and
7. Fair Housing Policy.

Staff recommends approval of Resolution 20-R-09.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 3/2/2020 SLH _____

Supporting documents attached:

- Resolution 20-R-09

Recommendation: Move to approve Resolution 20-R-09, adopting required policies pertaining to the Hurricane Harvey – Infrastructure Community Development Block Grant – Disaster Recovery Program (CDBG-DR) – Contract Number 20-065-060-C175, from the Texas General Land Office.

Reviewed by Department Head, if applicable ☐

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

RESOLUTION 20-R-09

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, ADOPTING THE REQUIRED POLICIES PERTAINING TO THE HURRICANE HARVEY – INFRASTRUCTURE COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RECOVERY PROGRAM (CDBG-DR) CONTRACT NUMBER 20-065-060-C175 FROM THE TEXAS GENERAL LAND OFFICE (GLO).

WHEREAS, the City of Alvin, Texas (hereinafter referred to as “City of Alvin”), has been awarded a Community Development Block Grant – Disaster Recovery (CDBG-DR) grant from the Texas General Land Office (hereinafter referred to as “GLO”); and

WHEREAS, the City of Alvin must take actions to ensure that no person or group is denied benefits such as employment, training, housing, and contracts generated by the CDBG-DR activity, and for construction contracts greater than \$10,000, on the basis of race, color, religion, sex, national origin, age, or disability, in accordance with Section 109 of the Title I of the Housing and Community Development Act (24 CFR 6); the Age Discrimination Act of 1975 (42 U.S.C. 6101-6107); and Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794); and

WHEREAS, the City of Alvin, in consideration for the receipt and acceptance of federal funding for the Contract, agrees to comply with all federal rules and regulations including those rules and regulations governing citizen participation and civil rights protections; and

WHEREAS, the City of Alvin is required, to the greatest extent feasible, to provide training and employment opportunities to lower income residents and contract opportunities to businesses in the CDBG-DR project area, in accordance with Section 3 of the Housing and Urban Development Act of 1968, as amended, and 24 CFR Part 135; and

WHEREAS, the City of Alvin must adopt an excessive force policy that prohibits the use of excessive force against non-violent civil rights demonstrations, in accordance with Section 104(1) of the Housing and Community Development Act, as amended, and State’s certification requirements at 24 CFR 91.325(b)(6); and

WHEREAS, the City of Alvin must take reasonable steps to ensure meaningful access to services in federally assisted programs and activities by persons with limited English proficiency (LEP) and must have an LEP plan in place specific to the locality and beneficiaries for each CDBG-DR project, in accordance with Executive Order 13166; and

WHEREAS, the City of Alvin does not discriminate on the basis of disability and agrees to ensure that qualified individuals with disabilities have access to programs and activities that receive federal funds, in accordance with Section 504 of the Rehabilitation Act of 1973; and

WHEREAS, the City of Alvin agrees to conduct at least one activity during the contract period, to affirmatively further fair housing, in accordance with Section 808(e)(5) of the Fair Housing Act (42 USC 3608(e)(5), that requires HUD programs and activities be administered in a manner affirmatively to further the policies of the Fair Housing Act; and

WHEREAS, the City of Alvin, has designated an overseer and will maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award and administration of contracts.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, THAT THE CITY OF ALVIN ADOPTS THE FOLLOWING:

1. Citizen Participation Plan and Grievance Procedures;
2. Section 3 of the Housing and Urban Development Act of 1968 Policy;
3. Excessive Force Policy;
4. Limited English Proficiency (LEP) Standards Plan;
5. Section 504 of the Rehabilitation Act of 1973 Policy and Grievance Procedures;
6. Code of Conduct Policy; and
7. Fair Housing Policy.

Section 1. Severability. Should any section or part of this Resolution be held unconstitutional, illegal, or invalid, or the application to any person or circumstance thereof ineffective or inapplicable, such unconstitutionality, illegality, invalidity, or ineffectiveness of such section or part shall in no way affect, impair or invalidate the remaining portion or portions thereof; but as to such remaining portion or portions, the same shall be and remain in full force and effect and to this end the provisions of this Resolution are declared to be severable.

Section 2. Open Meetings. It is hereby officially found and determined that the meeting at which this Resolution is passed was open to the public as required and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code.

PASSED AND APPROVED this the 5th day of March 2020.

CITY OF ALVIN, TEXAS

ATTEST:

By: _____
Paul A. Horn, Mayor

By: _____
Dixie Roberts, City Secretary

**CITY OF ALVIN
CITIZEN PARTICIPATION PLAN
TEXAS GENERAL LAND OFFICE (GLO)
COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RECOVERY (CDBG-
DR) PROGRAM**

COMPLAINT PROCEDURES

These complaint procedures comply with the requirements of the Texas General Land Office's Community Development Block Grant – Disaster Recovery (CDBG-DR) Program and Local Government Requirements found in 24 CFR §570.486 (Code of Federal Regulations). Citizens can obtain a copy of these procedures at the City of Alvin offices, 216 West Sealy, 216 West Sealy, Alvin, TX 77511, (Street Address), (281) 388-4278 (Phone) during regular business hours.

Below are the formal complaint and grievance procedures regarding the services provided under the CDBG-DR project.

1. A person who has a complaint or grievance about any services or activities with respect to the CDBG-DR project(s), whether it is a proposed, ongoing, or completed CDBG-DR project(s), may during regular business hours submit such complaint or grievance, in writing to the Mayor, at City of Alvin at 216 West Sealy, 216 West Sealy, or may call (281) 388-4278.
2. A copy of the complaint or grievance shall be transmitted by the Mayor to the entity that is the subject of the complaint or grievance and to the City Attorney within five (5) working days after the date of the complaint or grievance was received.
3. The Mayor shall complete an investigation of the complaint or grievance, if practicable, and provide a timely written answer to person who made the complaint or grievance within ten (10) days.
4. If the investigation cannot be completed within ten (10) working days per 3. above, the person who made the grievance or complaint shall be notified, in writing, within fifteen (15) days where practicable after receipt of the original complaint or grievance and shall detail when the investigation should be completed.
5. If necessary, the grievance and a written copy of the subsequent investigation shall be forwarded to the CDBG-DR program for their further review and comment.
6. If appropriate, provide copies of grievance procedures and responses to grievances in both English and Spanish, or other appropriate language.

TECHNICAL ASSISTANCE

When requested, the City shall provide technical assistance to groups that are representative of persons of low- and moderate-income in developing proposals for the use of CDBG-DR funds.

The City, based upon the specific needs of the community's residents at the time of the request, shall determine the level and type of assistance.

PUBLIC OUTREACH EFFORTS

The City shall provide for reasonable public notice, appraisal, examination and comment on the activities proposed for the use of CDBG-DR funds. These efforts shall include:

1. Provide for and encourage citizen participation, particularly by low and moderate income persons who reside in slum or blighted areas and areas in which CDBG-DR funds are proposed to be used;
2. Ensure that citizens will be given reasonable and timely access to local meetings, information, and records relating to an entity's proposed and actual use of CDBG-DR funds;
3. Furnish citizens information, including but not limited to:
 - a) the amount of CDBG-DR funds expected to be made available
 - b) the range of activities that may be undertaken with the CDBG-DR funds
 - c) the estimated amount of the CDBG-DR funds proposed to be used for activities that will meet the national objective of benefit to low and moderate income persons
 - d) if applicable, the proposed CDBG-DR activities likely to result in displacement and the entity's anti- displacement and relocation plan;
4. Provide citizens with reasonable advance notice of, and opportunity to comment on, proposed activities in an application to the state and, for grants already made, activities which are proposed to be added, deleted or substantially changed from the entity's application to the state. Substantially changed means changes made in terms of purpose, scope, location or beneficiaries as defined by criteria established by the state; and
5. These outreach efforts may be accomplished through one or more of the following methods:
 - a) Publication of notice in a local newspaper—a published newspaper article may be used so long as it provides sufficient information regarding program activities and relevant dates;
 - b) Notices prominently posted in public buildings and distributed to local Public Housing Authorities and other interested community groups;
 - c) Posting of notice on the local entity website (if available);
 - d) Public Hearing; or
 - e) Individual notice to eligible cities and other entities as applicable using one or more of the following methods:
 - i. Certified mail
 - ii. Electronic mail or fax
 - iii. First-class (regular) mail
 - iv. Personal delivery (e.g., at a Council of Governments [COG] meeting).

PUBLIC HEARING PROVISIONS

For each public hearing scheduled and conducted by a CDBG-DR applicant or recipient, the following public hearing provisions shall be observed:

1. Furnish citizens information, including but not limited to:
 - (a) The amount of CDBG-DR funds available per application for Hurricane Harvey;
 - (b) The range of activities that may be undertaken with the CDBG-DR Hurricane Harvey funds;
 - (c) The estimated amount of the CDBG-DR Hurricane Harvey funds proposed to be used for activities that will meet the national objective of benefit to low- and moderate-income persons; and
 - (d) The proposed CDBG-DR activities likely to result in displacement and the unit of general local government's antidisplacement and relocation plans required under 24 CFR 570.488.
2. Public notice of any hearings must be published at least seventy-two (72) hours prior to the scheduled hearing. The public notice must be published in a local newspaper. Each public notice MUST include the DATE, TIME, LOCATION and TOPICS to be considered at the public hearing. A published newspaper article may also be used to meet this requirement so long as it meets all content and timing requirements. Notices should also be prominently posted in public buildings and distributed to local Public Housing Authorities and other interested community groups.
3. Each public hearing shall be held at a time and location convenient to potential or actual beneficiaries and will include accommodation for persons with disabilities. Persons with disabilities must be able to attend the hearings and an applicant must make arrangements for individuals who require auxiliary aids or services if contacted at least two days prior to each hearing.
4. When a significant number of non-English speaking residents can be reasonably expected to participate in a public hearing, an interpreter will be present to accommodate the needs of the non-English speaking residents.
5. City may conduct a public hearing via webinar if they also follow the provisions above. If the webinar is used to conduct a public hearing, a physical location with associated reasonable accommodations must be made available for citizens to participate so as to ensure that those individuals without necessary technology are able to participate.
6. If applicable, the locality must retain documentation of the hearing notice(s), attendance lists, minutes of the hearing(s), and any other records concerning the actual use of funds for a period of three years after the project is closed out. Such records must be made available to the public in accordance with Chapter 552, Government Code.

Signature

Paul Horn, Mayor
Name, Title

Date

LA CIUDAD DE ALVIN
PLAN DE PARTICIPACIÓN CIUDADANA
PROGRAMA DE RECUPERACIÓN DE DESASTRES EN ASIGNACIONES EN
BLOQUES DE DESARROLLO COMUNITARIO (CDBG-DR)

PROCEDIMIENTOS DE QUEJA

Estos procedimientos de queja cumplen con los requisitos del La Oficina General de Tierras de Texas de Recuperación de Desastres en Asignaciones en Bloques de Desarrollo Comunitario (CDBG-DR) y los requisitos del gobierno local de Texas que se encuentran en 24 CFR §570.486 (Código de Regulaciones Federales). Los ciudadanos pueden obtener una copia de estos procedimientos en la Ciudad de (Dirección postal City of Alvin, 216 West Sealy, 216 West Sealy, Alvin, TX 77511, (281) 388-4278, (teléfono) durante el horario de oficina.

A continuación se presentan los procedimientos formales de quejas y reclamos relacionados con los servicios prestados en el marco del proyecto CDBG-DR.

1. Una persona que tiene una queja o reclamo sobre cualquier servicios o actividad en relación con el proyecto CDBG-DR, ya sea un proyecto propuesto , en curso o completado de CDBG-DR, pueden durante las horas regulares presentar dicha queja o reclamo, por escrito al Mayor, a City of Alvin, 216 West Sealy, 216 West Sealy, Alvin, TX 77511, (281) 388-4278.
2. Una copia de la queja o reclamo se transmitirá por el alcalde a la entidad que es encargada de la queja o reclamo y al Abogado de la Ciudad dentro de los cinco (5) días hábiles siguientes a la fecha de la queja o día que el reclamo fue recibida.
3. El alcalde deberá completará una investigación de la queja o reclamo, si es posible, y dará una respuesta oportuna por escrito a la persona que hizo la queja o reclamo dentro de los diez (10) días.
4. Si la investigación no puede ser completada dentro de diez (10) días hábiles, la persona que hizo la queja o reclamo será notificada, por escrito, dentro de los quince (15) días cuando sea posible después de la entrega de la queja original o reclamo y detallará cuando se deberá completar la investigación.
5. Si es necesario, la queja y una copia escrita de la investigación posterior se remitirán a la CDBG-DR para su posterior revisión y comentarios.
6. Se proporcionará copias de los procedimientos de queja y las respuestas a las quejas, tanto en inglés y español, u otro lenguaje apropiado

ASISTENCIA TÉCNICA

Cuando lo solicite, la Ciudad proporcionará asistencia técnica a los grupos que son representantes de las personas de bajos y moderados ingresos en el desarrollo de propuestas para el uso de los fondos CDBG-DR. La Ciudad en base a las necesidades específicas de los residentes de la comunidad en el momento de la solicitud, deberá determinar el nivel y tipo de asistencia.

ESFUERZOS PUBLICOS

La Ciudad proporcionará un aviso público razonable, evaluación, examen y un comentario sobre las actividades propuestas para el uso de fondos de CDBG-DR. Estos esfuerzos incluirán:

1. Proveer y fomentar la participación ciudadana, en particularmente por personas de ingresos bajos y moderados que residen en áreas marginales o deterioradas y áreas en las cuales se proponen utilizar fondos de CDBG-DR;
2. Asegurar que los ciudadanos tendrán acceso razonable y oportuno a las reuniones locales, información y registros relacionados con el uso propuesto y real de fondos de CDBG-DR por parte de la entidad;
3. Proporcionar información a los ciudadanos, incluyendo pero no limitado a:
 - a) la cantidad de fondos CDBG-DR que se espera estén disponibles
 - b) la gama de actividades que se pueden emprender con los fondos CDBG-DR
 - c) La cantidad estimada de los fondos CDBG-DR que se propone utilizar para actividades que cumplan el objetivo nacional de beneficio para personas de ingresos bajos y moderados
 - d) si corresponde, las actividades propuestas de CDBG-DR que puedan resultar en desplazamiento y el plan de anti-desplazamiento y reubicación de la entidad;
4. Proporcionar a los ciudadanos un aviso anticipado razonable y la oportunidad de comentar sobre las actividades propuestas en una solicitud al estado y, para las subvenciones ya realizadas, actividades que se proponen agregar, eliminar o cambiar sustancialmente de la aplicación de la entidad al estado. Cambios sustanciales significa cambios hechos en términos de propósito, alcance, ubicación o beneficiarios según lo definido por los criterios establecidos por el estado; y
5. Estos esfuerzos de divulgación pueden lograrse a través de uno o más de los siguientes métodos:
 - a) Publicación de un aviso en un periódico local: se puede utilizar un artículo de periódico publicado siempre que proporcione información suficiente sobre las actividades del programa y las fechas pertinentes;
 - b) Avisos destacados en edificios públicos y distribuidos a las Autoridades Locales de Vivienda ya otros grupos comunitarios interesados;
 - c) Publicación de aviso en el sitio web de la entidad local (si está disponible);
 - d) Audiencia pública; o
 - e) Notificación individual a ciudades elegibles y otras entidades según sea aplicable usando uno o más de los siguientes métodos:
 - i. Correo certificado
 - ii. Correo electrónico o fax
 - iii. Correo de primera clase (regular)
 - iv. Entrega personal (por ejemplo, en una reunión del Consejo de Gobiernos [COG])

DISPOSICIONES PARA LA AUDIENCIA PÚBLICA

Para cada audiencia pública programada y conducida por un solicitante o receptor de CDBG-DR, se observarán las siguientes disposiciones de audiencia pública:

1. Proporcionar a los ciudadanos información, que incluye pero no se limita a:
 - a. La cantidad de fondos de CDBG-DR disponibles por solicitud para Huracán Harvey;
 - b. El rango de actividades que se pueden realizar con los fondos de la CDBG de Huracán Harvey;
 - c. El monto estimado de los fondos de CDBG-DR Huracán Harvey propuestos para ser utilizados en actividades que cumplirán el objetivo nacional de beneficiar a las personas de ingresos bajos y moderados; y
 - d. Las actividades propuestas de CDBG-DR que probablemente resulten en desplazamiento y la unidad de los planes generales de antidesubicación y reubicación del gobierno local requeridos bajo 24 CFR 570.488
2. El aviso público de cualquier audiencia debe ser publicado por lo menos setenta y dos (72) horas antes de la audiencia programada. El aviso público debe ser publicado en un periódico local. Cada aviso público DEBE incluir la FECHA, TIEMPO, LOCALIZACIÓN y TEMAS a ser considerados en la audiencia pública. Un artículo de periódico publicado también puede usarse para cumplir este requisito, siempre y cuando cumpla con todos los requisitos de contenido y tiempo. Los avisos también deben ser destacados en los edificios públicos y distribuidos a las Autoridades Locales de Vivienda ya otros grupos comunitarios interesados.
3. Cada audiencia pública se celebrará en un momento y lugar conveniente para los beneficiarios potenciales o reales e incluirá alojamiento para personas con discapacidades. Las personas con discapacidades deben ser capaces de asistir a las audiencias y el solicitante debe hacer arreglos para las personas que requieren ayudas o servicios auxiliares si se ponen en contacto por lo menos dos días antes de cada audiencia.
4. Cuando un número significativo de residentes que no hablan inglés puede ser razonablemente esperado para participar en una audiencia pública, un intérprete estará presente para acomodar las necesidades de los residentes que no hablan inglés.
5. La Ciudad puede conducir una audiencia pública a través de un seminario si también siguen las disposiciones anteriores. Si el seminario web se utiliza para llevar a cabo una audiencia pública, debe ponerse a disposición de los ciudadanos un lugar físico con adaptaciones razonables asociadas para garantizar que los individuos sin la tecnología necesaria puedan participar.
6. Si es aplicable, la localidad debe conservar la documentación de los avisos de audiencia, las listas de asistencia, las actas de las audiencias y cualquier otro registro referente al uso real de los fondos por un período de tres años después del cierre del proyecto. Dichos registros deben ponerse a disposición del público de conformidad con el Capítulo 552, Código del Gobierno.

Signature

Paul Horn, Alcalde de la ciudad
Name, Title

Fecha

SECTION 3 POLICY

In accordance with 12 U.S.C. 1701u, (Section 3), the City of Alvin agrees to implement the following steps, which, to the *greatest extent feasible*, will provide job training, employment and contracting opportunities for Section 3 residents and Section 3 businesses of the areas in which the program/project is being carried out.

- A. Introduce and pass a resolution adopting this plan as a policy to strive to attain goals for compliance to Section 3 regulations by increasing opportunities for employment and contracting for Section 3 residents and businesses.
- B. Assign duties related to implementation of this plan to the designated Section 3 Coordinator.
- C. Notify Section 3 residents and business concerns of potential new employment and contracting opportunities as they are triggered by CDBG-DR grant awards through the use of: Public Hearings and related advertisements; public notices; bidding advertisements and bid documents; notification to local business organizations such as the Chamber(s) of Commerce or the Urban League; local advertising media including public signage; project area committees and citizen advisory boards; local HUD offices; regional planning agencies; and all other appropriate referral sources. Include Section 3 clauses in all covered solicitations and contracts.
- D. Maintain a list of those businesses that have identified themselves as Section 3 businesses for utilization in CDBG-DR funded procurements, notify those businesses of pending contractual opportunities, and make this list available for general Grant Recipient procurement needs.
- E. Maintain a list of those persons who have identified themselves as Section 3 residents and contact those persons when hiring/training opportunities are available through either the Grant Recipient or contractors.
- F. Require that all Prime contractors and subcontractors with contracts over \$100,000 commit to this plan as part of their contract work. Monitor the contractors' performance with respect to meeting Section 3 requirements and require that they submit reports as may be required by HUD or GLO to the Grant Recipient.
- G. Submit reports as required by HUD or GLO regarding contracting with Section 3 businesses and/or employment as they occur; and submit reports within 20 days of federal fiscal year end (by October 20) which identify and quantify Section 3 businesses and employees.
- H. Maintain records, including copies of correspondence, memoranda, etc., which document all actions taken to comply with Section 3 regulations.

As officers and representatives of the City of Alvin, we the undersigned have read and fully agree to this plan, and become a party to the full implementation of this program.

Signature

Paul Horn, Mayor
Name, Title

Date

Excessive Force Policy

In accordance with 24 CFR 91.325(b)(6), the City of Alvin hereby adopts and will enforce the following policy with respect to the use of excessive force:

1. It is the policy of the City of Alvin to prohibit the use of excessive force by the law enforcement agencies within its jurisdiction against any individual engaged in non-violent civil rights demonstrations;
2. It is also the policy of the City of Alvin to enforce applicable State and local laws against physically barring entrance to or exit from a facility or location that is the subject of such non-violent civil rights demonstrations within its jurisdiction.
3. The City of Alvin will introduce and pass a resolution adopting this policy.

As officers and representatives of City of Alvin, we the undersigned have read and fully agree to this plan, and become a party to the full implementation of this program.

Signature

Paul Horn, Mayor
Name, Title

Date

Over 5%

Limited English Proficiency Plan - 20-065-060-C175

Texas General Land Office

Community Development Block Grant-Disaster Recovery

Grant Subrecipient:	City of Alvin
Community Population:	25,811
LEP Population:	1,733 individuals 7.2%
Languages spoken: 1) by more than 5% of the eligible population or beneficiaries and has more than 50 in number; or 2) By more than 1,000 individuals in the eligible population in the market area or among current beneficiaries	Spanish

Program activities to be accessible to LEP persons:

☒	Public Notices and hearings regarding applications for grant funding, amendments to project activities, and completion of grant-funded project
☒	Publications regarding CDBG-DR application, grievance procedures, <i>complaint procedures, complaint procedures, answers to complaints, notices, notices of rights and disciplinary action</i> , and other vital hearings, documents, program requirements
☒	Other program documents: Documents available in Spanish for directly assisted beneficiaries, if applicable.

Resources available to Grant Recipient:

☒	Translation services: available upon request
☒	Interpreter services: available upon request with prior notice
	Other resources: _____

Language Assistance to be provided:

☒	Translation (oral and/or written) of advertised notices and vital documents for: <u>Public hearing, Complaint and Grievance, Equal Opportunity, Policy of Non-discrimination Based on Disability Status, and Fair Housing notices are available in Spanish. Other CDBG required program notices are available in Spanish upon request.</u>
☒	Referrals to community liaisons proficient in the language of LEP persons <u>Spanish-speaking liaisons are available upon request.</u>
☒	Public meetings conducted in multiple languages: <u>Available upon request with two days advance notice.</u>
☒	Notices to recipients of the availability of LEP services: <u>Included in translated notices.</u>
	Other services: _____

Signature - Chief Elected Official or Civil Rights Officer

Date

See also: http://www.lep.gov/resources/2011_Language_Access_Assessment_and_Planning_Tool.pdf

Section 504 Policy against Discrimination based on Handicap and Grievance Procedures

In accordance with 24 CFR Section 8, Nondiscrimination based on Handicap in federally assisted programs and activities of the Department of Housing and Urban Development, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Section 109 of the Housing and Community Development Act of 1974, as amended (42 U.S.C. 5309), City of Alvin hereby adopts the following policy and grievance procedures:

1. Discrimination prohibited. No otherwise qualified individual with handicaps in the United States shall, solely by reason of his or her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance from the Department of Housing and Urban Development (HUD).
 2. The City of Alvin does not discriminate on the basis of handicap in admission or access to, or treatment or employment in, its federally assisted programs and activities.
 3. The City of Alvin's recruitment materials or publications shall include a statement of this policy in 1. above.
 4. The City of Alvin shall take continuing steps to notify participants, beneficiaries, applicants and employees, including those with impaired vision or hearing, and unions or professional organizations holding collective bargaining or professional agreements with the recipients that it does not discriminate on the basis of handicap in violation of 24 CFR Part 8.
 5. For hearing and visually impaired individuals eligible to be served or likely to be affected by the CDBG-DR program, the City of Alvin shall ensure that they are provided with the information necessary to understand and participate in the CDBG-DR program.
 6. Grievances and Complaints
 - a. Any person who believes she or he has been subjected to discrimination on the basis of disability may file a grievance under this procedure. It is against the law for City of Alvin) to retaliate against anyone who files a grievance or cooperates in the investigation of a grievance.
 - b. Complaints should be addressed to the Mayor, 216 West Sealy, Alvin, TX, 77511 or call (281) 388-4278, who has been designated to coordinate Section 504 compliance efforts.
 - c. A complaint should be filed in writing or verbally, contain the name and address of the person filing it, and briefly describe the alleged violation of the regulations.
-

- d. A complaint should be filed within thirty (30) working days after the complainant becomes aware of the alleged violation.
- e. An investigation, as may be appropriate, shall follow a filing of a complaint. The investigation will be conducted by the Mayor. Informal but thorough investigations will afford all interested persons and their representatives, if any, an opportunity to submit evidence relevant to a complaint.
- f. A written determination as to the validity of the complaint and description of resolution, if any, shall be issued by Mayor, and a copy forwarded to the complainant with fifteen (15) working days after the filing of the complaint where practicable.
- g. The Section 504 coordinator shall maintain the files and records of the City of Alvin relating to the complaints files.
- h. The complainant can request a reconsideration of the case in instances where he or she is dissatisfied with the determination/resolution as described in f. above. The request for reconsideration should be made to the City of Alvin within ten working days after the receipt of the written determination/resolution.
- i. The right of a person to a prompt and equitable resolution of the complaint filed hereunder shall not be impaired by the person's pursuit of other remedies such as the filing of a Section 504 complaint with the U.S. Department of Housing and Urban Development. Utilization of this grievance procedure is not a prerequisite to the pursuit of other remedies.
- j. These procedures shall be construed to protect the substantive rights of interested persons, to meet appropriate due process standards and assure that the City of Alvin complies with Section 504 and HUD regulations.

Signature

Paul Horn, Mayor
Name, Title

Date

Code of Conduct Policy of the City of Alvin

As a Grant Recipient of a CDBG-DR contract the City of Alvin shall avoid, neutralize or mitigate actual or potential conflicts of interest so as to prevent an unfair competitive advantage or the existence of conflicting roles that might impair the performance of the CDBG-DR contract or impact the integrity of the procurement process.

For procurement of goods and services, no employee, officer, or agent of the City of Alvin shall participate in the selection, award, or administration of a contract supported by CDBG-DR funds if he or she has a real or apparent conflict of interest. Such a conflict could arise if the employee, officer or agent; any member of his/her immediate family; his/her partner; or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract.

No officer, employee, or agent of the City of Alvin shall solicit or accept gratuities, favors or anything of monetary value from contractors or firms, potential contractors or firms, or parties to sub-agreements, except where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value.

Contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals for proposals must be excluded from competing for such procurements.

For all other cases, no employee, agent, consultant, officer, or elected or appointed official of the state, or of a unit of general local government, or of any designated public agencies, or subrecipients which are receiving CDBG-DR funds, that has any CDBG-DR function/responsibility, or is in a position to participate in a decision-making process or gain inside information, may obtain a financial interest or benefit from the CDBG-DR activity.

The conflict of interest restrictions and procurement requirements identified herein shall apply to a benefitting business, utility provider, or other third party entity that is receiving assistance, directly or indirectly, under a CDBG-DR contract or award, or that is required to complete some or all work under the CDBG-DR contract in order to meet the National Program Objective.

Any person or entity including any benefitting business, utility provider, or other third party entity that is receiving assistance, directly or indirectly, under a CDBG-DR contract or award, or that is required to complete some or all work under the CDBG-DR contract in order to meet a National Program Objective, that might potentially receive benefits from CDBG-DR awards may not participate in the selection, award, or administration of a contract supported by CDBG-DR funding.

Any alleged violations of these standards of conduct shall be referred to the City of Alvin Attorney. Where violations appear to have occurred, the offending employee, officer or agent shall be subject to disciplinary action, including but not limited to dismissal or transfer; where violations or infractions appear to be substantial in nature, the matter may be referred to the appropriate officials for criminal investigation and possible prosecution.

Signature

Paul Horn, Mayor
Name, Title

Date

These procedures are intended to serve as guidelines for the procurement of supplies, equipment, construction services and professional services for the Community Development Block Grant (CDBG-DR) Program. The regulations related to conflict of interest and nepotism may be found at the Texas Government Code Chapter 573, Texas Local Government Code Chapter 171, Uniform Grant Management Standards by Texas Comptroller, 24 CFR 570.489(g) &(h), and 2 CFR 200.318

Fair Housing Policy

In accordance with Fair Housing Act, the City of Alvin hereby adopts the following policy with respect to the Affirmatively Furthering Fair Housing:

1. The City of Alvin agrees to affirmatively further fair housing choice for all seven protected classes (race, color, religion, sex, disability, familial status, and national origin).
2. The City of Alvin agrees to plan at least one activity during the contract term to affirmatively further fair housing.
3. The City of Alvin will introduce and pass a resolution adopting this policy.

As officers and representatives of the City of Alvin, we the undersigned have read and fully agree to this plan, and become a party to the full implementation of this program.

Signature

Paul Horn, Mayor
Name, Title

Date

PROCLAMATION OF APRIL AS FAIR HOUSING MONTH

WHEREAS Title VIII of the Civil Rights Act of 1968, as amended, prohibits discrimination in housing and declares it a national policy to provide, within constitutional limits, for fair housing in the United States; and

WHEREAS The principle of Fair Housing is not only national law and national policy, but a fundamental human concept and entitlement for all Americans; and

WHEREAS The National Fair Housing Law, during the month of April, provides an opportunity for all Americans to recognize that complete success in the goal of equal housing opportunity can only be accomplished with the help and cooperation of all Americans.

NOW, THEREFORE, WE, the City Council of the City of Alvin, do proclaim April as Fair Housing Month in City of Alvin and do hereby urge all the citizens of this locality to become aware of and support the Fair Housing law.

Passed and adopted by the City Council of the City of Alvin, Brazoria County, State of Texas, on the _____ day of _____, 2020.

APPROVED:

Mayor

ATTEST:

City Secretary



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Dixie Roberts

Contact: City Secretary

Agenda Item: Proclaim the month of April 2020 as Fair Housing month in the City of Alvin, Texas.

Type of Item: ☐Ordinance ☐Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☒Other

Summary: This proclamation is listed under the Consent Agenda because it will not formally be presented to anyone at the City Council meeting. This is required by Brazoria County for Community Development Block Grants and is also required as part of the General Land Office Community Development Block Grant we are receiving. Staff recommends proclaiming the Month of April 2020 as Fair Housing month in the City of Alvin.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 3/2/2020

Supporting documents attached:

- n/a
-

Recommendation: Move to approve the month of April2020 as Fair Housing Month in the City of Alvin.

Reviewed by Department Head, if applicable ☐

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

PROCLAMATION

WHEREAS, the Department of Housing and Urban Development has initiated the sponsorship of activities during the month of April of each year designed to reinforce the Department's commitment to the concept of Fair Housing and Equal Opportunity; and

WHEREAS, the City of Alvin affirmatively supports the efforts of the Federal Government and the State of Texas to assure equal access to all Americans to rental housing and homeownership opportunities; and

WHEREAS, the City of Alvin welcomes this opportunity to reaffirm its commitment to provide equal access to housing to all of its residents without regard to race, color, religion, sex, disability, familial status, national origin or source of income; and

WHEREAS, the City of Alvin affirmatively supports programs that will educate the public concerning their rights to equal housing opportunities and to participate in efforts with other organizations to assure every person their right to fair housing; and

WHEREAS, the City of Alvin is honored to join the Federal Government, the State of Texas, and local jurisdictions across America in celebrating the rich diversity of our people and the right of all citizens to live where they choose without fear of discrimination.

NOW, THEREFORE, be it resolved, the City of Alvin, does hereby proclaim April as the month to celebrate and honor all efforts which guarantee the right to live free of discriminatory housing practices and proclaim this month as:

“FAIR HOUSING MONTH”

and urge all local officials and public and private organizations to join activities designed to further Fair Housing objectives.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the City of Alvin to be affixed this the 5th day of March, 2020.

Paul A. Horn, Mayor City of Alvin



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Finance

Contact: Michael Higgins, CFO

Agenda Item: Consider award of bid to Texas Pride for the City of Alvin's Exclusive Solid Waste and Recycling Services, RFP-20-02, dated November 3, 2019, for a seven (7) year initial term, and two (2) additional three (3) year renewal options, and authorize the City Manager to begin contract negotiations.

Type of Item: ☐Ordinance ☐Resolution ☒Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: The City of Alvin's current Solid Waste and Recycling Services contract was entered into on August 18, 2005 with IESI, with a subsequent name change to Progressive Waste Solutions and eventually the latest change to Waste Connections. The contract's initial term was a ten (10) year term from October 1, 2005, to September 30, 2015. On August 20, 2015, the City extended the contract for an additional five (5) years, with an ending date of September 30, 2020. No further extensions were allowed in the contract beyond September 30, 2020. As a result, the City was required to seek bids for the City's refuse and collection services.

On November 3, 2019, the City of Alvin issued and advertised RFP-20-02, entitled, "Exclusive Solid Waste and Recycling Disposal Services." Proposals were due January 14, 2020. The City received four (4) proposals from the following bidders: Waste Management, Waste Connections, Texas Pride Disposal, and Republic Services. Staff reviewed the RFP's and interviewed each bidder. The scoring system used a combination of sources from the content of the information in the proposals including: 1) Qualifications and Experience; 2) Service Yard, Facilities and Equipment; 3) Project Methodology; 4) Customer Service and Public Education; 5) Rates and Fees; 6) Transition Plan (if needed); and 7) Interview questions.

Staff provided different service options in the RFP, such as once a week or twice a week trash pickup, 65 or 95 gallon containers, and many different types of commercial containers. Staff did not recommend any specific service to bidders, as the intent of the RFP was to obtain a variety of service options and prices to review. Also, there were 32 service options for commercial services. These include 2-yard to 8-yard containers, each with varying number of days of service options.

Below is a brief summary of the residential rates provided by the bidders:

Cart Size	Weekly Garbage Frequency	Heavyby Trash Frequency	Current Price	Texas Pride	Waste Connections	Waste Management (a)	Republic
95 Gal	Once	Once	\$13.29	\$12.55	\$14.65	\$14.51	\$18.00
95 Gal	Twice	Once		\$15.05	\$18.30	\$17.15	N/A
65 Gal	Twice	Once		\$14.65	\$20.80	N/A	N/A

(a) Waste Management submitted alternate bids with slight variations to the bulky waste sections. This chart compares the most similar type to other bidders.

The most responsive bidder based on the proposals received was Texas Pride Disposal. In addition to very attractive pricing for residential pickup, Texas Pride Disposal has committed to hiring a Route Supervisor and a Customer Service Representative dedicated to the City of Alvin to manage operational areas as well as customer service needs. Texas Pride Disposal also included an improved route schedule, with Wednesday dedicated for weekly heavy trash pickup. This allows less trucks traveling during the week creating less wear and tear on City streets. Other added benefits of Texas Pride Disposal include construction debris pickup, increased heavy trash limits, extra carts at a minimal cost, increased bulky item services, penalties for missed services, and improved communication with the City.

Texas Pride Disposal also submitted the most service price reductions for commercial containers, with 25 of the 32 offered services resulting in reduced costs. This would result in estimated annual savings of \$214,000 compared to the same data over an annual fiscal year.

Upon City Council approval to award the City's Exclusive Solid Waste and Recycling Services to Texas Pride Disposal, an award letter will be sent with contract negotiations to follow. Staff anticipates 30-60 days for the contract phase to be completed. Council will then have the opportunity to decide on which service option to choose from (i.e. once a week service, twice a week service, 65 gal or 95 gal trash containers, etc.) at a later council meeting.

Funding Expected: Revenue ☐ Expenditure ☒ N/A ☐ **Budgeted Item:** Yes ☒ No ☐ N/A ☐

Funding Account: 212-6501-00-3440 **Amount:** _____ **1295 Form Required?** Yes ☒ No ☐

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 2/13/2020 SLH

Supporting documents attached:

- Reviewer Points Summary
- Rates and Fees

Recommendation: Move to award the bid to Texas Pride Disposal for the City of Alvin's Exclusive Solid Waste and Recycling Services, for a seven (7) year initial term beginning October 1, 2020, through September 30, 2027, and an option to extend the agreement up to two (2) additional three (3) year terms, and authorize the City Manager to conduct contract negotiations.

Reviewed by Department Head, if applicable ☐

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☒

Reviewed by City Manager ☒

City of Alvin
Solid Waste RFP
Reviewer Summary

Total Possible		Reviewer #1				Reviewer #2				Reviewer #3				Reviewer #4				Reviewer #5				Avg Score			
		WC	WM	TP	Rep	WC	WM	TP	Rep	WC	WM	TP	Rep	WC	WM	TP	Rep	WC	WM	TP	Rep	WC	WM	TP	Rep
		Total Score				Total Score				Total Score				Total Score				Total Score				Total			
Qualifications and Experience	50 points	37	46	47	42	35	37	47	42	42	49	44	40	38	48	44	31	46	49	50	47	40	46	46	40
Project Methodology	30 points	25	26	30	9	26	17	29	16	30	18	30	20	26	25	28	23	29	30	30	30	27	23	29	20
Service Yard, Facilities and Equipment	15 points	13	14	14	11	12	14	15	10	15	15	15	13	14	13	15	9	15	15	15	13	14	14	15	11
Customer Service and Public Education	25 points	17	12	25	13	22	17	25	12	13	9	21	5	25	15	25	17	25	22	25	23	20	15	24	14
Rates and Fees	80 points	75	70	80	65	75	70	80	65	75	70	80	65	75	70	80	65	75	70	80	65	75	70	80	65
Total	200 points	167	168	196	140	170	155	196	145	175	161	190	143	178	171	192	145	190	186	200	178	176	168	195	150
Transition Plan Points (if applicable)	20 points	20	15	20	5	20	17	18	6	20	20	20	20	20	20	20	15	18	18	18	18	20	18	19	13
	20 points	20	15	20	5	20	17	18	6	20	20	20	20	20	20	20	15	18	18	18	18	20	18	19	13
Interview Score:																									
Interview questions (10 points each)	50 points	32	45	42	37	42	46	48	38	35	38	45	24	39	42	48	26	38	44	44	41	37	43	45	33
Other	10 points	10	10	10	10	10	10	10	10	5	5	5	5	10	10	10	10	5	5	5	5	8	8	8	8
	60 points	42	55	52	47	52	56	58	48	40	43	50	29	49	52	58	36	43	49	49	46	45	51	53	41
Grand Total	280 Points	229	238	268	192	242	228	272	199	235	224	260	192	247	243	270	196	251	253	267	242	241	237	267	204
Weighted		Weighted Score				Weighted Score				Weighted Score				Weighted Score				Weighted Score				Weighted Score			
Qualifications and Experience	13 points 25%	9.3	11.5	11.8	10.5	8.8	9.3	11.8	10.5	10.5	12.3	11.0	10.1	9.5	12.0	11.0	7.8	11.5	12.3	12.5	11.8	9.9	11.5	11.6	10.1
Project Methodology	5 points 15%	3.8	3.9	4.5	1.4	3.9	2.6	4.4	2.4	4.5	2.7	4.5	3.0	3.9	3.8	4.2	3.5	4.4	4.5	4.5	4.5	4.1	3.5	4.4	2.9
Service Yard, Facilities and Equipment	1 points 8%	1.0	1.1	1.1	0.8	0.9	1.1	1.1	0.8	1.1	1.1	1.1	1.0	1.1	1.0	1.1	0.7	1.1	1.1	1.1	1.0	1.0	1.1	1.1	0.8
Customer Service and Public Education	3 points 13%	2.1	1.5	3.1	1.6	2.8	2.1	3.1	1.5	1.6	1.1	2.6	0.6	3.1	1.9	3.1	2.1	3.1	2.8	3.1	2.9	2.6	1.9	3.0	1.8
Rates and Fees	32 points 40%	30.0	28.0	32.0	26.0	30.0	28.0	32.0	26.0	30.0	28.0	32.0	26.0	30.0	28.0	32.0	26.0	30.0	28.0	32.0	26.0	30.0	28.0	32.0	26.0
Total	54 points	46.1	46.0	52.4	40.3	46.3	43.0	52.4	41.2	47.8	45.2	51.3	40.7	47.6	46.6	51.5	40.0	50.1	48.6	53.3	46.1	47.6	45.9	52.1	41.7
Transition Plan Points (if applicable)	20 points 100%	20.0	15.0	20.0	5.0	20.0	17.0	18.0	6.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	15.0	18.0	18.0	18.0	18.0	19.6	18.0	19.2	12.8
	20 points	20.0	15.0	20.0	5.0	20.0	17.0	18.0	6.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	15.0	18.0	18.0	18.0	18.0	19.6	18.0	19.2	12.8
Interview Score:																									
Interview questions (10 points each)	42 points 83%	26.7	37.5	35.0	30.8	35.0	38.3	40.0	31.7	29.2	31.7	37.5	20.0	32.5	35.0	40.0	21.7	31.7	36.7	36.7	34.2	31.0	35.8	37.8	27.7
Other	2 points 17%	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.8	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.8	1.3	1.3	1.3	1.3
	44 points	28.3	39.2	36.7	32.5	36.7	40.0	41.7	33.3	30.0	32.5	38.3	20.8	34.2	36.7	41.7	23.3	32.5	37.5	37.5	35.0	32.3	37.2	39.2	29.0
Grand Total (Weighted)	118 Points	94.4	100.1	109.1	77.8	103.0	100.0	112.0	80.5	97.8	97.7	109.6	81.5	101.7	103.3	113.1	78.3	100.6	104.1	108.8	99.1	99.5	101.0	110.5	83.5

	Score	Rank
TP	110.5	#1
WM	101.0	#2
WC	99.5	#3
Rep	83.5	#4

Solid Waste RFP Price Comparison

								Rates per Proposal				
Item #	Description of Current Services	Garbage Freq per week	Cart Size	Extra	Recyc Size	Recyc Freq per week	Est # of Units	Current	Texas Pride	Waste Connections	Waste Management	Republic
Residential												
1a	Residential curbside refuse collection twice a week disposal consisting of 65 gallon poly cart and including once per week curbside collection and disposal of 18 gallon recyclable poly cart and green waste collection and disposal.	Twice	65 Gall	Plastic	18 Gall	Once	6,278		\$12.95	\$18.20	No bid	N/A
1b	Residential curbside refuse collection and disposal consisting of 65 gallon poly cart and including once per week curbside collection and disposal of 65 gallon recyclable poly cart and green waste collection and disposal.	Twice	65 Gall	Plastic	65 Gall	Once	6,278		\$13.35	\$18.95	No bid	N/A
1c	Residential curbside refuse collection and disposal consisting of 65 gallon poly cart and including once per week curbside collection and disposal of 95 gallon recyclable poly cart and green waste collection and disposal.	Twice	65 Gall	65 Gall	95 Gall	Once	6,278		\$13.55	\$17.45	No bid	N/A
2a	Residential curbside refuse collection and disposal consisting of 95 gallon poly cart and including once per week curbside collection and disposal of 18 gallon recyclable container and green waste collection and disposal.	Once	95 Gall	None	18 Gall	Once	6,278		\$10.85	\$13.00	No bid	N/A
2b	Residential curbside refuse collection and disposal consisting of 95 gallon poly cart and including once per week curbside collection and disposal of 18 gallon recyclable container and green waste collection and disposal.	Twice	95 Gall	None	18 Gall	Once	6,278		\$13.25	\$16.65	No bid	N/A
3a	Residential curbside refuse collection and disposal consisting of plastic bags to be picked up once per week and including once per week curbside collection and disposal of 18 gallon recyclable container and green waste collection and disposal.	Once	Plastic	Plastic	18 Gall	Once	6,278		\$10.45	\$16.95	No bid	N/A
3b	Residential curbside refuse collection and disposal consisting of plastic bags to be picked up twice per week and including once per week curbside collection and disposal of 18 gallon recyclable container and green waste collection and disposal.	Twice	Plastic	Plastic	18 Gall	Once	6,278		\$12.55	\$22.80	No bid	N/A
4a	Residential curbside refuse collection and disposal consisting of 95 gallon poly cart and including once per week curbside collection and disposal of 95 gallon recyclable poly cart and green waste collection and disposal.	Once	95 Gallon	95 Gallon	95 Gall	Once	6,278	\$12.46	\$11.25	\$12.80	Alternate (see Alt 1-4 below)	\$18.00
4b	Residential curbside refuse collection and disposal consisting of 95 gallon poly cart and including once per week curbside collection and disposal of 95 gallon recyclable poly cart and green waste collection and disposal.	Twice	95 Gallon	95 Gallon	95 Gall	Once	6,278		\$13.75	\$16.50	Alternate (see Alt 1-4 below)	N/A
Alt 1	Twice a week Residential curbside refuse collection twice a week disposal consisting of 95 gallon poly cart, Once per week curbside collection and disposal of 95 gallon recyclable poly cart and Once per week green/bulky waste collection 6 yard limit and disposal.	Twice	95 Gallon	95 Gallon	95 Gall	Once p/wk	6,278				\$18.80	
Alt 2	Twice a week Residential curbside refuse collection twice a week disposal consisting of 95 gallon poly cart, Once per week curbside collection and disposal of 95 gallon recyclable poly cart and Once per month green/bulky waste collection 6 yard limit and disposal.	Twice	95 Gallon	95 Gallon	95 Gall	Once p/mo	6,278				\$17.15	
Alt 3	Once a week Residential curbside refuse collection twice a week disposal consisting of 95 gallon poly cart, Once per week curbside collection and disposal of 95 gallon recyclable poly cart and Once per week green/bulky waste collection 6 yard limit and disposal.	Once	95 Gallon	95 Gallon	95 Gall	Once p/wk	6,278				\$16.10	

Solid Waste RFP Price Comparison

Item #	Description of Current Services	Garbage Freq per week	Cart Size	Extra	Recyc Size	Recyc Freq per week	Est # of Units
Alt 4	Once a week Residential curbside refuse collection twice a week disposal consisting of 95 gallon poly cart, Once per week curbside collection and disposal of 95 gallon recyclable poly cart and Once per month green/bulky waste collection 6 yard limit and disposal.	Once	95 Gallon	95 Gallon	95 Gall	Once p/mo	Once

Rates per Proposal				
Current	Texas Pride	Waste Connections	Waste Management	Republic
			\$14.51	

Commercial Garbage Containers

6a	2 Yard container - once per week	Once	2 Yards				74
6b	2 Yard container - twice per week	Twice	2 Yards				16
6c	2 Yard container - three times per week	Three	2 Yards				1
6d	2 Yard container - four times per week	Four	2 Yards				2
6e	2 Yard container - five times per week	Five	2 Yards				51
6f	3 Yard container - twice per week	Twice	3 Yards				36
6g	3 Yard container - three times per week	Three	3 Yards				3
6h	4 Yard container - once per week	Once	4 Yards				47
6i	4 Yard container - twice per week	Twice	4 Yards				34
6j	4 Yard container - three times per week	Three	4 Yards				3
6k	4 Yard container - four times per week	Four	4 Yards				9
6l	6 Yard container - once per week	Once	6 Yards				52
6m	6 Yard container - twice per week	Twice	6 Yards				43
6n	6 Yard container - three times per week	Three	6 Yards				53
6o	6 Yard container - four times per week	Four	6 Yards				10
6p	6 Yard container - five times per week	Five	6 Yards				8
6q	6 Yard container - six times per week	Six	6 Yards				3
6r	8 Yard container - once per week	Once	8 Yards				36
6s	8 Yard container - twice per week	Twice	8 Yards				26
6t	8 Yard container - three times per week	Three	8 Yards				45
6u	8 Yard container - four times per week	Four	8 Yards				13
6v	8 Yard container - five times per week	Five	8 Yards				33
6w	8 Yard container - six times per week	Six	8 Yards				13
6x	6 Yard compactor - four times per week	Four	6 Yards				1
6y	Locking bars on containers						70
6z	City, various sizes (non-billable)				Various	Once	18
6aa	3 Yards recycle - once per week				3 Yards	Once	5
6bb	3 Yards recycling - twice per week				3 Yards	Twice	1
6cc	3 Yards recycling - three times per week				3 Yards	Three	2
6dd	8 Yard recycle container - once per week				8 Yards	Once	4
6ee	8 Yard recycle container - twice per week				8 Yards	Twice	2
6ff	8 Yard recycle container - three times per week				8 Yards	Three	1
6gg	95 gallon container - once per week	Once	95 Gallon				211
6hh	95 gallon container - twice per week	Twice	95 Gallon				31
7a	Residential heavy trash pickup (4 zones)	Weekly	6 yards				

\$63.23	\$60.00	\$73.00	\$52.03	\$72.96
\$93.89	\$88.00	\$108.00	\$96.67	\$108.30
\$112.83	\$104.00	\$130.00	\$136.10	\$130.19
\$140.76	\$130.00	\$162.00	\$183.13	\$162.41
	\$73.00	\$194.00	\$220.85	\$197.02
\$120.59	\$112.00	\$139.00	\$136.10	\$139.14
\$165.91	\$154.00	\$191.00	\$205.64	\$191.44
\$90.65	\$84.00	\$104.00	\$88.07	\$104.59
\$141.09	\$130.00	\$162.00	\$179.13	\$162.80
\$191.57	\$177.00	\$220.00	\$265.19	\$221.05
\$243.36	\$224.00	\$280.00	\$351.26	\$280.81
\$113.56	\$105.00	\$131.00	\$131.10	\$131.04
\$190.13	\$175.00	\$218.00	\$268.19	\$219.39
\$243.82	\$225.00	\$280.00	\$403.29	\$281.33
\$325.19	\$300.00	\$373.00	\$531.38	\$375.21
\$406.41	\$375.00	\$466.00	\$676.48	\$468.93
\$487.84	\$450.00	\$560.00	\$811.58	\$562.78
\$137.25	\$126.00	\$157.00	\$181.13	\$158.36
\$241.21	\$222.00	\$277.00	\$351.26	\$278.03
\$330.23	\$304.00	\$379.00	\$531.38	\$381.02
\$445.81	\$410.00	\$512.00	\$721.51	\$514.41
\$553.08	\$510.00	\$635.00	\$901.64	\$638.17
\$665.89	\$620.00	\$764.00	\$1,081.77	\$768.35
\$835.83	\$850.00	\$933.00	\$802.07	\$1,370.25
\$6.00	\$10.00	\$6.50	\$5.00	\$7.00
no charge	no charge	no charge	no charge	no charge
\$30.22	\$68.00	\$98.00	\$75.80	N/A: Open Market
\$59.33	\$107.00	\$153.00	\$145.59	N/A: Open Market
\$104.58	\$149.00	\$210.00	\$215.39	N/A: Open Market
\$209.11	\$116.00	\$174.00	\$192.79	N/A: Open Market
\$313.69	\$212.00	\$305.00	\$380.55	N/A: Open Market
\$577.35	\$294.00	\$417.00	\$570.36	N/A: Open Market
\$20.90	\$29.00	\$24.00	\$35.00	\$32.21
\$25.25	\$39.00	\$29.75	\$45.00	\$58.00
n/a	\$2.75	\$1.85	Alternate (see Alt 1-4 above)	N/A

Solid Waste RFP Price Comparison

Item #	Description of Current Services	Garbage Freq per week	Cart Size	Extra	Recyc Size	Recyc Freq per week	Est # of Units
7b	Residential heavy trash pickup (4 zones)	Monthly	6 yards				
7c	Special pickup (per yard)	As needed					
7d	Fall & Spring special pickup at ACC (excludes construction & remodeling debris)						
7e	Fall & Spring special pickup at ACC (with Hazardous Waste, excludes construction & remodeling debris)						
7f	60 roll-offs (construction dumpsters) (City will pay disposal fee)	Per year	Any Size				
7g	Roll off disposal fee (per ton)	None					
7h	Haul Fee		20 yard				
7i	Haul Fee		30 yard				
7j	Haul Fee		40 yard				
7k	Haul Fee		Compactor				
Alternate Bid							
8a	Commercial Recycling Alternate Bid	Weekly	8 Yards				6
Alt	At Your Door Unlimited, on Call HHW and electronic collection. Available to add to each of the Alternates listed above.	Unlimited, On Call					6278

Rates per Proposal				
Current	Texas Pride	Waste Connections	Waste Management	Republic
\$0.83	\$1.30	\$1.85	Alternate (see Alt 1-4 above)	Included in resid base rate
12.50/yard	\$10.00/yard	\$15.00/yard	\$7.00	Negotiated w/ customer
no cost	no cost	no cost	no cost	no cost
n/a	\$0.08	Will work w/ City on most cost efficient way	Alternate (see 3 below)	N/A
no cost	no cost	no cost	no cost	no cost
\$24.74	\$28.00	\$28.00	\$38.00	\$36.00
\$198.38	\$200.00	\$215.00	\$353.00	\$300.00
\$198.38	\$200.00	\$215.00	\$353.00	\$300.00
\$198.38	\$200.00	\$215.00	\$353.00	\$300.00
\$253.55	\$250.00	\$266.00	\$525.00	Negotiated between cust and contractor
n/a	\$90.00	(2)		
n/a			\$0.90	N/A: Open Market



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Municipal Court

Contact: Junru Roland

Agenda Item: Consider the appointment of Mohamad “Mo” Ghuneim as the Presiding Municipal Judge for the City of Alvin Municipal Court for a two (2) year term ending March 5, 2022, and authorize the Mayor to sign the Employment Agreement.

Type of Item: ☐Ordinance ☐Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: On November 18, 2019, City Council accepted the resignation of presiding judge Deanie King, and appointed Associate Judge Mohamad “Mo” Ghuheim as the Interim Presiding Judge. Judge Ghuneim was initially appointed as an Associate Judge in February 2017.

In December 2019, the Presiding Municipal Judge position was posted. The position remained open until February 10, 2020. The City received a total of 10 applications; all but three (3) were excluded from consideration, as those individuals did not meet the Charter’s Brazoria County residency requirement for the Presiding Judge.

On February 20, 2020, the committee interviewed three (3) candidates, including Interim Presiding Judge Ghuneim. It is the committee’s recommendation that Mo Ghuneim be appointed as the Presiding Municipal Court Judge for the City of Alvin Municipal Court.

Staff recommends the appointment and the approval of the Employment Agreement with Judge Ghuneim.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☒ No ☐ N/A ☐

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 2/26/2020 SLH

Supporting documents attached:

- Employment Agreement between the City of Alvin and Mohamad “Mo” Ghuneim

Recommendation: Move to appoint Mohamad “Mo” Ghuneim as the Presiding Municipal Court Judge for the City of Alvin Municipal Court for a two (2) year term, ending March 5, 2022, and authorize the Mayor to sign the Employment Agreement.

Reviewed by Department Head, if applicable ☐

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

**EMPLOYMENT AGREEMENT
BETWEEN THE CITY OF ALVIN
AND
PRESIDING MUNICIPAL COURT JUDGE OF
THE CITY OF ALVIN MUNICIPAL COURT**

This Agreement is made is made by and between the City of Alvin, Texas, a home rule municipal corporation located in Brazoria County, Texas (hereinafter called “City”), and Mohamad (“Mo”) Ghuneim, the Presiding Municipal Court Judge of the City of Alvin Municipal Court.

**ARTICLE I.
APPOINTMENT**

1.1 The City, acting by and through its City Council, exercising its discretion pursuant to the City Charter, Code of Ordinances, and the laws of State of Texas, hereby appoints Mohamad (“Mo”) Ghuneim, the Presiding Municipal Court Judge for the City of Alvin Municipal Court.

1.2 The City Charter and Section 29.005 of the Texas Government Code provides for a term of office for the judge of a municipal court to be two (2) years, unless the municipality provides for a longer term pursuant to Article XI, Section 11, of the Texas Constitution.

1.3 The Presiding Municipal Court Judge shall perform the services of Presiding Municipal Court Judge for the City of Alvin Municipal Court and maintain eligibility to serve in such capacity for a term of two (2) years commencing the 5th day of March 2020, and concluding the 5th day of March 2022, unless terminated earlier.

1.4 The Presiding Municipal Court Judge shall perform all services in accordance with the Code of Judicial Conduct applicable to judges of courts in the State of Texas and agrees to conduct himself in a judicial demeanor at all times in representing the City.

1.5 The Presiding Municipal Court Judge, in coordination with the Municipal Court Administrator, shall schedule Court dockets for adult and juvenile cases in order to facilitate optimal court efficiency in support of the City.

**ARTICLE II.
MUNICIPAL COURT**

2.1 The Presiding Municipal Court Judge shall operate court proceedings, including but not limited to, court technology and court security, within the allocated budget and staffing as approved by the City Council of the City of Alvin.

2.2 The Presiding Municipal Court Judge's responsibilities and duties include, but are not limited to, the following:

- (a) Coordinate / communicate with the Associate Judge(s), if any.
- (b) Preside over court dockets and trials (Class C Misdemeanors, City ordinances, traffic violations, criminal misdemeanor, property matters, criminal jury and non-jury trials, pre-trial conferences, juvenile matters, and other cases appropriately tried in Municipal Court).
- (c) Preside over jury and non-jury cases and levy fines commensurate with the violation in such manner to preserve equity and uniformity in the application of existing laws and ordinances.
- (d) Review and/or sign Administrative Search Warrants.
- (e) Coordinate court activities with Municipal Court Administrator, City Attorney and/or City Prosecutors, and other city departments.
- (f) Conduct any special hearings as may be associated with Alvin Municipal Court.
- (g) Provide arraignment duties as needed and shall be available for magistrate services, or delegate to another Judge to provide coverage (as required by law), or as may be needed.
- (h) Collaborate with the applicable city department(s) to ensure policies and orders are within the parameters of state law, and consistent with the values of the community and needs of other departments.
- (i) Prepare an annual report to the City Council regarding judicial performance and productivity of the Court.
- (j) Coordinate and oversee the Court Security Committee, as required by State law.
- (k) Perform other duties as permitted by Texas state law.

2.3 The Presiding Municipal Court Judge shall review and sign court related paper work in a timely and efficient manner so as to promote efficient and effective court operations and collections.

2.4 The Presiding Municipal Court Judge shall be a Magistrate and shall perform the necessary magistrate services and duties as outlined in Texas state law for the City of Alvin.

2.5 The Presiding Municipal Court Judge shall be proficient in the use of the Court software(s) and/or technology. The Presiding Municipal Court Judge shall be provided a reasonable level of training for such software and technology.

2.6 The Presiding Municipal Court Judge will serve as an Official for the City of Alvin and will be afforded all protections of the applicable City Charter provisions and immunities provided by State Constitution and law.

ARTICLE III. COMPENSATION

3.1 As compensation for all required services, as outlined herein, the City agrees to pay the Presiding Municipal Court Judge \$3,750.00 monthly, which equates to an annual compensation of \$45,000.00. The Employee's base rate may be increased on October 1 of each year based on the amount or formula used to adjust the cost of living pay for other City employees, and this Agreement will be automatically amended to reflect any compensation adjustments that are provided by the City. No other compensation or benefits shall be paid to the Presiding Municipal Court Judge.

3.2 The Parties shall comply with all provisions of the Internal Revenue Code, as amended.

3.3 The City agrees to budget for and to pay for tuition, travel expenses, and subsistence expenses for mandatory judicial continuing education, and for membership in the following organizations: State Bar of Texas, the Texas Municipal Court Association, and other employment related memberships as approved by Council, subject to budget allowances.

3.4 The City shall provide the Presiding Municipal Court Judge with a computer, software, fax/modem required to perform the job and to maintain communication with the Municipal Court, City Attorney, and other city departments, including necessary technology to communicate and work outside of the office such as cell phone, electronic devices and the data and internet plans associated therewith.

ARTICLE IV. GENERAL PROVISIONS

4.1 This Agreement consists of this document, upon which the parties have affixed their signatures. This is the entire agreement between the parties, with respect to the subject matter hereof, and supersedes all other previous statements, communications, or agreements, whether oral or written. No modification, alteration, or waiver of any provision hereof shall be binding upon the parties unless evidenced in writing and signed by both parties.

4.2 The City or the Presiding Municipal Court Judge may terminate this Agreement in accordance with state law.

4.3 The validity of this Agreement and any of its terms or provisions, as well as the

rights and duties of the parties, shall be governed by the law of the State of Texas, and any venue for any action concerning this Agreement shall be in Brazoria County, Texas.

4.4 This Agreement shall be payable out of current revenues only and are subject to and limited by the City's annual budget. The City represents and warrants that it has appropriated current funds available to it to pay its obligations under this Agreement.

4.5 In the event one or more of the provisions contained in the Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect other provisions, and the Contract shall be constructed as if such invalid, illegal, or unenforceable provision had never been contained in it.

IN WITNESS WHEREOF, the City and the Presiding Municipal Court Judge have executed this Agreement effective as of the _____ day of March 2020.

CITY OF ALVIN, TEXAS

By: _____
Paul Horn, Mayor

ATTEST/SEAL:

By: _____
Dixie Roberts, City Secretary

PRESIDING MUNICIPAL JUDGE

By: _____
Mohammad ("Mo") Ghuneim,
Presiding Municipal Judge



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Municipal Court

Contact: Junru Roland

Agenda Item: Consider Resolution 20-R-10, appointing Mike Merkel to serve as an Associate Municipal Judge for the City of Alvin Municipal Court for a two (2) year term ending March 5, 2022; and approving the Memorandum of Understanding between the City of Alvin and Mike Merkel, and authorize the Mayor to sign.

Type of Item: ☐Ordinance ☒Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: Judge Mike Merkel is currently the Justice of the Peace for Precinct 3-1, and would like to continue serving the City of Alvin as the associate municipal court judge, and will receive compensation in the amount of \$450.00 per month. As an associate judge, Judge Merkel will receive direction from the interim presiding judge, Mohammad (“Mo”) Ghuneim, for his duties which include, but are not limited to, arraigning prisoners in the City jail.

Judge Merkel was appointed as an Associate Judge in 2013, and he continued to volunteer his time serving the City, handling the City’s magistrations in the Alvin City Jail. On or about August 29, 2019, Judge Merkel submitted his letter of resignation, which Council accepted on September 17, 2019. In November, Judge Merkel agreed to serve the City on a temporary basis. Although that agreement expired on February 29, 2020, Judge Merkel has continued with his duties as an Associate Judge.

Staff recommends approval of the Resolution and of the Memorandum of Understanding with Judge Merkel.

Funding Expected Revenue ☐ **Expenditure** ☒ **N/A** ☐ **Budgeted Item:** Yes ☒ No ☐ N/A ☐

Funding Account _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required N/A ☐ Required ☒ **Date Completed:** 2/25/2020 SLH _____

Supporting documents attached:

- Resolution 20-R-10
- Memorandum of Understanding between the City of Alvin and Mike Merkel

Recommendation: Move to approve Resolution 20-R-10, appointing Mike Merkel to serve as the Associate Municipal Court Judge for a two (2) year, ending March 5, 2022; and approving the Memorandum of Understanding with Judge Merkel, and authorize the Mayor to sign.

Reviewed by Department Head, if applicable ☐
Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐
Reviewed by City Manager ☒

RESOLUTION 20-R-10

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, APPOINTING MIKE MERKEL AS AN ASSOCIATE JUDGE FOR THE ALVIN MUNICIPAL COURT FOR A TWO (2) YEAR TERM; APPROVING AN AGREEMENT WITH MIKE MERKEL AS ASSOCIATE JUDGE OF THE CITY OF ALVIN MUNICIPAL COURT; AUTHORIZING THE MAYOR TO SIGN THE MEMORANDUM OF UNDERSTANDING; AND SETTING FORTH OTHER PROVISIONS RELATED THERETO.

WHEREAS, Article VI Section 2 of the Charter of the City of Alvin provides for the Council's authority to elect an Associate Judge of the Municipal Court; and

WHEREAS, the City Council authorizes the City of Alvin to enter into the Memorandum of Understanding with Mike Merkel for the Appointment of the Associate Municipal Judge of the City of Alvin Municipal Court; **NOW THEREFORE**,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALVIN:

Section 1. That the City Council of the City of Alvin hereby approves of the appointment of Mike Merkel as an Associate Judge of the City of Alvin Municipal Court for a two (2) year term.

Section 2. That the Memorandum of Understanding for the Appointment of Mike Merkel as the Associate Judge of the Alvin Municipal Court, attached hereto as Exhibit 1 and made a part hereof, is hereby approved, and the Mayor is hereby authorized to execute said contract on behalf of the City of Alvin.

Section 3. This Resolution shall take effect immediately upon its passage.

PASSED AND APPROVED on this 5th day of March 2020.

CITY OF ALVIN, TEXAS

ATTEST

By: _____
Paul A. Horn, Mayor

By: _____
Dixie Roberts, City Secretary

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE CITY OF ALVIN
AND
MIKE MERKEL**

THE STATE OF TEXAS	§
	§
COUNTY OF BRAZORIA	§

This Memorandum of Understanding (“MOU”) is made by and between the City of Alvin (herein called “City”), a home rule municipal corporation located in Brazoria County, Texas, and Mike Merkel (herein called “Associate Judge”), who resides in Brazoria County, Texas.

WITNESSETH:

1. The City, acting by and through its City Council, exercising its discretion pursuant to the City Charter, Code of Ordinances and the laws of State of Texas, hereby reappoints Mike Merkel as an Associate Judge for the Alvin Municipal Court.

2. The Associate Judge agrees to perform the services of Associate Judge of the Alvin Municipal Court and to maintain eligibility to serve in such capacity for a term of two (2) years commencing the 5th day of March 2020, and concluding on the 5th day of March 2022, unless sooner terminated.

3. As compensation for all required services, the City agrees to pay the Associate Judge \$450.00 per month, subject to the City’s non-appropriation policy. The parties shall comply with all provisions of the Internal Revenue Code, as amended.

4. The Associate Judge shall receive compensation for all required services delegated by the Presiding Municipal Court Judge, including but not limited to, jail magistrations/arraignments, issuance of search, arrest and/or capias warrants, and such administrative duties and responsibilities as are necessary and/or incidental to the office of the Associate Judge of the Municipal Court of the City of Alvin.

5. The City shall reimburse the Associate Judge’s tuition and travel expenses, which shall include lodging and meals, for mandatory judicial continuing education.

6. No other compensation or benefits shall be paid to the Associate Judge.

7. The Associate Judge shall perform all services in accordance with the Code of Judicial Conduct applicable to judges of courts in the State of Texas and agrees to conduct himself in a judicial demeanor at all times in representing the City.

8. The Associate Judge shall serve at the pleasure of the City Council. The City may terminate the services of the Associate Judge at any time, without cause with 60 days' notice. The Associate Judge may terminate this Agreement at any time, without cause with 60 days' notice.

9. The Parties to this Agreement hereby acknowledge that the Associate Judge can be removed for cause in accordance with State Law as provided for in such cases.

10. The City shall be obligated to pay its obligations hereunder from funds budgeted and appropriated for that purpose. Should the City not appropriate funds to pay its obligations hereunder for any budget year during the term of this MOU other than the City's current budget year, this MOU shall be deemed terminated at the end of the budget year preceding the budget year for which such appropriation is not made. Termination in accordance with this Section shall not constitute an act of default by the City.

11. The City agrees, with regard to the services provided herein, to indemnify and hold harmless the Associate Judge for any act, claim or liability for negligence or gross negligence acting on behalf of the City and shall maintain adequate insurance or liability coverage to effectuate this provision.

12. This MOU consists of this document, upon which the parties have affixed their signatures. This MOU is the entire agreement between the parties, with respect to the subject matter hereof, and supersedes all other previous statements, communications, or agreements, whether oral or written. No modification, alteration, or waiver of any provision hereof shall be binding upon the parties unless evidenced in writing and signed by both parties.

13. Both Associate Judge and City represent that they have full capacity and authority to grant all rights and assume all obligations they have granted and assumed under this MOU.

14. The validity of this MOU and any of its terms or provisions, as well as the rights and duties of the parties, shall be governed by the law of the State of Texas and any venue for any action concerning this MOU shall be in Brazoria County, Texas.

15. In the event one or more of the provisions contained in the MOU shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect other provisions, and the MOU shall be constructed as if such invalid, illegal, or unenforceable provision had never been contained in it.

This MOU is entered into and executed on this _____ day of March 2020.

ASSOCIATE JUDGE

CITY OF ALVIN

By: _____
Mike Merkel

By: _____
Paul A. Horn, Mayor

ATTEST:

Dixie Roberts, City Secretary



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Economic Development

Contact: Larry Buehler, Director

Agenda Item: Consider Resolution 20-R-11, setting two (2) public hearings for April 2, 2020, and April 16, 2020 for the limited purpose annexation of 18.2173 acres, more or less, a commercial parcel of land within Municipal Utility District No.24 (Martha's Vineyard) situated along State Highway 6 in Brazoria County, Texas.

Type of Item: ☐Ordinance ☒Resolution ☐Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: This tract of land was annexed into Municipal Utility District (MUD) No. 24 on February 21, 2019, as part of the Martha's Vineyard Development for the purposed of providing commercial development to the overall project. The MUD will be delivering water and sewer services to this tract. A Strategic Partnership Agreement (SPA) was entered into on June 20, 2019, between the City of Alvin and MUD No. 24. Section 2.02 of the SPA allows this commercial tract to be annexed into the city in a Limited Purpose Annexation for the collection of its sales and use taxes. This is the first step of consideration for limited purpose annexation that will be presented to City Council in an upcoming meeting.

Staff recommends approval of Resolution 20-R-11.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 2/25/2020 SLH

Supporting documents attached:

- Resolution 20-R-11
- Annexation Schedule

Recommendation: Move to approve Resolution 20-R-11, setting two (2) public hearings for April 2, 2020, and April 16, 2020 for the limited purpose annexation of 18.2173 acres, more or less, a commercial parcel of land within Municipal Utility District No.24 (Martha's Vineyard) situated along State Highway 6 in Brazoria County, Texas.

Reviewed by Department Head, if applicable ☒

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

RESOLUTION NO. 20-R-11

A RESOLUTION OF THE CITY OF ALVIN, TEXAS, SETTING TWO (2) PUBLIC HEARINGS FOR THE LIMITED PURPOSE ANNEXATION OF 18.2173 ACRES, MORE OR LESS, A COMMERCIAL PARCEL OF LAND WITHIN MUNICIPAL UTILITY DISTRICT NO. 24 (MARTHA'S VINEYARD), SITUATED ALONG STATE HIGHWAY 6 IN BRAZORIA COUNTY, TEXAS; PROVIDING FOR OPEN MEETINGS, AND OTHER RELATED MATTERS.

WHEREAS, this approximately 18.2173 acres of land was annexed into Municipal Utility District (MUD) No. 24 on February 21, 2019, as part of the Martha's Vineyard Development for the purpose of providing commercial development to the overall project within in the jurisdictional control of the City; and

WHEREAS, the City of Alvin and Municipal Utility District (MUD) No. 24 entered into a Strategic Partnership Agreement ("SPA") on June 20, 2019; and

WHEREAS, Section 2.02 of the SPA allows the City to annex the approximately 18.2173 acres (the "commercial tract") into the City in a Limited Purpose Annexation for the collection of its sales and use taxes; and

WHEREAS, the City is required to hold two (2) public hearings prior to City Council's consideration of a limited purpose annexation;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS, THAT:

Section 1. Findings. The foregoing recitals are hereby found to be true and correct and are hereby adopted by the City Council and made a part hereof for all purposes as findings of fact.

Section 2. Proceedings. Two (2) public hearings are hereby set for April 2, 2020, and April 16, 2020. Notice of such hearings shall be posted and the hearings shall be open to the public to accept public comment on the annexation request.

Section 3. Severability. Should any section or part of this Resolution be held unconstitutional, illegal, or invalid, or the application to any person or circumstance thereof ineffective or inapplicable, such unconstitutionality, illegality, invalidity, or ineffectiveness of such section or part shall in no way affect, impair or invalidate the remaining portion or portions thereof; but as to such remaining portion or portions, the same shall be and remain in full force and effect and to this end the provisions of this Resolution are declared to be severable.

Section 4. Open Meetings. It is hereby officially found and determined that the meeting at which this Resolution is passed was open to the public as required and that public notice of the time, place, and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code.

PASSED AND APPROVED this the 5th day of March 2020.

CITY OF ALVIN, TEXAS

ATTEST:

By: _____
Paul A. Horn, Mayor

By: _____
Dixie Roberts, City Secretary

**SCHEDULE FOR VOLUNTARY
LIMITED PURPOSE ANNEXATION
MUD 24 (Martha's Vineyard) COMMERCIAL PROPERTY**

DATE	ACTION/EVENT	LEGAL AUTHORITY
March 5, 2020	COUNCIL BY WRITTEN RESOLUTION Directs notification to land owners; and sets two (2) Public Hearings April 2, 2020, and April 16, 2020 ; Council directs development of limited purpose plan for area to be annexed.	Loc. Gov't Code, §§ 43.063 & 43.065; Public Hearings – on or after the 40th day but before 20th day before First Reading of Ordinance
March 11, 2020	NOTICE TO PROPERTY OWNERS & utility providers	Loc. Gov't Code § 43.062(a)
March 15, 2020 Publish notice of First Public Hearing (1 time) Send School District Notice	NEWSPAPER NOTICE RE: FIRST PUBLIC HEARING ; (If applicable Notice to Railroad) SCHOOL DISTRICT NOTICE (notify each school district of possible impact) POST NOTICE ON WEB SITE and MAINTAIN UNTIL COMPLETE	Not less than 10 days nor more than 20 days before 1st public hearing. Loc. Gov't Code, §43.063 (c).
March 29, 2020 Publish notice of Second Public Hearing (1 time)	NEWSPAPER NOTICE RE: SECOND PUBLIC HEARING	Not less than 10 days nor more than 20 days before 2nd public hearing. Loc. Gov't Code, § 43.063 (c).
Ten days after the date the first notice of Public Hearing is published	LAST DAY FOR SUBMISSION OF WRITTEN PROTEST BY RESIDENTS (10 days after first newspaper notice)	Site hearing required if 20 adult residents of tracts protest within 10 days after 1st newspaper notice. Loc. Gov't Code, § 43.063 (b)
April 2, 2020	1st PUBLIC HEARING AND PRESENT LIMITED PURPOSE PLAN (Not more than 40 days before the reading of ordinance) <i>Regular Meeting</i>	Not less than 20 days nor more than 40 days before reading of ordinance. Loc. Gov't Code, §§ 43.065 & 43.063(a).
April 16, 2020	2nd PUBLIC HEARING AND PRESENT LIMITED PURPOSE PLAN (At least 20 days before reading of ordinance.) <i>Regular Meeting</i>	Not less than 20 days nor more than 40 days before reading of ordinance. Loc. Gov't Code, §§ 43.065 & 43.063 (a).
Institution Date May 7, 2020	READING OF ORDINANCE <i>Regular Meeting</i>	Date of institution of proceedings. Not less than 20 days from the second public hearing nor more than 40 days from the first public hearing.
Within 30 days of Reading	CITY SENDS COPY OF MAP showing boundary changes to County Tax Assessor Collector in a format that is compatible with mapping format used by tax assessor collector	Elec. Code §42.0615
Within 60 days of Reading	CITY PROVIDES CERTIFIED COPY OF ORDINANCE AND MAPS TO: 1. County Clerk 2. County Appraisal District 3. County Tax Assessor Collector	

***Dates in BOLD are MANDATORY dates to follow this schedule. Please advise if deviation.**



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Engineering

Contact: Michelle Segovia, City Engineer

Agenda Item: Consider Ordinance 20-G, amending Chapter 21, Subdivisions and Property Development Section 110, of the Code of Ordinances, City of Alvin, Texas, for the purpose of revising the requirements for Planned Unit Developments; and setting forth other provisions related thereto.

Type of Item: ☒ Ordinance ☐ Resolution ☐ Contract/Agreement ☒ Public Hearing ☐ Plat ☐ Discussion & Direction ☐ Other

Summary: On January 21, 2020, the Planning Commission discussed the Planned Unit Development Section of the Subdivision Ordinance in detail and requested that Staff draft an amendment to the ordinance. Staff drafted the amendment to the ordinance and presented it to the Planning Commission on February 18, 2020 for their consideration. The Planning Commission voted unanimously to approve the amendment to the ordinance as proposed.

Approval of Ordinance 20-G will amend Section 21-110 Planned Unit Developments as follows:

1. Language has been added to further clarify the 7% greenspace requirement so that it is an amenity and usable for the future residents of the subdivision.
2. In order to promote various lot sizes within the developments a lot width average of 60 feet (as measured at the building setback line) has been incorporated. The minimum lot width remains at 50 feet with a minimum lot area of 5,500 square feet.
3. The front building setback has been increased from 20 feet to 25 feet.
4. The minimum road right-of-way width has been increased from 50 feet to 60 feet.

Staff recommends approval of Ordinance 20-G.

Funding Expected: Revenue ☐ Expenditure ☐ N/A ☒ **Budgeted Item:** Yes ☐ No ☐ N/A ☒

Funding Account: _____ **Amount:** _____ **1295 Form Required?** Yes ☐ No ☒

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 3/2/2020 SLH

Supporting documents attached:

- Ordinance 20-G (Redlined and Clean Versions)

Move to approve Ordinance 20-G, amending Chapter 21, Subdivisions and Property Development Section 110, of the Code of Ordinances, City of Alvin, Texas, for the purpose of revising the requirements for Planned Unit Developments; and setting forth other provisions related thereto.

Reviewed by Department Head, if applicable ☒

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☐

Reviewed by City Manager ☒

ORDINANCE NO. 20-G

AN ORDINANCE AMENDING CHAPTER 21, SUBDIVISIONS AND PROPERTY DEVELOPMENT SECTION 110, PLANNED UNIT DEVELOPMENTS, OF THE CODE OF ORDINANCES, CITY OF ALVIN, TEXAS FOR THE PURPOSE OF REVISING THE REQUIREMENTS FOR PLANNED UNIT DEVELOPMENTS; AND SETTING FORTH OTHER PROVISIONS RELATED THERETO.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS:

Section 1. That Section 21-110 of the Code of Ordinances, City of Alvin, Texas, is hereby amended by revising the requirements for Planned Unit Developments as follows:

...

ARTICLE VI. - PLANNED UNIT DEVELOPMENTS

Sec. 21-110. - Planned unit developments.

- (a) Where a developer desires to construct a project with a diversification of types of lots the planned unit development (PUD) criteria may be used.
- (b) The following will be required in order for the development to be built as a PUD:
 - (1) The minimum size of a PUD shall be ten (10) acres, and not less than seven (7) percent of the total area shall be set aside for common areas, contiguous green space or PUD park areas centrally located in each section as described below;
 - (2) Utility easements, drainage easements, or pipeline easements shall not be used in calculating the seven (7) percent requirement;
 - (3) No more than two (2) percent of the greenspace requirement shall come from the amenitization of a wet or dry stormwater detention basin;
 - (4) Each lot shall be a minimum of five thousand five hundred (5,500) square feet in size;
 - (5) Each section must maintain an average lot width of sixty (60) feet as measured at the front building setback line with no lot to be less than fifty (50) feet wide;
 - (6) Twenty-five (25) foot front building set back;
 - (7) Ten (10) foot street side building set back on corner lots; and
 - (8) All streets shall have a minimum right-of-way width of sixty (60) feet.

Deleted: wet or dry detention shall be used in calculating the seven (7) percent

Deleted: Fifty-foot lot width minimum (measured at the front building set back line)

Deleted: -

Deleted: Fifty-foot road right-of ways for minor residential streets, 60-foot for collectors streets

(c) Approved amenities to satisfy the seven (7) percent common area requirements are as follows:

(1) In order for land not part of a lot, street, easement or other specific dedicated purpose not normally considered as common, accessible areas to be considered as part of the seven (7) percent common area/green~~space~~ it must contain two (2) of the following amenities:

Deleted:

- a. Walking trails area that is only adjacent to a street or detention areas.
- b. Fountain(s), lighted or unlighted.
- c. Landscaping with benches and/or gazebos.
- d. Aesthetic lighting.

(2) A PUD park designation does not replace or contribute to the requirements for satisfying the park land dedication and development fee article. In order for a PUD park designation to be acquired and to count toward the seven (7) percent requirement, it must contain at least three (3) of the following amenities:

- a. Swimming pool with restrooms.
- b. Clubhouse.
- c. Basketball and/or tennis courts.
- d. Playground with equipment.
- e. Benches and/or gazebos.
- f. Aesthetic lighting.

(3) Other amenities will be considered on a case-by-case basis, but must be approved by the planning commission.

(4) All amenities must satisfy the intent of this criterion, which is to maintain the spirit of the conformance with this regulation.

(5) Construction details are required for each amenity provided.

(6) All amenities are required to be constructed prior to plat recordation.

(d) In addition to compliance with the requirements for subdivision development set forth in article III, (with the exception of lot dimension requirements, set backs and street rights-of-way set forth in subsection 21-37(b)) and the design criteria, the developer of a proposed PUD shall submit an outline development plan with the preliminary plat. This plan, at a scale of not less ~~than~~ one inch equaling two hundred (200) feet, shall show all the proposed

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surface features to be developed. This plan shall include all paving and open space areas with typical layouts.

- (e) All PUD's shall have protective covenants that require a homeowner's association (or other legal entity) to be formed and to be legally responsible for the maintenance of all common areas, easements of any kind, PUD parks, detention areas and private amenities in the PUD. The covenants shall require that sufficient funds be collected and set aside for the proper maintenance of the facilities. Sale or transfer of properties dedicated for common use shall not be permitted without the replatting of the property according to legal requirements.
- (f) A final plan for each section to be developed (with restrictive covenants attached) shall be submitted for review and approval of the planning commission and city council. The approved plan and documents shall be maintained on file by the planning and development department and all future building permits shall be reviewed for conformance with the plan and accompanying documents.

The plan at a scale of not less than one inch equaling two hundred (200) feet (fifty (50) feet or larger) shall include the following:

- (1) All proposed streets, alleys, drives, walkways and trails with a clear designation of those to be public and private.
- (2) All lots or parcels and a clear definition of areas to be retained as common areas with dimensions and bearings.
- (3) In other than single family areas, plot plans for each building site with approximate dimensions of existing and proposed structures with landscaping, amenities and improvements. Indications of the structure heights and elevational features shall be provided.
- (4) In other than single family areas, details of trash collection areas and permanent screening matching the character of the area shall be provided.

....

Section 2. That except as amended herein, all other provisions of Chapter 21 of the Code of Ordinances, City of Alvin, Texas, shall remain in full force and effect. To the extent of any conflict or inconsistency between the provisions of this [Ordinance](#) and any other ordinance, the provisions of this [Ordinance](#) shall control.

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Section 3. Severability. Should any section or part of this Ordinance be held unconstitutional, illegal, invalid, or the application to any person or circumstance for any reasons thereof ineffective or inapplicable, such unconstitutionality, illegality, invalidity, or ineffectiveness of such section or part shall in no way affect, impair or invalidate the remaining portion or portions thereof; but as to such remaining portion or portions, the same shall be and remain in full force and effect and to this end the provisions of this [Ordinance](#) are declared to be severable.

Deleted: ordinance

Section 4. Effective Date. This [Ordinance](#) shall take effect immediately from and after its passage in accordance with the provisions of Chapter 52, Texas Local Government Code and the City of Alvin Charter.

Deleted: ordinance

Section 5. Open Meetings Act. It is hereby officially found and determined that the meeting at which this ordinance was passed was open to the public as required and the public notice of the time, place and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code. Notice was also provided as required by Chapter 52 of the Texas Local Government Code and the City of Alvin Charter.

PASSED and APPROVED on the ____ day of March 2020.

THE CITY OF ALVIN, TEXAS

ATTEST

By: _____
Paul A. Horn, Mayor

By: _____
Dixie Roberts, City Secretary

ORDINANCE NO. 20-G

AN ORDINANCE AMENDING CHAPTER 21, SUBDIVISIONS AND PROPERTY DEVELOPMENT SECTION 110, PLANNED UNIT DEVELOPMENTS, OF THE CODE OF ORDINANCES, CITY OF ALVIN, TEXAS FOR THE PURPOSE OF REVISING THE REQUIREMENTS FOR PLANNED UNIT DEVELOPMENTS; AND SETTING FORTH OTHER PROVISIONS RELATED THERETO.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ALVIN, TEXAS:

Section 1. That Section 21-110 of the Code of Ordinances, City of Alvin, Texas, is hereby amended by revising the requirements for Planned Unit Developments as follows:

...

ARTICLE VI. - PLANNED UNIT DEVELOPMENTS

Sec. 21-110. - Planned unit developments.

- (a) Where a developer desires to construct a project with a diversification of types of lots the planned unit development (PUD) criteria may be used.
- (b) The following will be required in order for the development to be built as a PUD:
 - (1) The minimum size of a PUD shall be ten (10) acres, and not less than seven (7) percent of the total area shall be set aside for common areas, contiguous green space or PUD park areas centrally located in each section as described below;
 - (2) Utility easements, drainage easements, or pipeline easements shall not be used in calculating the seven (7) percent requirement;
 - (3) No more than two (2) percent of the greenspace requirement shall come from the amenitization of a wet or dry stormwater detention basin;
 - (4) Each lot shall be a minimum of five thousand five hundred (5,500) square feet in size;
 - (5) Each section must maintain an average lot width of sixty (60) feet as measured at the front building setback line with no lot to be less than fifty (50) feet wide;
 - (6) Twenty-five (25) foot front building set back;
 - (7) Ten (10) foot street side building set back on corner lots; and
 - (8) All streets shall have a minimum right-of-way width of sixty (60) feet.

- (c) Approved amenities to satisfy the seven (7) percent common area requirements are as follows:
- (1) In order for land not part of a lot, street, easement or other specific dedicated purpose not normally considered as common, accessible areas to be considered as part of the seven (7) percent common area/greenspace it must contain two (2) of the following amenities:
 - a. Walking trails area that is only adjacent to a street or detention areas.
 - b. Fountain(s), lighted or unlighted.
 - c. Landscaping with benches and/or gazebos.
 - d. Aesthetic lighting.
 - (2) A PUD park designation does not replace or contribute to the requirements for satisfying the park land dedication and development fee article. In order for a PUD park designation to be acquired and to count toward the seven (7) percent requirement, it must contain at least three (3) of the following amenities:
 - a. Swimming pool with restrooms.
 - b. Clubhouse.
 - c. Basketball and/or tennis courts.
 - d. Playground with equipment.
 - e. Benches and/or gazebos.
 - f. Aesthetic lighting.
 - (3) Other amenities will be considered on a case-by-case basis, but must be approved by the planning commission.
 - (4) All amenities must satisfy the intent of this criterion, which is to maintain the spirit of the conformance with this regulation.
 - (5) Construction details are required for each amenity provided.
 - (6) All amenities are required to be constructed prior to plat recordation.
- (d) In addition to compliance with the requirements for subdivision development set forth in article III, (with the exception of lot dimension requirements, set backs and street rights-of-way set forth in subsection 21-37(b)) and the design criteria, the developer of a proposed PUD shall submit an outline development plan with the preliminary plat. This plan, at a scale of not less than one inch equaling two hundred (200) feet, shall show all the proposed

surface features to be developed. This plan shall include all paving and open space areas with typical layouts.

- (e) All PUD's shall have protective covenants that require a homeowner's association (or other legal entity) to be formed and to be legally responsible for the maintenance of all common areas, easements of any kind, PUD parks, detention areas and private amenities in the PUD. The covenants shall require that sufficient funds be collected and set aside for the proper maintenance of the facilities. Sale or transfer of properties dedicated for common use shall not be permitted without the replatting of the property according to legal requirements.
- (f) A final plan for each section to be developed (with restrictive covenants attached) shall be submitted for review and approval of the planning commission and city council. The approved plan and documents shall be maintained on file by the planning and development department and all future building permits shall be reviewed for conformance with the plan and accompanying documents.

The plan at a scale of not less than one inch equaling two hundred (200) feet (fifty (50) feet or larger) shall include the following:

- (1) All proposed streets, alleys, drives, walkways and trails with a clear designation of those to be public and private.
- (2) All lots or parcels and a clear definition of areas to be retained as common areas with dimensions and bearings.
- (3) In other than single family areas, plot plans for each building site with approximate dimensions of existing and proposed structures with landscaping, amenities and improvements. Indications of the structure heights and elevational features shall be provided.
- (4) In other than single family areas, details of trash collection areas and permanent screening matching the character of the area shall be provided.

....

Section 2. That except as amended herein, all other provisions of Chapter 21 of the Code of Ordinances, City of Alvin, Texas, shall remain in full force and effect. To the extent of any conflict or inconsistency between the provisions of this Ordinance and any other ordinance, the provisions of this Ordinance shall control.

Section 3. Severability. Should any section or part of this Ordinance be held unconstitutional, illegal, invalid, or the application to any person or circumstance for any reasons thereof ineffective or inapplicable, such unconstitutionality, illegality, invalidity, or ineffectiveness of such section or part shall in no way affect, impair or invalidate the remaining portion or portions thereof; but as to such remaining portion or portions, the same shall be and remain in full force and effect and to this end the provisions of this Ordinance are declared to be severable.

Section 4. Effective Date. This Ordinance shall take effect immediately from and after its passage in accordance with the provisions of Chapter 52, Texas Local Government Code and the City of Alvin Charter.

Section 5. Open Meetings Act. It is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public as required and the public notice of the time, place and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code. Notice was also provided as required by Chapter 52 of the Texas Local Government Code and the City of Alvin Charter.

PASSED and APPROVED on the ____ day of March 2020.

THE CITY OF ALVIN, TEXAS

ATTEST

By: _____
Paul A. Horn, Mayor

By: _____
Dixie Roberts, City Secretary



AGENDA COMMENTARY

Meeting Date: 3/5/2020

Department: Fire

Contact: Rex W. Klesel, Fire Chief

Agenda Item: Consider an award of bid to Siddons Martin Emergency Group, LLC, for construction of a 2020 Ladder Truck through the HGAC Cooperative Purchasing Program in an amount not to exceed \$1,424,686.

Type of Item: ☐Ordinance ☐Resolution ☒Contract/Agreement ☐Public Hearing ☐Plat ☐Discussion & Direction ☐Other

Summary: The Fire Department solicited vendors through HGAC's Cooperative Purchasing Program, known as HGACBuy, to submit specifications, demonstrate, and provide service information on their Ladder Trucks to a committee of ten Alvin Volunteer Fire Fighters. After months of review, the committee recommended the Pierce Brand Ladder Truck. On February 17, 2020, the Fire Department received a bid from Siddons Martin Group LLC, a Sole Vendor, for a proposal to build a Pierce – Custom Velocity Aerial Platform 100' (Ladder Truck). This 2020 Pierce Ladder Truck will replace the Fire Department's existing 27-year-old Ladder Truck that will then be sold. Once the bid is awarded, delivery will take approximately 12 months and come with a 12-month bumper to bumper warranty. Funding for this vehicle will be paid from the 2019 Certificate of Obligations as a result of the savings from the construction cost of the new Fire/EMS Facility.

Vehicle Price	\$1,464,891.00
Chassis & Aerial Prepay	(\$23,654.00)
Prepay Discount	(\$18,551.00)
<u>Sub Total</u>	<u>\$1,422,686.00</u>
HGAC Contract Amount	<u>\$2,000.00</u>
Final Sales Price	\$1,424,686.00

Funding Expected: Revenue ☐ Expenditure ☒ N/A ☐ **Budgeted Item:** Yes ☒ No ☐ N/A ☐

Funding Account: 318-3502-00-4250 **Amount:** \$1,424,686 **1295 Form Required?** Yes ☒ No ☐

Legal Review Required: N/A ☐ Required ☒ **Date Completed:** 2/25/2020 SLH

Supporting documents attached:

- Proposal Bid
- Option List
- Specifications

Recommendation: Move to award a of bid to Siddons Martin Emergency Group, LLC, for the construction of a 2020 Ladder Truck through the HGAC Cooperative Purchasing Program, in an amount not to exceed \$1,424,686.

Siddons Martin Emergency Group, LLC
3500 Shelby Lane
Denton, Texas 76207
GDN PI15891
TXDOT MVD No. A115890
EIN 27-4333590



February 17, 2020

REX KLESEL

ALVIN VOLUNTEER FIRE DEPARTMENT
302 W HOUSE ST
ALVIN, TX 77511-2815

Proposal for Bid 914 2020 - Alvin - RMAP

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

Description	Amount
1) Pierce-Custom Velocity Aerial, Platform 100' RMAP Unit price - \$1,464,891.00	
Price guaranteed for 60 days. Delivery within 11.5 -12.5 months of order date. A warranty term of 12 months is included.	
Vehicle Price	\$1,464,891.00
Chassis Prepay Discount	(\$14,983.00)
Aerial Prepay Discount	(\$8,671.00)
Full Prepay Discount	(\$18,551.00)
Sub Total	\$1,422,686.00
HGAC Contract Amount	<u>\$2,000.00</u>
Final Sales Price	<u>\$1,424,686.00</u>

Additional. Two inspection trips for two people and loose equipment are included in the vehicle cost.

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

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

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

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

The cancellation fee will increase accordingly as costs are incurred as the order progresses through engineering



Proposal Option List

2/17/2020

Customer: Alvin
Representative: Frankum, Cory
Organization: Siddons-Martin Emergency Group
Requirements Manager:
Description: Alvin RMAP
Body: Aerial, Platform 100' RMAP, Alum Body
Chassis: Velocity Chassis, PAP (Big Block), 2010

Bid Number: 914
Job Number:
Number of Units: 1
Bid Date: 03/30/2020
Stock Number:
Price Level: 39 (Current: 39)
Lane:

Line	Option	Type	Option Description	Qty
1	0766656		Boiler Plates, Aerial 100' Platform	1
			Fire Department/Customer - Alvin Volunteer Fire Department	
			Operating/In conjunction W-Service Center - In Conjunction	
			Miles - 10 Miles	
			Number of Fire Dept/Municipalities - 10	
			Bidder/Sales Organization - Siddons-Martin Emergency Group	
			Delivery - Delivery representative	
			Dealership/Sales Organization, Service - Siddons-Martin Emergency Group	
2	0018180		Single Source Compliance, Aerials	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0610784		Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	1
7	0533351		Quint Fire Apparatus	1
8	0588612		Vehicle Certification, Aerial w/Pump	1
9	0681278		Agency, Apparatus Certification, Aerial w/Pump, U.L.	1
10	0536644		Customer Service Website	1
11	0537375		Unit of Measure, US Gallons	1
12	0529326		Bid Bond, 10%, Pierce Built Chassis	1
13	0540326		Performance Bond, Not Requested	1
14	0000007		Approval Drawing	1
15	0002928		Electrical Diagrams	1
16	0564213		Velocity Chassis, PAP (Big Block), 2010	1
17	0000110		Wheelbase	1
			Wheelbase - 257.00	
18	0000070		GVW Rating	1
			GVW rating - 80,800	
19	0000203		Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	1
20	0756525		Frame Liner, Internal "C" 12.50" x 3.00" x .25", XT/Vel/Imp, Full Length, 56"Qv	1
21	0508849		Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel	1
22	0010427		Suspension, Front TAK-4, 22,800 lb, Qtm/AXT/Imp/Vel/DCF/Enf	1
23	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	1
24	0000322		Oil Seals, Front Axle	1
25	0521238		Tires, Front, Michelin, XFE (wb), 425/65R22.50, 20 ply	1
26	0019611		Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	1
27	0530481		Axle, Rear, Meritor RT58-185, 58,000 lb, Velocity/Dash CF	1
28	0544244		Top Speed of Vehicle, 60 MPH	1
29	0515673		Suspen, Rear, Air Link, AL-600, Air Ride, 60,000 lb	1
30	0000485		Oil Seals, Rear Axle	1
31	0792675		Tires, Rear, Michelin, X WORKS Z, 315/80R22.50, LRL, Tandem	1
32	0019653		Wheels, Rear, Alcoa, 22.50" x 9.00", Aluminum, Hub Pilot, Tandem	1
33	0568081		Tire Balancing, Counteract Beads	1
34	0620569		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle	1
			Qty, Tire Pressure Ind - 10	
35	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
36	0013241		Axle Hub Covers, Rear, S/S High Hat (Tandem)	1
37	0057936		Covers, Lug Nut, Chrome	1
38	0002045		Mud Flap, Front and Rear, Pierce Logo	1
39	0601010		Chocks, Wheel, SAC-44-E, Folding, Aerials	1
			Qty, Pair - 01	

Proposal for **Alvin VFD**

Prepared by **Cory Frankum**

Siddons-Martin Emergency Group

02/17/2020



PERFORM. LIKE NO OTHER.™

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Siddons-Martin Emergency Group is pleased to submit a proposal to Alvin Volunteer Fire Department for a **Pierce® 100' Aerial Platform** 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 ten (10) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

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

MANUAL AND SERVICE INFORMATION

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

SAFETY VIDEO

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

PERFORMANCE TESTS

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

SERVICE AND WARRANTY SUPPORT

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

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

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

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

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

LIABILITY

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

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

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

Each Occurrence\$1,000,000

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

Personal and Advertising Injury\$1,000,000

General Aggregate\$2,000,000

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

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Aggregate:\$3,000,000

Each Occurrence:\$3,000,000

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

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

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

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

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

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

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

Each Occurrence\$1,000,000

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Each Occurrence:\$25,000,000

Aggregate:\$25,000,000

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

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

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

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

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

SINGLE SOURCE MANUFACTURER

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

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2016 STANDARDS

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

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

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

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

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

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

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

NFPA COMPLIANCY

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

VEHICLE INSPECTION PROGRAM CERTIFICATION

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

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

INSPECTION CERTIFICATE

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

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

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

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

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

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

PUMP TEST

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

GENERATOR TEST

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

BREATHING AIR TEST

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

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

A bid bond as security for the bid in the form of a 10% bid bond will be provided with the proposal. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language which assures that the bidder/principal will give a bond or bonds, as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

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

PERFORMANCE BOND NOT REQUESTED

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

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

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

APPROVAL DRAWING

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

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

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 257.00.

GVW RATING

The gross vehicle weight rating will be 80,800.

FRAME

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

FRAME REINFORCEMENT

In addition, a full-length mainframe internal "C" liner will be provided. The liner will be an internal "C" design that steps to a smaller internal "C" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front "C" portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear "C" 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 857,462 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb.

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

FRONT NON DRIVE AXLE

The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 22,800 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 will have little to no bump steer when the chassis encounters a hole or obstacle.

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

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.

FRONT SUSPENSION

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb.

The independent suspension system will be 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 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 425/65R22.50 radials, 20 ply XFE wide base tread, rated for 22,800 lb maximum axle load and 65 mph maximum speed.

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

REAR AXLE

The rear axle will be a Meritor™, Model RT58-185, tandem axle assembly with a capacity of 58,000 lb.

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

TOP SPEED OF VEHICLE

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

REAR SUSPENSION

Rear suspension will be Link® combination air ride and walking beam with a ground rating of 60,000 lb.

REAR OIL SEALS

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

REAR TIRES

Rear tires shall be eight (8) Michelin 315/80R22.50 radials, load range L, X® WORKS™ Z, rated for 66,160 lb maximum axle load and 65 mph maximum speed.

The tires will be mounted on Alcoa® 22.50" x 9.00" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE

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

TIRE PRESSURE MANAGEMENT

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

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

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

FRONT HUB COVERS

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

REAR HUB COVERS

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

CHROME LUG NUT COVERS

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

MUD FLAPS

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

WHEEL CHOCKS

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

WHEEL CHOCK BRACKETS

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

ELECTRONIC STABILITY CONTROL

A vehicle control system will be provided as an integral part of the ABS brake system from Meritor Wabco.

The system will monitor and update the lateral acceleration of the vehicle and compare it to a critical threshold where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event.

The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to bring the vehicle back to its intended direction.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with a Wabco 6S6M, anti-lock braking system. The ABS will provide a six (6) channel anti-lock braking control on both the front and rear 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 wheel begins to lockup, a signal will be sent to the control unit. This control unit will then 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.

AUTOMATIC TRACTION CONTROL

An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock that will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. An "off road traction" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.

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.

BRAKE SYSTEM AIR COMPRESSOR

The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

BRAKE SYSTEM

The brake system will include:

- Bendix dual brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 8,108 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)
- 1/4 turn drain valve 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:	Cummins®
Model:	X15
Power:	600 hp at 1800 rpm
Torque:	1850 lb-ft at 1200 rpm
Governed Speed:	2100 rpm
Emissions Level:	EPA 2017
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	912 cubic inches (14.9L)
Starter:	Delco 39MT+™
Fuel Filters:	Frame mounted spin-on style primary filter with 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

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

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

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

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

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

CLUTCH FAN

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

ENGINE AIR INTAKE

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

EXHAUST SYSTEM

The exhaust system will include a 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 core will be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes will be brazed to aluminum headers. The radiator core will have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy shall be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator will be compatible with commercial antifreeze solutions.

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

The radiator assembly will include an integral deaeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level

inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

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

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

COOLANT LINES

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

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

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

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

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

FUEL SHUTOFF

A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter.

FUEL COOLER

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

FUEL SEPARATOR

The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.

TRANSMISSION

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

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

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

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

TRANSMISSION SHIFTER

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

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

TRANSMISSION COOLER

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

DOWNSHIFT MODE (W/ENGINE BRAKE)

The transmission will be provided with an aggressive downshift mode.

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

DRIVELINE

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

The shafts will be dynamically balanced before installation.

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

STEERING

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

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

STEERING WHEEL

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

LOGO AND CUSTOMER DESIGNATION ON DASH

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

The first row of text will be: Alvin

The second row of text will be: Fire

The third row of text will be: Department

BUMPER

A one (1) piece, ten (1) gauge, 304-2B type polished stainless steel bumper, a minimum of 10.00" high, will be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength.

The bumper will be extended 19.00" from front face of cab.

Documentation will be provided, upon request to show that the options selected have been engineered for fit-up and approval for this modular bumper extension. A chart will be provided to indicate the option locations and will include, but not be limited to the following options: air horns, mechanical sirens, speakers, hose trays (with hose capacities), winches, lights, discharge, and suction connections.

GRAVEL PAN

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

LIFT AND TOW MOUNTS

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

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

TOW HOOKS

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

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 raised roof section of the crew cab will have a 58.00" wide x 10.00" high square notch in the center section of the roof. This will allow the aerial device to be bedded in the same location as a non-raised roof.

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

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 52.95" in the center position and 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 0.50" aluminum plate that is welded to both the 0.25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered.

The back of the engine tunnel will be no higher than 17.50" off the crew cab floor.

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

CAB REAR WALL EXTERIOR COVERING

The 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.

GRILLE

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

DOOR JAMB SCUFFPLATES

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

FRONT CAB TRIM

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.

SIDE OF CAB MOLDING

Chrome molding will be provided on both sides of cab.

MIRRORS

A Retractor, 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

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 85.50" high.

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

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

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

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

A 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 inside the cab doors to protect the steps from weather elements.

Door Panels

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

RECESSED POCKET WITH ELASTIC COVER

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

ELECTRIC WINDOW CONTROLS

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

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

CAB STEPS

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

CAB EXTERIOR HANDRAILS

A 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

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

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

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

FENDER CROWNS

Stainless steel fender crowns will be installed at the cab wheel openings.

INTERIOR CREW CAB GRAB HANDLES

A pair of black rubber covered grab handle will be mounted in the driver's and passenger's side crew cab to assist in entering the cab. The grab handles will be securely mounted just below window, crew cab doors

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.

STORAGE COMPARTMENTS

Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment.

The compartments will be approximately 10.71" wide x 30.00" high x 14.00" deep.

There will be two (2) double pan doors painted to match the cab exterior with a non-locking D-Ring latch, one (1) on each side of the cab. A chain for each exterior door will be used as a door stop.

The compartment interior will be painted spatter gray.

Compartment Light

There will be two (2) white LED strip lights provided, one (1) each hinged side of compartment door openings. The lights will be controlled by an automatic door switch.

CAB INTERIOR

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

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

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

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

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

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

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

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be 36 oz light 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.

CAB DEFROSTER

To provide maximum defrost and heating performance, a 54,961 BTU heater-defroster unit with 558 SCFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the instrument panel. For easy access, a removable metal cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

CAB/CREW CAB HEATER

Two (2) 36,702 BTU auxiliary heaters with 276 SCFM (each unit) of air flow will be provided inside the crew cab, one (1) in each outboard rear facing seat riser. The heaters will include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters will be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum will be incorporated in the cab structure that will transfer heat to the forward cab seating positions.

The heater/defroster and crew cab heaters will be controlled by an integral electronic control panel. The heater control panel will allow the driver to control heat flow to the front and rear independently. The control panel will include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel will include highly visible, progressive LED indicators for both fan speed and temperature.

AIR CONDITIONING

A high-performance, customized air conditioning system will be furnished inside the cab and crew cab. A 13.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 63,000 BTU output that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover and mounting legs to be painted white as provided by the A/C manufacturer.

The evaporator unit will be installed in the cab, located in the center of the cab ceiling over the engine tunnel. The evaporator will include two (2) high performance cores and plenums with multiple outlets, one (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.

There will be a hinge on the forward edge of the filter cover and two (2) quarter turn fasteners with a knob on the rear edge to allow easy access.

The evaporator unit will have a 49,000 BTU rating that meets and exceeds the performance specifications.

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

- Four (4) will be directed towards the drivers location
- Four (4) will be directed towards the officers location
- Eight (8) will be directed towards crew cab area

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

The air conditioner will be controlled by dual zone integral electronic control panels for the heater, defroster and air conditioner. The cab control panel will be located in the center console. For ease of operation, the control panels will include variable adjustment for temperature and fan control.

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. Headliners will be constructed from a 0.20" high density polyethylene corrugated material. Each headliner will be wrapped with a 0.25" thick foil faced poly damp low emissivity foam insulation barrier for acoustic and thermal control. For ease of installation and removal, all headliners will be held in place by a dual lock fastening system.

Designed for maximum sound absorption and thermal insulation, the rear cab wall will be insulated with 1.50" thick open cell acoustical foam. The thermal protection of the foam will provide an R-value of four (4) per 1.00" thickness.

SPECIAL 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.

SUN VISORS

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

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

GRAB HANDLE

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

A long rubber grab handle will be mounted on the dash board in front of the officer.

ENGINE COMPARTMENT LIGHTS

There will be one (1) 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 17.75" wide x 12.75" high and be flush with the wall of the engine tunnel.

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

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

CAB SAFETY SYSTEM

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

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

- Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

FRONTAL IMPACT PROTECTION

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

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

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

SIDE ROLL PROTECTION

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

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

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

SEATING CAPACITY

The seating capacity in the cab will be six (6).

DRIVER SEAT

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

optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).

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

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

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

OFFICER SEAT

A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a fixed type, with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions. 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 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

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

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.

RADIO COMPARTMENT

A compartment for the radio amplifier will be located under the front passenger's seat. The size of the compartment will be approximately 16.00" wide x 7.50" high x 16.50" deep. A drop-down door with a chrome plated lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

REAR FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) rear facing, Pierce PS6® seat provided at the driver side outboard position in the crew cab. 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. It will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable

from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

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

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

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) rear facing, Pierce PS6® seat provided at the passenger side outboard position in the crew cab. 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 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

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

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

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing Pierce PS6® 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 provided with 15.00" deep foam cushions, 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 include the following features incorporated into the side roll protection system:

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

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

The seat will be moved approximately 3.00" inboard from the standard location.

FORWARD FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) forward facing Pierce PS6® seat provided at the passenger side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with 15.00" deep foam cushions, 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 include the following features incorporated into the side roll protection system:

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

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

The seat will be moved approximately 3.00" inboard from the standard location.

SEAT UPHOLSTERY

All seat upholstery will be leather grain 36 oz black vinyl resistant to oil, grease and mildew. The cab will have seven (7) 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 six (6) 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.

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 six (6) seating positions will have the adjustable shoulder harness.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

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

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

CAB DOME LIGHTS

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

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

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

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

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

PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT

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

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

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 three (3) to five (5) seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

INDICATOR LAMP AND ALARM PROVE-OUT

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

CONTROL SWITCHES

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

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

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

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

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

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

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

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

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for three (3) to five (5) seconds. A green indicator lamp will be activated with vehicle ignition.

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

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

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

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

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

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

CUSTOM SWITCH PANELS

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

DIAGNOSTIC PANEL

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

The diagnostic panel will include the following:

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

CAB LCD DISPLAY

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

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

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

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

AIR RESTRICTION INDICATOR

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

"DO NOT MOVE APPARATUS" INDICATOR

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

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

DO NOT MOVE TRUCK MESSAGES

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

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)
- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)

- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail 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 disengaged.

SWITCH PANELS

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

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

The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.

WIPER CONTROL

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

HOURLY METER - AERIAL DEVICE

An hour meter for the aerial device will be provided and located within the cab display or instrument panel. The hour meter will be activated only while the dead man switch is applied.

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.

CUSTOMER SUPPLIED RADIO WIRING

There will be one (1) 12 volt combination wiring leads of which each will include one (1) direct battery, one (1) ignition and one (1) negative for use with radio equipment.

Each lead will be 18.00" long and be provided refer to radio location . The leads will be clearly marked in a coil and terminate with butt splices.

A breaker rated for 30 amps will be provided for circuit protection of the direct battery lead with a minimum of 10 gauge wire.

A breaker rated for 7.5 amps will be provided for circuit protection of the ignition lead.

The wires will be colored coded as follows:

- red for direct battery
- yellow for ignition
- black for ground

SPARE CIRCUIT

There will be one (1) dual USB fast charge socket mounts 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 4.8 amps at 12 volts DC.
- The USB socket mount will be officer dash.
- Termination will be a Blue Sea Systems part number 1045 dual USB charger socket.
- Wires will be sized to 125% of the protection.

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

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 officer side dash area
- Termination will be with heat shrinkable butt splicing
- Wires will be sized to 125 percent of the protection

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

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 30 amps at 12 volts DC.

Power and ground will terminate behind driver seat.

Termination will be to a Blue Sea System, Model 5025, 6 circuit with negative bus bar. The terminal block will include a cover with circuit labels.

Wires will be sized to 125% of the protection.

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

INFORMATION CENTER

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

The information center will have the following specifications:

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

GENERAL SCREEN DESIGN

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

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

- An amber background/text color will indicate a caution condition
- A red background/text color will indicate a warning condition
- The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to

indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.

- A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

HOME/TRANSIT SCREEN

This screen will display the following:

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

ON SCENE SCREEN

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

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

VIRTUAL BUTTONS

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

PAGE SCREEN

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

- Diagnostics
 - 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 indicate
 - 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.

INFORMATION CENTER

There will be one (1) information center(s) each employing a 7.00" diagonal touch screen color LCD display located passenge's side instrument panel.

The information center(s) 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 languageA 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 equipped)
- Foam Level (if equipped)
- 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 indicate
 - 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)

Button functions and button labels may change with each screen.

VEHICLE DATA RECORDER

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

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display 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.

PORTABLE 2-WAY RADIO

There will be four (4) Motorola, Model H98UCF9PW6BN, APX6000 700/800 MHz 2.5 portable radio(s) with vehicle charger(s) provided. The radio charger shall be mounted TBD.

The following will be provided for each:

- Q806 ADD: ASTRO. DIGITAL CAI OPERATION
- H38 ADD: SMARTZONE OPERATION
- Q361ADD: P25 9600 BAUD TRUNKING
- QA01427 ALT: PUBLIC SAFETY GREEN HOUSING
- H885BK ADD: 3 YEAR SERVICE FROM THE START LITE
- QA02006 ENH: APX6000XE RUGGED RADIO
- PMMN4106B AUDIO ADAPTER,APX XE500 REMOTE SPEAKER MIC, HIGH IMPACT GREEN
- NNTN8863A CHARGER, SINGLE-UNIT, IMPRES

RADIO ANTENNA MOUNT

There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the right side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. 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.

The camera images will be displayed on the driver's vehicle information center display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control in the blank panel to the left of the steering column.

The following components will be included:

- One (1) SV-CW134639CAI Camera
- One (1) CS134404CI Side camera
- One (1) Amplified speaker (if applicable)
- All necessary cables

RECESS REAR CAMERA

The rear camera located centered will be installed into a 2.25" deep, flanged diamond plate recessed box. Nutserts will be used to secure the box to the rear bulkhead.

VEHICLE CAMERA SYSTEM

A camera system with a CW144639CAI rear view camera with microphone located on the apparatus body, DS pump panel.

The camera image will be displayed on one (1) 7.00" waterproof MO-140D color display at the pump panel.

ELECTRICAL POWER CONTROL SYSTEM

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

SOLID-STATE CONTROL SYSTEM

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators

- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field re programmable to accommodate changes to the vehicle's operating parameters
- Complete operating and troubleshooting manuals
- USB connection to the main control module for advanced troubleshooting

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g

IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)

Operating voltage from eight (8) volts to 16 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

CIRCUIT PROTECTION AND CONTROL DIAGRAM

Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

ON-BOARD ADVANCED/VISUAL ELECTRICAL SYSTEM DIAGNOSTICS

The on-board information center will include the following diagnostic information:

- Text description of active warning or caution alarms
- Simplified warning indicators
- Amber caution indication with intermittent alarm
- Red warning indication with steady tone alarm

All control system modules, with the exception of the main control module, will contain on-board visual diagnostic LEDs that assist in troubleshooting. The LEDs will be enclosed within the sealed, transparent module housing near the face of the module. One LED for each input or output will be provided and will illuminate whenever the respective input or output is active. Color-coded labels within the modules will encompass the LEDs for ease of identification. The LED indicator lights will provide point of use information for reduced troubleshooting time without the need for an additional computer.

TECH MODULE WITH WIFI

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will

provide an external antenna connection allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The data logging capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data logger will provide up to 2 Gigabytes of data storage.

A USB connection will be provided on the Tech Module. It will provide a means to download data logger information and update software in the device.

PROGNOSTICS

A software based vehicle tool will be provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone, color display and/or wireless enabled device to proactively alert of upcoming service intervals.

Prognostics will include:

- Engine oil and filter
- Transmission oil and filter
- Pump oil (if equipped)
- Foam oil (if equipped)
- Aerial oil and filter (if equipped)

ADVANCED DIAGNOSTICS

An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with a Windows-based computer or wireless enabled device.

The service and maintenance software will be easy to understand and use and have the ability to view system input/output (I/O) information.

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

VOLTAGE MONITOR SYSTEM

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

DEDICATED RADIO EQUIPMENT CONNECTION POINTS

There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment.

- The studs will consist of the following:
- 12-volt 40-amp battery switched power
- 12-volt 60-amp ignition switched power
- 12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

ENHANCED SOFTWARE

The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released.

Cab and crew cab dome lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

Cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

EMI/RFI PROTECTION

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

BATTERY SYSTEM

There will be four (4) 12 volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle

- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

BATTERY SYSTEM

There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH

There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

BATTERY COMPARTMENTS

The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.

BATTERY CHARGER

There will be an IOTA™, Model DSL 75, battery charger with IQ4, controller provided.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

There will be a Kussmaul™, Model #091-94-12, remote indicator included.

The battery charger will be located in the left body compartment mounted on the left wall as high as possible.

The battery charger indicator will be located near the driver's seat riser with special bracketry.

AUTO EJECT FOR SHORELINE

There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline inlet(s) will include white weatherproof flip up cover(s).

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 the battery charger.

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, to the front of cab door.

ALTERNATOR

A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

- System voltage monitoring.
- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.
- Sixteen available electronic load shedding levels.
- Priority levels can be set for individual outputs.
- High Idle to activate before any electric loads are shed and deactivate with the service brake.

- 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 headlight 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.

PLATFORM CLEARANCE/MARKER/ID LIGHTS

There will be five (5) 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 on the front of the aerial basket, centered.
- Two (2) amber LED clearance/marker lights will be installed, one (1) on each corner of the aerial basket visible from the side and the front of the vehicle.

REAR CLEARANCE/MARKER/ID LIGHTING

There will be three (3) LED identification lights located at the rear installed per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

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

The lights will be mounted with no guard.

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 side, towards the rear. The amber lens will face the front and the red lens will face the rear of the truck.

These lights will be activated with the running lights of the vehicle.

REAR FMVSS LIGHTING

The rear stop/tail and directional LED lighting will consist of the following:

- Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
- Two (2) Whelen, Model M6T, amber LED arrow turn lights

The lights shall be provided with color lenses.

The lights will be mounted in a polished combination housing.

There will be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.

LICENSE PLATE BRACKET

There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

LIGHTING BEZEL

There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There will be four (4) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PUMP HOUSE PERIMETER LIGHTS

There will be one (1) Amdor, Model AY-LB-12HW020, 350 lumens, 20.00" LED weatherproof strip light with bracket provided under the passenger's side pump panel running board.

If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the Amdor light will be installed.

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 two (2) Amdor, Model AY-LB-12HW020, 350 lumens, 20.00" long, with white LED's, 12 volt lights provided.

The lights will be mounted in the following locations:

- One (1) light under the driver's side turntable access steps
- One (1) light under the passenger's side turntable access steps

The perimeter scene lights will be activated when the battery switch is on and the parking brake is applied.

STEP LIGHTS

Two (2) white LED step lights will be provided, one (1) on each side of the front body.

In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights will be actuated with the pump panel light switch.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

12 VOLT LIGHTING

There will be one (1) HiViz FIRETECH, Model FT-B-46-*, 46.00" 12 volt DC LED light(s) with with a combination of flood and spot optics and adjustable mounting brackets mounted LS above rear axle.

The color of the light housing(s) and brackets will be white.

The light(s) selected above will be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

These light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be one (1) HiViz FIRETECH, Model FT-B-46-*, 46.00" 12 volt DC LED light(s) with with a combination of flood and spot optics and adjustable mounting brackets mounted RS above rear axle.

The color of the light housing(s) and brackets will be white.

The light(s) selected above will be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

These light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be two (2) Whelen, Model PCPSM1*, 12 volt surface mounted LED combination spot/flood light(s) located rear body, one each side, as high as possible. The lights will be mounted with chrome flange(s).

The light(s) selected above will be controlled by the following:

- a switch at the driver's side switch panel
- no additional switch location
- no additional switch location
- no additional switch location

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING

There will be two (2) HiViz, part number FT-MB-24-TRGWA-FT-**, 2.56" high x 31.11" long x 3.31" deep 8,880 lumens 12 volt DC LED light(s) installed with TRGWA adjustable tilt mounts located front on roof under light bar, one each side. The lights will be supplied with a combination of flood and spot optics.

The white.

The light(s) selected above will be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

These light(s) may be load managed when the parking brake is applied.

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, RS high, between cab and crew cab door.

The surface mount housing(s) will be provided with a chrome cover.

The light(s) will be activated by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, LS cab, high, between cab and crew cab doors.

The surface mount housing(s) will be provided with a chrome cover.

The light(s) will be activated by a switch at the driver's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

HOSE BED LIGHTS

There will be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the hose bed area. Hose Bed lights will meet the photometric levels listed in NFPA 1901 for Hose Bed lighting requirements.

- Light strip(s) will be installed along the upper edge of the left side of the hose bed.
- Light strip(s) will be installed along the upper edge of the right side of the hose bed.

The lights will be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.

REAR SCENE LIGHTS

There will be two (2) Whelen, Model 70K000CD, 35 watt 12 volt halogen scene lights with 15 degree angled brackets installed at the rear of the vehicle, under the tailboard, facing the rear.

The lights will be controlled by a switch at the driver's side switch panel.

WALKING SURFACE LIGHT

There will be Model FRP, 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light(s) will be activated when the body step lights are on.

WATER TANK

It will have a capacity of 500 gallons and will be constructed of polypropylene plastic in a rectangular shape.

The joints and seams will be nitrogen welded inside and out.

The tank will be baffled in accordance with 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 .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" 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 .50" polypropylene.

It will be recessed .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 of the dowels will be drilled and tapped (.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 in a fabricated "cradle" assembly constructed of structural steel.

Sufficient crossmembers are provided to properly support bottom of tank.

Crossmembers are constructed of steel bar channel or rectangular tubing.

Tank "floats" in cradle to avoid torsional stress caused by chassis frame flexing.

Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops are provided to prevent an empty tank from bouncing excessively while moving vehicle.

Tank mounting system is approved by the manufacturer.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" 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" thick 5052-H32 aluminum with a tensile strength of 31,000.

The sides of the hose bed will not form any portion of the fender compartments.

The hose bed will be located ahead of the ladder turntable between the tank and side body compartments.

Hose removal will be at the rear of the body via "chutes" under the turntable on the right side. Each chute will be enclosed with a full height smooth aluminum door. There will be a lift and turn latch and a pneumatic cylinder at the top of the door (if applicable).

The hose bed flooring will consist of removable aluminum grating with a top surface that is corrugated to aid in hose aeration.

The grating slats will be 0.50" wide x 4.50" long with spacing between the slats for hose ventilation.

Hose capacity will be a minimum of 500' x 5" .

HOSE BED HOSE RESTRAINT

A black hose bed cover will be furnished with jacket snaps fasteners at the front and jacket snap fasteners on the sides.

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 11.75" 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

Steps to access the turntable from the left and right side will be provided just behind the compartmentation. The steps will be a swing-down design, with the stepping area made of Morton Tread-Grip® channel. The step height for the bottom step (the distance from the top surface of the step to the ground) will not exceed 24.00" with the step in its extended position. No step height (the distance between the top surfaces of any two (2) adjacent steps) will be greater than 14.00". The stepwell will be lined with bright aluminum treadplate to act as scuffplates. The steps will be connected to the "Do Not Move Truck" indicator. The sides of each step package will be modified to allow the handrails to be recessed. The sides of each step package shall be modified to allow the rear most

handrail on each side to be recessed. The rear handrails will not protrude past the body side sheets or above the rear deck.

STEP LIGHTS

There will be three (3) white LED step lights provided for each set of 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 actuated by the aerial master switch in the cab.

SMOOTH ALUMINUM REAR WALL

The rear wall will be smooth aluminum.

TOW EYES

Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the torque box. The inner and outer edges of the tow eyes will be radiused.

COMPARTMENTATION

Compartmentation will be fabricated of .125" 5052 aluminum. The side compartments are an integral assembly with the rear fenders. Fully enclosed rear wheel housings will be provided to prevent rust pockets and for ease of maintenance. Due to the severe loading requirements of this aerial, a method of compartment body support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rail, which is the strongest component of the chassis and is designed for sustaining maximum loads.

A support system will be used which will incorporate a floating substructure by using Neoprene Elastomer isolators to allow the body to remain rigid while the chassis goes through its natural flex. The isolators will have a broad range of proven viability in vehicular applications, be of a fail safe design, and allow for all necessary movement in three (3) transitional and rotational modes. This will result in a 500 lb equipment rating for each lower compartment of the body.

The compartmentation in front of the rear axle will include a 3.00" steel support assemblies which are bolted to the chassis frame rails. A steel framework will be mounted to the body above these support assemblies connected to the support assemblies with isolators. There will be one support assembly mounted to each chassis frame rail.

The compartmentation behind the rear axle will include 3.00" steel support assemblies which are bolted to the chassis frame rails and extend underneath to the outside edge of the body. The support assembly will be coated to isolate the dissimilar metals before it is bolted to the body. There will be one (1) support assembly mounted to each chassis frame rail.

Compartment flooring will be of the sweep out design with the floor higher than the compartment door lip. The compartment door openings are framed by flanging the edges in 1.75" and bending out again .75" to form an angle. Drip protection is provided over all door openings by means of bright aluminum extrusion or formed bright aluminum treadplate. Side compartment tops will be covered with bright

aluminum treadplate with a 1.00" rolled over edge on the front, rear and outward side. The covers are fabricated in one (1) piece and have the corners welded. A bright aluminum treadplate cover will be provided on the front wall of each side compartment. All screws and bolts, which protrude into a compartment, will have acorn nuts at the ends to prevent injury.

The body design has been fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, stress coating and strain gauging have been performed with special attention given to fatigue life and structural integrity of the compartment body and substructure.

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 have a minimum of one (1) set of louvers stamped into a wall to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers will be formed into the metal and not added to the compartment as a separate plate.

LEFT SIDE COMPARTMENTATION

A full height roll-up door compartment, ahead of the rear wheels, will be provided. The compartment will be 41.75" wide x 64.00" high x 24.25" deep with a clear door opening of 38.75" wide x 56.38" high.

One (1) roll-up door compartment will be located above the fender compartments and over the rear axles. The compartment will be 72.13" wide x 33.25" high x 24.25" deep with a clear door opening of 63.75" wide x 25.50" high.

The retracted roll-up door will consume approximately 8.00" in height and 12.00" in depth of the upper outboard portion of each compartment.

A compartment with a single pan stainless steel door will be located above the front stabilizer. The compartment will be 24.25" wide x 15.50" high x 24.25" deep with a door opening of 18.50" wide x 12.75" high.

A full height roll-up door compartment, behind the rear wheels, will be provided. The compartment will be 43.75" wide x 49.25" high x 21.25" deep with a door opening of 40.75" wide x 41.62" high.

There will be one (1) roll-up door compartment located below the turntable. The compartment will be 39.38" wide x 18.38" high x 21.25" deep with a door opening of 33.75" wide x 10.75" high.

The retracted roll-up door will consume approximately 8.00" in height and 12.00" in depth of the upper outboard portion of each compartment.

RIGHT SIDE COMPARTMENTATION

A full height roll-up door compartment, ahead of the rear wheels, will be provided. The compartment will be 41.75" wide x 64.00" high x 24.25" deep inside the lower 29.75" and 12.00" deep inside the upper portion with a clear door opening of 38.75" wide x 56.38" high.

One (1) roll-up door compartment will be located above the fender compartments and over the rear axles. The compartment will be 72.13" wide x 33.25" high x 12.00" deep inside with a clear door opening of 63.75" wide x 25.50" high.

The retracted roll-up door will consume approximately 8.00" in height and 12.00" in depth of the upper outboard portion of each compartment.

A compartment with a single pan stainless steel door will be located above the front stabilizer. The compartment will be 24.25" wide x 15.50" high x 12.00" deep with a door opening of 18.50" wide x 12.75" high.

A full height roll-up door compartment behind the rear wheels will be provided. The compartment will be 43.75" wide x 49.25" high x 21.25" deep inside the lower 29.75" and 12.00" deep in the upper portion with a door opening of 40.75" wide x 41.62" high.

The retracted roll-up door will consume approximately 8.00" in height and 12.00" in depth of the upper outboard portion of each compartment.

One (1) compartment will be located below the turntable with a lift-up door. The compartment will be 39.38" wide x 18.38" high x 12.00" deep inside with a door opening of 35.00" wide x 14.88" high.

ROLLUP DOOR, SIDE COMPARTMENTS

There will be eight (8) compartment doors installed on the side compartments. The doors will be double faced aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Doors will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

REAR BUMPER

An 8.00" rear bumper will be furnished. The bumper will be constructed of steel framework and will be covered with polished aluminum treadplate. The bumper will be 7.00" deep x 5.00" high and will be spaced away from the body approximately 1.00". The corners of the bumper will be angled at 30 degrees. It will extend the full width of the body. The driver's side 12.00" portion will be notched to allow clearance for the elbow on the aerial inlet.

COMPARTMENT LIGHTING

There will be eight (8) 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 compartment(s): Each body compartment.

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.

ADDITIONAL COMPARTMENT LIGHTING

There will be two (2) 9.00" white 12 volt DC LED strip light(s) provided in the compartment over stabilizer compartment(s).

Opening the compartment door(s) will automatically turn the compartment lighting on.

ACCESS DOOR

A vertically hinged, aluminum treadplate door will be provided above the left side pump panel for access to the cargo compartment above the pump. This door will be hinged along the forward edge. It will have a D-handle latch and be as large as practical. There will be cover(s) provided over the exposed latch(s) on the inside of the compartment door to prevent items in the cargo area from hitting the latch(s).

CARGO AREA COVER

A hinged aluminum treadplate cover will be provided over the cargo area. The cover will support the weight of a firefighter. The cover will be secured with two (2) lift-and-turn latches and hinged at the front.

There will be knockouts or venting provided in the cover to allow air flow for the generator mounted below if necessary for heat dissipation.

MOUNTING TRACKS

There will be six (6) sets of tracks for mounting shelf(s) in LS1, LS3, LS4, RS1, RS3 and RS4. These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be painted to match the compartment interior.

ADJUSTABLE SHELVES

There will be six (6) shelves with a capacity of 500 lb provided.

The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides.

Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location(s) will be in RS4 centered between the floor and the ceiling, in LS3 in the lower third to the right of the partition and in LS4 at the depth transition point.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be one (1) floor mounted slide-out tray(s) provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray will be constructed of aluminum 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.

The location(s) will be RS4.

DRAWER ASSEMBLY

A slideout drawer assembly will be installed LS4.

The clear dimensions of the first drawer starting at the top will be 6.25" with a face plate that is 7.00" high x 21.00" deep. The clear dimensions of the second drawer will be 6.75" with a face plate that is 7.00" high x 21.00" deep. The clear dimensions of the third drawer will be 10.75" with a face plate that is 11.00" high x 21.00" deep. Each drawer will be the same width and not exceed 48.00".

The drawers will have a capacity of 250 pounds.

The drawers will be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing will be 24.00" deep, and completely enclose the drawer.

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.

EQUIPMENT MOUNTING SYSTEM

Pac Trac equipment mounting system will be installed on the back wall of four (4) compartment(s), LS1, LS3, RS1, RS3,.

VERTICAL COMPARTMENT PARTITION

One (1) partition will be provided.

The partition construction will consist of body material painted spatter gray. Each partition will be the full vertical height of the compartment.

The location(s) will be in LS3, 24.00" from the forward door frame.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" 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

Stainless steel fender crowns will be provided around the rear wheel openings.

A rubber welting will be provided between the body and the crown to seal the seam and restrict moisture from entering.

HARD SUCTION HOSE

Hard suction hose will not be required.

HANDRAILS

The handrails will be 1.25" diameter anodized aluminum extrusion, with a ribbed design, 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.

FOUR AIR BOTTLE STORAGE COMPARTMENT

A total of two (2) air bottle compartments will be provided and located one (1) on the left side and one (1) on the right side, centered between the tandem rear wheels. The air bottle compartment will consist of individual bins each designed to hold an air bottle with a maximum diameter of 7.63" and a maximum depth of 26.00".

Each compartment will hold a total of four (4) air bottles. The compartment will accommodate three (3) bottles across the top and one (1) centered below. The bottom air bottle will be accessible only when the top center bottle is removed and the hinged partition over the bottom bottle is lifted up. Each bottle will be separated by a partition.

Flooring will be rubber lined and have a drain hole. A drop down door with support cables with pair of flush lift & turn latches will be provided for each compartment. The door will be painted stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

AIR BOTTLE COMPARTMENT STRAP

Straps will be provided in the air bottle compartment(s) to help contain the top three (3) air bottles. The straps will wrap around the neck of each bottle and attach to the wall of the compartment.

EXTINGUISHER STORAGE

A quantity of four (4) extinguisher compartments 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 extinguisher compartment will be in the form of a 9.00" square tube and of adequate depth to accommodate different size extinguishers. A painted stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the extinguisher. A dielectric barrier will be provided between the door hinge, hinge fasteners, and the body sheet metal.

Inside the compartment, black Dura-Surf friction reducing material will be provided. There will also be a drain hole for each compartment.

EXTENSION LADDER

There will be one (1) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided.

AERIAL EXTENSION LADDER

There will be one (1) 24' two (2) section aluminum Series 900-A extension ladder(s) provided and located in the aerial torque box.

ROOF LADDERS

There will be two (2) 16' aluminum Duo-Safety Series 875-A roof ladders provided.

ADDED ROOF LADDER

There will be one (1) 12' roof, aluminum, Series 775-A provided.

AERIAL ATTIC EXTENSION LADDER

There will be one (1) 14' Fresno aluminum Duo-Safety Series 701 attic extension ladder(s) provided.

AERIAL FOLDING LADDER

There will be one (1) 10' aluminum Duo-Safety Series 585-A 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.

The rear most vertical support will be moved forward to allow hand clearance to access ladders.

A Gortite rollup door will be provided at the rear, double faced, aluminum construction and painted one (1) color to match the lower portion of the body. The latching mechanism will consist of a full length lift bar lock with latches on the outer extrusion of the door frame.

A stainless plate with a two 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 along with a polyethylene wear plate to prevent ladders from being scuffed by contacting metal parts.

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, the rollup door cannot close, which will activate the "Open Door Indicator Light" within the cab. The rollup door, together with hinge friction, will secure the plate in place during driving operations.

A door guard will be provided to prevent tools inside the torque box from damaging the rollup door.

LADDER STORAGE LIGHTING

There will be two (2) Truck Lite Model 44042C, 4.00" white LED lights with Model 40700, grommets used to illuminate the torque box ladder storage compartment. One (1) each side will be located on the side wall of the torque box near the ladder storage entry area.

The lights will be activated when the ladder storage compartment door is opened.

ADDITIONAL FOLDING LADDER

One (1) 17' aluminum, Little Giant Overhaul™ folding/roof ladder will be provided. The stored dimensions will be 56.50" high x 20.75" wide x 9.50" deep. The weight of the ladder is 55lb with a weight capacity of 375lb.

The ladder will be located ladder storage . The mounting provisions to secure this ladder are not included with this option, they are specified elsewhere.

PIKE POLES

There will be two (2) 12' Duo Safety pike pole(s) with fiberglass handles provided. The pike pole(s) will be stored in tubular holders located in the ground ladder storage compartment.

8' PIKE POLE

There will be two (2) 8' Duo Safety pike pole(s) with fiberglass handle provided. The pike pole(s) will be stored in tubular holders located in the ground ladder storage compartment.

6' PIKE POLE

There will be two (2) 6' Duo Safety pike pole(s) with fiberglass handle provided. The pike pole(s) will be stored in tubular holders located in the ground ladder storage compartment.

3' PIKE POLE

There will be two (2) 3' Duo Safety pike pole(s) with fiberglass shaft and "D" handles shipped loose.

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.

MIDSHIP FIRE PUMP

Midship fire pump will be a Hale QMAX-200, 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 500 psi.

Pump will be fully tested at the pump manufacturer's factory to the performance requirements as outlined by 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.

Pump body will be horizontally split, on a single plane in two (2) sections, for easy removal of entire impeller assembly, including wear rings and bearings from beneath the pump, without disturbing pump piping or the mounting of the pump in the chassis.

Pump will have one (1) double suction impeller. The pump body will have two (2) opposed discharge volute cutwaters to eliminate radial unbalance.

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

Impeller clearance rings will be bronze and easily renewable without replacing impeller or pump volute body. They will be of the wrap-around double labyrinth design for maximum efficiency.

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

Pump shaft will be rigidly supported by three (3) bearings for minimum deflection. A high lead bronze sleeve bearing will be located immediately adjacent to the impeller (on the side opposite of the drive unit). The sleeve bearing will be automatically oil lubricated and pressure balanced to exclude foreign material. The remaining bearings will be heavy-duty, deep groove ball bearings in the gearbox and will be splash lubricated.

MECHANICAL SEAL ON PUMP

Only one (1) mechanical seal will be used on the suction (inboard) side of the pump. The mechanical seal will be 2.00" in diameter and will be spring loaded, maintenance-free, and self-adjusting.

The mechanical seal construction will be a carbon sealing ring, stainless steel coil spring, Viton® rubber boot, and a tungsten carbide seat with a Teflon backup seal.

PUMP TRANSMISSION

The drive unit will be cast and completely manufactured and tested at the Hale Products, Inc. factory. The pump drive unit will be of sufficient size to withstand up to 16,000 foot/ pounds of torque from the engine in both the road and pump operating conditions. The drive unit is will be designed with ample lubrication reserve to maintain the proper operating temperature.

The gearbox drive shafts will be of heat treated chrome nickel steel and 2.75" in diameter on both the input and output drive shafts. They will be designed to withstand the full torque of the engine in both road and pump operating conditions.

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

Pierce Manufacturing will select the pump ratio to provide the maximum performance with the engine and transmission selected. Three (3) green warning lights will be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two (2) lights will be located in the truck driving compartment and one (1) light on pump operator's panel adjacent to the throttle control.

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.

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 the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump".

Another green indicator light will be installed adjacent to the hand throttle on the pump panel and indicate either the pump is engaged and the road transmission is in pump gear, or the road transmission is in neutral and the pump is not engaged. This light will be labeled "Warning: Do not open throttle unless light is on".

The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

The pump shift control in the cab will be illuminated to meet NFPA requirements.

TRANSMISSION LOCK-UP

The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be cylindrical type and will be a separate unit. The heat exchanger will be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.

INTAKE RELIEF VALVE

There will be One (1) Trident Air Max intake relief valve(s) installed on the suction side of the pump preset at 125 psig .

The relief valve will have a working range of 50 PSI to 350 PSI.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

One adjustable air regulator and pressure indicating gauge will be located on a common bezel behind the right side pump panel with a stainless steel access door to control the intake valve(s).

PRESSURE CONTROLLER

A Fire Research Pump Boss Model PBA400 pressure governor will be provided.

A pressure transducer will be installed in the water discharge manifold on the pump.

A pressure transducer will be installed in the inlet 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

A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

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.

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.

The location of the valve for the two (2) inlets 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.

INLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with stainless steel 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 straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS

There will be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE DISCHARGE OUTLETS

There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

There will be One (1) discharge outlet with a 3.00" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

LARGE DIAMETER DISCHARGE OUTLET

There will be a 4.00" discharge outlet with a 4.00" Akron valve installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread adapter. This discharge outlet will be actuated with a handwheel control at the pump operator's control panel.

An indicator will be provided to show when the valve is in the closed position.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with 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 (no exception).

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

ADDITIONAL 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 the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

LARGE DIAMETER OUTLET ELBOWS

The 4.00" outlet(s) will be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.

DISCHARGE OUTLET CONTROLS

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

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 control for the waterway valve will be located at the pump operator's panel.

The foam system will be plumbed into the aerial waterway plumbing. The water/foam piping will include a 2.50" ball valve.

An indicator will be provided to show when the valve is in the closed position.

CROSSLAY HOSE BEDS, 1.50"

Two (2) crosslays with 1.50" outlets will be provided.

Crosslay No.1 bed will be capable of carrying 200ft 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.

Crosslay No.2 bed will be capable of carrying 250ft 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 .25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish.

Vertical scuffplates, constructed of stainless steel, will be provided at the front and rear ends of the bed on each side of vehicle.

Crosslay bed flooring will consist of removable perforated brushed aluminum.

CROSSLAY HOSE RESTRAINT

A 2.00" black nylon webbing design restraint will be provided at each of the ends of two (2) crosslay(s) to secure the hose during travel. The webbing assembly is to be attached at the bottom of the crosslays, with footman loops and a permanent attachment, and is to attach at the top outside corners with seat belt buckles. The female end of the seat buckle will be permanently attached at the top corner of the opening. A bar will be attached to the female ends of the seat belt buckles to allow a single pull release. A single nylon strap will be attached to the bar for releasing the buckles on the webbing.

CROSSLAY COVER

A bi-fold aluminum treadplate cover will be installed over the crosslay hose beds. It will include a latch at each end of the cover to hold it securely in place, a chrome grab handle at each end for opening and closing the cover and a foam rubber gasket where the cover comes into contact to a painted surface. The hinge for the crosslay cover will be at the rear.

FOAM SYSTEM

A foam system will not be required on this apparatus.

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 (driver's) 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.

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.

The pump panel on the right (passenger's) side will be removable with lift and turn type fasteners.

Trim rings will be installed around all inlets and outlets.

PUMP PANEL CONFIGURATION

The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.

PUMP OPERATOR'S PLATFORM

A pull out, flip down platform will be provided at the pump operator's control panel.

The front edge and the top surface of the platform will be made of DA finished aluminum with a Morton Cass insert.

The platform will be approximately 13.75" deep when in the stowed position and approximately 22.00" deep when extended. The platform stepping surface will be 35.00" 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 stainless steel with a polished finish. A polished aluminum trim molding will be provided on both sides of the pump panel.

The right side pump panel will be removable and fastened with swell type fasteners.

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.

There will be a switch accessible through a door on the pump panel included with this installation.

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

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.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in.

standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1© interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

WATER LEVEL GAUGE

There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

WATER LEVEL GAUGE

There will be three (3) additional water level indicator(s), a Whelen®, Model PSTANK2, LED module with chrome housing, installed one (1) each side rearward of crew cab doors and one (1) on the rear body, left side.

This light module(s) will include four (4) colored levels and will function as follows:

- First, the green light module indicates a full water level.
- Second, the blue light module indicates a water level above 3/4 full.
- Third, an amber light module indicates a water level above 1/2 full.
- Last, a red light module indicates a water level above 1/4 full.

The light module will be steady burning when the water level is above the 1/4 full mark.

The light module will flash all green indicating the water level is empty.

This light module will be activated when the parking brake is applied.

The flash rate will be determined by the main water level tank sensor.

LIGHT SHIELD

There will be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel.

- There will be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.
- One (1) pump panel light will come on when the pump is in ok to pump mode.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

ADDITIONAL LIGHT SHIELD

An additional polished, 16 gauge stainless steel light shield will be provided above passenger's side pump panel.

- There will be 12 volt DC white LED lights installed under the light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.

AIR HORN SYSTEM

There will be two (2) Grover air horns recessed in the front bumper. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.

Air Horn Location

The air horns will be located on each side of the bumper, towards the outside.

AIR HORN CONTROL

The air horns will be actuated by a chrome push button located on the officer's side of the engine tunnel and by the horn button in the steering wheel. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

ELECTRONIC SIREN

A Whelen, Model 295HFSA7 electronic siren and remote head with a pre wired unidirectional microphone will be installed.

The model to be used will be determined by the chassis and location of the siren remote head.

The siren will contain a remote siren head and a siren amplifier with a dual system build in to the amplifier.

The siren features will include:

- Six (6) function siren plus radio repeat and public address
- Will meet California Title 13 and SAE J1849 specifications.
- Model 295HFSA7 will operate two (2) 100 watt speakers
- Operates in dual or mono modes.
- External dip switch selectable modes of operation.
- Outputs 2 independent siren tones creating a "rich harmonic dual tone sound".
- "Hands Free" operation. Turn On/Off and access all three siren tones (wail, yelp, and Piercer) without taking hands from the steering wheel.
- PTT (push to talk) switch on microphone overrides all siren functions.
- Pre Wired unidirectional microphone.
- Adjustable microphone volume.
- Adjustable preset radio repeat volume.
- Input polarity protection.
- Output short circuit protection.
- External mini spade-type fuse.
- Bi-polarity horn/ring control activation.
- Quick disconnect plug for ease of service or replacement.
- Five year HDP "Heavy Duty Professional" warranty on amp.

This siren to be active when the battery switch is on and the emergency master switch is on.

Electronic siren head will be recessed in the driver side center switch panel.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKERS

There will be two (2) Whelen, Model SA315P, black nylon composite, 100-watt, speakers with through bumper mounting brackets provided. Each speaker will be connected to the siren amplifier.

The speakers will be recessed in each side of the front bumper, inside of the frame rails.

AUXILIARY MECHANICAL SIREN

A Federal Q2B® siren will be furnished. A siren brake button will be installed on the switch panel.

The control solenoid will be powered up after the emergency master switch is activated.

The mechanical siren will be recessed in the front bumper on the right side. The siren will be properly supported using the bumper framework.

The mechanical siren will be actuated by two (2) foot switches, one (1) located on the officer's side and one (1) on the driver's side.

FOOT SWITCH GUARD

An aluminum treadplate guard will be provided for two (2) footswitches. The guard will be made from aluminum treadplate.

FRONT ZONE UPPER WARNING LIGHTS

There shall be two (2) 21.50" Whelen® Freedom™ IV lightbars mounted on the cab roof, one (1) on each side, above the driver's and passenger's doors parallel to the sides of the apparatus.

The driver's side lightbar shall include the following:

- One (1) red flashing LED module in the outside rear corner position.
- One (1) red flashing LED module in the outside rear 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 front end position.

The passenger's side lightbar shall include the following:

- One (1) red flashing LED module in the front 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) red flashing LED module in the outside rear position.
- One (1) red flashing LED module in the outside rear corner position.

There shall be clear lenses included on the lightbar.

There shall be a switch in the cab on the switch panel to control the lightbars.

The two (2) red flashing LED modules in the front end shall be deactivated when the parking brake is released.

The two (2) red flashing LED modules in the outside front and the two (2) red flashing LED module in the outside rear positions may be load managed when the parking brake is applied.

FRONT ZONE UPPER LIGHTING, PLATFORM

Four (4) Whelen, Model: M7RC red LED flashing warning lights that include a chrome flange will be located at the front of the platform basket.

All of the above lights will include a clear lens

The lights will be controlled by the same switch as the lightbars.

These lights will be deactivated when the boom is lifted out of the cradle.

ADDITIONAL WARNING LIGHTS

There will be two (2) Whelen, Model M6* LED flashing warning light(s) that include a chrome flange, located on the basket, front of basket, spread out evenly, upper portion.

The color of these lights will be red and include a lens that is clear.

The light(s) will be activated with the roof light switch and be deactivated when the boom is lifted out of the cradle.

The additional warning light(s) may be load managed if colored or will be deactivated if white, when the parking brake is set.

ADDITIONAL WARNING LIGHTS

There will be six (6) Whelen, Model M6* LED flashing warning light(s) that include a chrome flange, located on the basket, under basket step (1) each side, (1) each angled portion, (2) forward .

The color of these lights will be red and include a lens that is clear.

The light(s) will be activated with the roof light switch and be deactivated when the boom is lifted out of the cradle.

The additional warning light(s) may be load managed if colored, will be deactivated if white, or activated if amber when the parking brake is set.

CAB FACE WARNING LIGHTS

There will be four (4) Whelen®, Model M6*C, LED flashing warning lights installed on the cab face, above the headlights, mounted in a common bezel.

- The driver's side front outside warning light to be red
- The driver's side front inside warning light to be red
- The passenger's side front inside warning light to be red
- The passenger's side front outside warning light to be red

All four (4) lights will include a clear lens.

There will be a switch located in the cab, on the switch panel, to control the four (4) lights.

The inside lights may be load managed if colored or disabled if white, when the parking brake is set.

HEADLIGHT FLASHER

The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING

There will be six (6) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) lights, one (1) each side of cab rearward of crew cab doors. The side middle lights to be red.
- Two (2) lights, one (1) each side located between the tandems. 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.

ADDITIONAL SIDE UPPER LIGHTS

There will be six (6) Whelen, Model M4**, 3.38" high x 5.50" long x 1.38" deep LED surface mount flashing lights with chrome trim provided on the outside corner radius of the cab roof over the crew cab doors.

- The side front lights to be red.
- The side middle lights to be red.
- The side rear lights to be red.
- The color of the lenses will be clear.

The lights will be installed on two (2) painted bracket that are attached to the cab roof. Three (3) lights on the driver's side and three (3) lights installed on the passenger's side.

There will be a switch in the cab on the switch panel to control the lights.

White LED's will be disabled when the parking brake is applied. Colored LED's may be load managed when the parking brake is applied.

REAR ZONE LOWER LIGHTING

There shall 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 AND SIDE ZONE UPPER WARNING LIGHTS

There will be six (6) Whelen, Model 50*03Z*R, flashing LED lights provided:

There will be four (4) LED lights at the rear of the truck in the upper zone facing the rear.

- The upper pair will be both red Super LED/red lens.
- The lower pair will be both red Super LED/red lens.

There will be one (1) LED light at the rear of the truck in the upper zone facing the driver side.

There will be one (1) LED light at the rear of the truck in the upper zone facing the officer side.

- The color of these lights will be red Super LED/red lens.

These lights will be installed with Whelen, Model 5TSMAC, chrome plated flanges.

There will be a switch located in the cab on the switch panel to control the lights.

TRAFFIC DIRECTING LIGHT

There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen, Model TACTL5, control head will be included with this installation.

The controller shall be energized when the battery switch is on.

The auxiliary flash not activated.

This traffic directing light will be mounted on top of the body below the turntable with a treadplate box at the rear of the apparatus.

The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.

THREE SECTION 100 FOOT AERIAL PLATFORM

GENERAL INFORMATION

It is the intent of these specifications to describe a telescoping, elevating platform. The unit will consist of a three (3) section, aluminum 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 standards. Some portions of this specification exceed minimum NFPA recommendations. They will be considered a minimum requirement to be met.

A safety factor of 2:1 is required for environmental loading (wind plus .25" of ice build-up). This structural safety factor will apply to all structural aerial components including turntable and torque box stabilizer components. Definition of the structural safety factor will be as outlined in NFPA standards:

DL = Dead load stress. Stress produced by the weight of the aerial device and all permanently attached components.

RL = Rated capacity stress. Stress produced by the rated capacity load of the ladder.

WL = Water load stress. Stress produced by nozzle reaction force and the weight of water in the water delivery system.

FY = Material yield strength. The stress at which material exhibits permanent deformation.

$2.25 \times DL + 2.25 \times RL + 2.25 \times WL$ equal to/less than FY. The minimum NFPA specification is exceeded here by providing a safety factor above 2:1 while flowing water.

$2.0 \times DL + 2.0 \times RL + 2.0 \times WL + 2.0 \times \text{wind loading}$ equal to/less than FY.

The RL is reduced with a .25" ice build up to maintain a minimum 2:1 structural safety factor.

An independent engineering firm will verify the aerial safety factor. Design verification will include computer modeling and analysis, and extensive strain gauge testing witnessed by an independent registered professional engineer. Verification will include written certification from the independent engineering firm made available by the manufacturer upon request from the purchaser.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers will be performed by welders who are certified to American Welding Society (AWS) standards. The weldment assemblies of each production unit will be tested visually and mechanically by an ASNT certified level II non-destructive test technician to comply with NFPA standards. Testing procedures will conform to the AWS standards guide for non-destructive testing. Test methods may include dye penetrant, ultrasound, and magnetic particle where applicable.

LADDER CONSTRUCTION

The ladder will be comprised of three (3) sections and will extend to a nominal height, of 100 feet above the ground, as measured by 1901 recommendations.

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground. To insure a high strength to weight ratio and an inherent corrosion resistance, the aerial ladder will be completely constructed of high-strength aluminum. All side rails, rungs, handrails, uprights, and K braces will be made of structural 6061T6 alloy aluminum extrusions.

All material will be tested and certified by the material supplier. All ladder sections will be semi-automatically welded by shielded arc welding methods using 5356 aluminum alloy welding wire. Structural rivets or bolts will not be utilized in the ladder weldment sections.

The aerial ladder will consist of three (3) welded, extruded aluminum telescopic ladder sections. Each ladder section will consist of two (2) extruded aluminum side rails and a combination of aluminum rungs, tubular diagonals, verticals and two (2) full-length handrails. The rungs on all sections will be K braced for maximum lateral stability. This K bracing will extend to the center of each rung to minimize ladder side deflection.

The ladder rungs will be designed to eliminate the need to replace rubber-rung covers. The rungs will be spaced on 14.00" centers and have an integral skid-resistant surface as outlined in NFPA standards. An oval shaped rung will be utilized to provide a larger step surface at low angles and more comfortable grip at elevated positions. The minimum design load will be 500 lbs. distributed over a 3.50" wide area as outlined in NFPA standards.

Each aerial ladder section will have heat sensor labels that are preset to 300 degrees Fahrenheit with expiration year. The heat labels will meet NFPA standards.

The aerial ladder will exceed NFPA standards governing the minimum ladder section width and handrail height:

- Base section: 42.38" wide x 36.00" high
- Mid-section: 32.63" wide x 31.25" high
- Fly section: 24.00" wide x 27.38" high

VERTICAL HEIGHT

The ladder will extend to a minimum height of 100' above the ground at full extension and elevation. The measurement of height will be consistent with NFPA standards.

HORIZONTAL REACH

The rated horizontal reach will be 91'9". The measurement of horizontal reach will be consistent with NFPA standards.

OPERATION RANGE

The operating range of the ladder will be 11.5 degrees below horizontal (10 degrees with deep notch cab) to 76 degrees above horizontal with the truck in a level position.

The aerial will be capable of rotating from side-to-side around the back of the truck, encompassing up to 235 degrees of continuous rotation (depending on equipment and where it is located), while the aerial device remains at 11.5 degrees below horizontal (10 degrees with a deep notch cab). This will ensure that the platform stepping surface does not exceed the NFPA recommended maximum step height during a continuous rotation of up to 235 degrees.

MOUNTING OF ELEVATING PLATFORM

The aerial device will be rear mounted, to a torque box, on the truck chassis.

TORQUE BOX

A "torsion box" subframe will be installed between the two sets of stabilizers. The torque box will be constructed of a minimum .312" steel plate (50,000 pounds per square inch yield) with steel tubing reinforcement, on each side of the box, in the turntable area. The dimensions of the torque box will be 41.00" wide x 29.00" high x 247.63" long. There will be a 1/2" gap between the torque box and the frame rails to promote drying of the surfaces and reduce the effect of corrosion. The torque box subframe 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 thirty-six .750" SAE grade 8 bolts with nuts.

TURNTABLE

The turntable will be a 1.00" thick aluminum deck, covered with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current NFPA 1901 standard.

The turntable will measure 88.50" long x 87.88" wide. The turntable will include an enclosure for the hydraulic valves and rotation motor, which will also 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 out of aluminum and have a slip resistant knurled surface.

The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position.

A 54.24" diameter turntable bearing with a 3.25" drive gear face will be bolted to the top of the bearing mounting plate with .88" diameter Grade 8 plated bolts. The gear teeth will be stub tooth form. The rated overturning moment of the turntable bearing will be a minimum of 441,400 ft. lbs.

ELEVATION SYSTEM

Dual 7.00" diameter elevating cylinders will be mounted on the underside of the base section of the ladder. Two (2) 2.50" diameter stainless steel pins will fasten the cylinder to the turntable and fasten to the ladder. The pins will have 125,000 psi minimum yield strength and will be secured with .50" Grade 8 bolts with lock nuts. The bolts are to ensure that the pins do not walk out of the mounting brackets on the turntable and base section.

The elevating cylinders will be mounted utilizing maintenance-free spherical bearings on both ends of the cylinders. The aerial base pivot bearings will be maintenance-free type bearings with no external lubrication required. The cylinders will function only to elevate the ladder and not as a structural member to stabilize the ladder side movement. The elevating cylinders will be provided with pilot-operated check valves on the barrel and rod side of the piston to prevent movement of the ladder in case of a loss of hydraulic pressure.

The operation envelope will be 11.5 degrees below horizontal (10 degrees with a deep notch cab) to 76 degrees above horizontal.

The elevation system will be designed following NFPA standards. The elevation hydraulic cylinders will incorporate cushions on the upper limit of travel.

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 at the limits of travel

EXTENSION/RETRACTION SYSTEM

A hydraulically powered, extension and retraction system will be provided through dual hydraulic cylinders and wire ropes. Each set will be capable of operating the ladder in the event of a failure, of the other. 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 for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The ladder assembly will consist of three (3) separate weldments that will extend and retract within each other. Nylatron PAG + OIL slide pads will be utilized between each section to minimize friction. Four (4) T type interlocking load transfer stations will enclose the slide pads. The transfer stations will be located at the upper portion of the base and second ladder sections. Additional guide pads will be located along the aerial section to guide the ladder during retraction and extension.

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 will be greaseless and all sheave pins and pivot pins will be polished stainless steel.

ROTATION SYSTEM

The aerial will be supplied with a powered rotation system as outlined in NFPA standards. The hydraulic rotation motor will provide continuous rotation under all rated conditions and be supplied with a brake to prevent unintentional rotation. Two (2) hydraulically driven, planetary gear boxes with drive speed reducers will be used to provide infinite and minute rotation control throughout the entire rotational travel. Two (2) spring applied, hydraulically released disc type swing brakes will be furnished to provide positive braking of the turntable assembly. Provisions will be made for emergency operation of the rotation system should complete loss of normal hydraulic power occur. The hydraulic system will be equipped with pressure relief valves which will limit the rotational torque to a nondestructive power. The gearbox will have a minimum continuous torque rating of 60,000 in. lbs. and a minimum intermittent rating of 130,000 in. lbs. The turntable bearing, ring gear teeth, pinion gear, planetary gearbox, and output shaft will be certified by the manufacturer of the components for the application.

The rotation system will be controlled by the microprocessor. The microprocessor will provide the following features:

- Envelope control of rotation system to prevent accidental body damage
- Prevent the aerial from being rotated into an unstable condition

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 its rated load, can be supported and maintained level, relative to the horizontal, regardless of the elevation or flexion of the ladder.

Basket leveling will be accomplished by hydraulic circuitry that is independent from the main hydraulic system. The leveling of the basket features a dual master/slave hydraulic cylinder system, with each side capable of supporting the load, while maintaining the basket level. Two (2) master cylinders are mounted between the turntable and the base ladder section, with two (2) slave cylinders mounted between the ladder fly section and the basket. The slave and master cylinders are synchronized, so as the ladder is raised or lowered, exact amounts of hydraulic fluid are transferred between the master and slave cylinders thus maintaining the basket level.

The hydraulic circuitry includes pressure operated counter balance valves, on the load side of the slave cylinders, to prevent the basket from tipping should the hydraulic lines be severed.

A momentary switch is provided, on the cab instrument panel, to level the basket should this become necessary due to ambient temperature changes. It is not necessary to start the engine and activate the main hydraulic system to level the basket.

The basket leveling system will be manually adjustable from 10 degrees below horizontal to 10 degrees above horizontal.

Manual basket leveling switches will be provided at the turntable and basket.

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. SYSTEMS THAT PERMIT THE AERIAL TO ROTATE TO THE "SHORT JACK" SIDE, WITHOUT AUTOMATICALLY STOPPING THE ROTATION AND/OR WITHOUT ACTUATION OF THE "MANUAL OVERRIDE", will NOT BE ACCEPTED. SYSTEMS THAT ONLY INCLUDE AN ALARM ARE NOT CONSIDERED AN INTERLOCK AND will NOT BE ACCEPTED.

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 will be visible at the operator's station. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension. The ratings in the unsupported, fully extended configuration (in addition to 100 lbs. of equipment mounted at the tip) will maintain a 2:1 safety factor with a 35 mph wind.

The aerial device will have a rated capacity of 1000 lbs. consistent with standards. The rated capacity will include 1000 lbs. in personnel allowance and 100 lbs. for equipment mounted at the tip of the ladder. The aerial device will be rated in multiple configurations as outlined in NFPA standards.

35 MPH WIND CONDITIONS/WATERWAY DRY

Degrees of Elevation	-11.5 to 29*	30 to 39	40 to 49	50 to 76
Basket	1000	1000	1000	1000
Fly Tip	-	250	500	750
Mid Tip	-	250	500	750
Base	250	500	1000	1000

* -10 degrees with deep notch cab

35 MPH WIND CONDITIONS/WATERWAY CHARGED

Degrees of Elevation	-11.5 to 29*	30 to 39	40 to 49	50 to 76
Basket	500	500	500	500
Fly Tip	-	250	500	750
Mid Tip	-	250	500	750
Base	-	500	750	750

* -10 degrees with deep notch cab

Reduced loads at the fly can be redistributed to the mid or base sections as needed.

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, as far above and below horizontal to the platform as nozzle design allows.

While flowing 1500 to 2000 GPM, the nozzle position will be limited to 45 degrees either side of the ladder centerline horizontal to the platform, 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.

BOOM SUPPORT

A heavy-duty boom support, constructed of steel, is to be provided for support of the ladder in the travel position. The boom support will be bolted to the chassis frame as close to the front axle as design allows. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support.

The boom support will be located just to the rear of the chassis cab.

AERIAL BOOM SUPPORT LIGHT

There will be one (1) Amdor®, Model AY-LB-12HW012, 190 lumen, 12" long, white LED strip light mounted on the boom support cradle. This light will be activated when the aerial master switch is activated.

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 #10 white.

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.

STOKES STORAGE BRACKETS

There will be one (1) aluminum bracket(s) provided at the base section of the aerial ladder on the left side of the aerial device while viewed from the turntable. The brackets will be located inboard of the aerial boom panel. The brackets will be DA finished and include locking pins to secure the basket.

AXE MOUNTING BRACKETS

Brackets will be provided near the end of the fly section of the aerial ladder for mounting a fire axe. The mounting plates will be D/A finished aluminum.

PIKE POLE MOUNTING BRACKETS

Mounting will be provided near the end of the fly section of the aerial ladder for one (1) pike pole(s).

The bracket will be sized to hold a Duo-Safety 8' pike pole.

LADDER STORAGE MOUNTING BRACKETS

Mounting brackets for a single roof ladder will be provided on the left side of the aerial device while viewed from the turntable. A total of one (1) roof ladder(s) will be stored on the aerial base section. The bracket(s) will be located inboard of the boom panel at the base section.

The mounting brackets will accommodate a 12' Duo-Safety 875-A roof ladder(s) to be stored individually as determined by the type of aerial device and the available space.

LADDER STORAGE MOUNTING BRACKETS

There will be D/A finished mounting brackets provided near the end of the fly section of the aerial for mounting a 10' Duo Safety 585A folding ladder.

BASKET STRUCTURE

The basket structure will be constructed of structural T6061 aluminum and integrated with the construction of the waterway to ensure a high strength-to-weight ratio. The aerial basket will be fully tested and independent third party certified.

The flooring and front decking of the basket will be multi-piece non-slip material, preventing the accumulation of water on the standing surface. The floor will measure approximately 37.19" long x 78.13" wide. The stepping surfaces will meet the skid-resistance requirements of current NFPA 1901 standard.

The outside basket steps will be at the same level as the basket floor. The steps on the front and sides are approximately 8.00" deep. The doors and front corners of the basket will be 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.

Two (2) 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. All hoses and wiring at the basket will be fully enclosed. Electrical sub-components will be mounted under the basket in a separate enclosure for easy servicing while maintaining an unobstructed basket interior.

BASKET SIDES

The sides of the basket will be of tubular aluminum construction and aluminum sheet skin with engine turned finish 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 double pan doors will be of single pan aluminum construction with engine turned finish 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 basket will be equipped with a vertical self-closing gate for transfer to and from the basket's ladder device. Telescoping-type handrails will be provided as a banister to bridge the gap between the basket and the fly section at all elevations.

ACCESSORY MOUNTING RECEPTACLES

Two (2) universal accessory mounting receptacles will be permanently affixed on the front of the basket to receive the **LyfeLine™** family of options such as the **LyfeSupport™** rescue basket holders,

LyfeEye™ rappelling arms, **LyfeLadder™** roof ladder brackets, **LyfeHoist™** winch, etc. Complete interchangeability will be required without modification to the basket.

HOSE BOX AT PLATFORM

There will be one (1) hose storage box(es) with a cover and SouthCo stainless steel draw 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 device. The box(es) will be sized to fit 8' of 1.75" diameter hose and 50' of 1.75" diameter hose. A divider will be provided to separate a split hose load. There will also be a 50' section of 1.75" hose one (1) 8' section of 1.75" one (1) 1.5" fog nozzle w/pistol grip nozzle stored in the box.

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.

LIGHTS FOR TURNTABLE WALKWAY

There will be white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch.

TURNTABLE CONSOLE LIGHTING

There will be one (1), TecNiq Model T10, white LED light strip 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 will be provided on the front, sides and bottom of the basket.

The double pan basket access doors will form the heat shield at the front of the basket. The side heat shields will be formed by a single sheet of .063 aluminum.

Full under the basket heat shield protection, with a non-glare finish, will be provided with a swing-down door for ease of servicing.

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 minimum 400nits rated, color display. The LCD will be sunlight readable, true digital operation, and will have improved resolution. The LCD display will be encased in an ABS, black plastic housing with a gray decal. There will be five (5), weather-resistant user interface switches provided. The LCD display can be changed to an available 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 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 graph shown inside the bottle will indicate oxygen levels above 20%. A red bar graph will indicate oxygen levels at or below 20%. When oxygen levels are at or below 10%, the red bar graph will flash.
- *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 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 interlocks
- Emergency power unit switch

AERIAL DEVICE CONTROL STATIONS

There will be two (2) 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 grouped and operate in an identical manner at both stations for similarity of operation. The controls will be clearly marked and lighted for nighttime operation.

Each control will be equipped, with a positive lock to hold the control in a neutral position, preventing accidental activation. In addition to the neutral lock, 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.

TURNTABLE CONTROL STATION

The turntable control station will be located, on the left side of the turntable, so the operator may easily observe the basket while operating the controls.

The following items will be installed at the turntable control station, clearly identified, lighted for nighttime operation and conveniently located for ease of operation and viewing:

- Electric controls for elevation, rotation, extension/retraction
- Manual electric controls for basket leveling
- Intercom controls
- Tip tracking light switch
- Emergency power unit switch
- Operator's load chart
- Three (3) position switch for selecting aerial operational speed

TURNTABLE WORK LIGHTS

There will be a minimum of two (2) 12-volt work lights installed on the turntable, to illuminate the surrounding area for nighttime operation. The work lights will be activated by the aerial master switch.

BASKET CONTROL CONSOLE

The basket instrument panel will be located at the front center, of the aerial platform. The following controls will be installed at the console and be clearly identified, illuminated for nighttime operation and conveniently located for ease of operation and viewing:

- Intercom controls
- Operator's load chart

AERIAL FUNCTION CONTROLS

The aerial function controls, elevation, rotation, extension/retraction will be mounted in a separate backlit control box, which will be attached to the front of the platform control console, by means of an easily removable slide mechanism. The aerial function control box will have three (3) fixed attachment points in the basket. The electrical connection will be by a strain relieved, coiled cord that is permanently attached to the control box. To reduce the excess cord in the basket, the coiled cord will use a deutsch style bayonet connector style plug and there will be there (3) locations in the basket. The legend for the control lever functions will be illuminated.

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.

STABILIZERS

Two (2) sets of extendible, out and down, "H" type stabilizers will be provided for stability. The stabilizers will have a spread of 16' 6".

The stabilizers will be the double box design, with jack cylinders, that have a 4.25" internal diameter (bore), 3.00" diameter cylinder rod and a 34.88" stroke. The jack cylinders will be equipped with integral holding valves, which will hold the cylinder in either the stowed position or the working position, should a charged line be severed at any point within the hydraulic system. For safety, the integral holding valves will be located in the cylinder base end, NOT in the transfer tube. Vertical jack cylinder rods will be fully enclosed by a telescoping inner box to protect the cylinder rods against damage that may occur.

The extension cylinders will be totally enclosed within the extension beams. The horizontal extension cylinders will be of the trombone type to eliminate wear and potential failure of hydraulic hoses.

The stabilizers will have the capability of 18.00" of ground penetration, for set-up on uneven terrain. Extension of the horizontal beams will be activated by an extension cylinder, which has a 2.25" internal diameter (bore), 1.38" diameter cylinder rod and a 48.25" stroke. The extension cylinders will be totally enclosed within the extension beams. The cylinders will be equipped with internal decelerators. The cross section dimensions will be 13.00" high x 6.81" wide.

Each stabilizer leg will have attached to the end of the leg a 16 gauge polished stainless steel shield. The stainless steel shield will be of the split-pan design and will be a maximum 13.50" wide to allow the extension of the stabilizer between parked cars. This plate will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back for added strength.

STABILIZER CONTROLS

A portable stabilizer control box will be provided. The control box will be weatherproof and oil resistant. Each function and indicator light will be labeled on a metal photo panel. The control box can be taken as far away as 15 feet from the vehicle with an extension cable.

The stabilizer control box will include the following:

- One (1) green power indicator light for stabilizer control that will be illuminated when the aerial master and "PTO" switches in the cab are activated.
- Four (4) electric joysticks for stabilizers: each toggle switch will control the extend/retract and raise/lower of its respective stabilizer to allow vehicle set up in restricted areas and/or on uneven surfaces.
- Leveling assist push button: The outrigger control system will incorporate a computerized self-leveling system in addition to the standard outrigger controls. The operator will have the option to manually or automatically level the truck. The computerized system will ensure full outrigger extension, proper jack penetration, and will level the vehicle within 1/2 a degree of level for safe operation of the aerial device.
- One (1) electric push button 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.
- Four (4) fully extended beams green indicator lights: these lights will be illuminated when each of the respective stabilizer beams are fully extended.
- Four (4) firm on ground green indicator lights: each light will be illuminated when its respective stabilizer shoe is in the load supporting condition.

Each joystick will activate the engine fast idle automatically.

Manual override will be supplied for each stabilizer control valve.

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move Indicator Light", which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

STABILIZER PADS

A one (1) position, floating stabilizer pad will be provided on each stabilizer. The pads will require no operator adjustment during set up. The stabilizer pad will have the ability to pivot, in a 360-degree plane, for set up on uneven terrain.

AUXILIARY STABILIZER PADS

A set of four auxiliary pads with handles will be provided for additional load distribution on soft surfaces. Their size will be 31.00" x 26.00" and they shall be constructed of a lightweight composite material. The ground contact area for each stabilizer will be such that a unit pressure not greater than 75 psi (500 kPa) will be exerted over the ground contact area when the apparatus is loaded to its maximum in-service weight and the aerial device is carrying its rated capacity in every position permitted by the manufacturer. The pads will be stored in a double stacked configuration, two (2) behind each rear tandem axle in a single bracket.

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 PINS

The stabilizer jacks will not have holes for the stabilizer pins.

STABILIZER CONTROL BOX ALUMINUM DOOR

A vertically hinged smooth aluminum door will be provided over the stabilizer control box. The door will be hinged outboard.

HYDRAULIC SYSTEM

All high-pressure hoses will have an abrasion resistant cover, and have a rating greater than or equal to the working pressure of the circuit in which they are installed. All hydraulic fittings will be plated to minimize corrosion. The fitting will use an O-ring face seal, where possible, to minimize hydraulic leaks. All pressure carrying hydraulic hoses will have a 4:1 safety rating based on burst pressure.

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 NFPA standards.

The hydraulic system will be of the load sense design to minimize heat build up and provide smooth control of the aerial ladder. The system will meet the performance requirement in NFPA standards, which requires adequate cooling after less than 2 1/2 hours of operations.

All hydraulic components that are non-sealing, where failure could result in the aerial movement, will comply with NFPA standards and have burst strength of 4:1. Dynamic sealing components, where failure could cause aerial movement, will have a margin of 2:1 on maximum operating pressure per NFPA standards. All hydraulic hoses, tubes, and connections will have minimum burst strength of 3:1 per NFPA standards.

A hydraulic oil pressure gauge will be supplied at the base control location per NFPA standards.

The aerial hydraulic system will be designed in such a manner that a hydraulic pump failure or line rupture will not allow the aerial or outriggers to lose position. Hydraulic holding valves will be mounted directly into cylinders. To insure reliable performance of holding valves, no hoses or tubing will be permitted between a holding valve and cylinder. 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.

HYDRAULIC RESERVOIR

The hydraulic system will consist of an oil reservoir mounted to the torque box and plumbed to the hydraulic pump. There will be plumbing for a supply and return line and a tank drain on the reservoir.

The hydraulic pump suction line will have a shut-off ball valve for pump servicing.

The hydraulic oil reservoir fill will be labeled per NFPA standards. The hydraulic system will use multi-weight, SAE grade oil. ISO grade will be based on geographical location. The manufacturer will certify that the oil meets or exceeds the hydraulic cleanliness rating of 18/15/13 per ISO 4406:1999 before delivery.

HYDRAULIC FILTERS

The system will incorporate the following filters to provide dependable service:

- Separate magnet (not on strainer)
- Reservoir suction strainer: 125 mesh
- Pressure filter with dirt alarm: Nominal 5 micron filter with a rating of 6.5 micron @ Beta 200 (99.5% efficiency); 7.5 micron @ Beta 1000 (99.9% efficiency)
- Return filter with dirt alarm: Nominal 5 micron filter with a rating of 6.5 micron @ Beta 200 (99.5% efficiency); 7.5 micron @ Beta 1000 (99.9% efficiency)
- Desiccant breather filter: Water capacity 4 fluid oz, 5 micron rating

HYDRAULIC CYLINDERS

All hydraulic cylinders used on the aerial device will be produced by a manufacturer that specializes in the production of hydraulic cylinders.

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. The hydraulic pump will be a variable displacement piston pump, for consistent and rapid response, and be capable of supplying hydraulic oil at a nominal 50gpm flow at pressures up to 3000 psi. The system will operate up to 3000 psi with flow controls to protect hydraulic components and incorporate a relief valve set at 3150 psi to prevent over pressurization. The hydraulic pump will be solely dedicated to aerial operations. An amber indicator light will be installed on the cab instrument panel to notify the operator that the power takeoff is engaged.

An interlock will be provided that allows operation of the aerial power takeoff shift only after the chassis spring brake has been set and the chassis transmission has either been placed in the neutral position or drive position after the driveline has been disengaged from the rear axle.

EMERGENCY PUMP

The hydraulic system will be designed with an auxiliary power unit meeting the guidelines of NFPA standards. The auxiliary power unit will be a 12-volt pump connected to the chassis electrical system. The pump will provide operation at reduced speeds to store the aerial device and outriggers for road transportation.

Self-centering switches will be provided at the turntable and stabilizer control station to activate the system. The system will be designed to provide a minimum of 30 minutes of hydraulic power to operate functions.

HYDRAULIC SWIVEL

The aerial ladder will be equipped with a three (3) port, high-pressure hydraulic swivel that 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, CAN-based, 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 microprocessor based control system.

ELECTRICAL SYSTEM

The 100' platform will utilize the Pierce Command Zone™ System. The system will consist of the following components:

A tethered, CAN-based, stabilizer control will be provided. The tethered control will be weatherproof and oil resistant. The stabilizer control will be illuminated with a LED strip light in the face of the unit. The electrical connection at the tethered control will be permanently attached by a strained relieved coil cord that will allow the operator to move at least 14 feet away from the electrical connection for operation.

Remote Stabilizer Controls

Brightness control

Weatherproof and oil resistant

One (1) green "power" indicator light

One (1) red "stabilizer not stowed" indicator light

One (1) electric push button for level assist

One (1) electric push button for the emergency power unit

One (1) electric joystick for each stabilizer control:

Extend/retract function

Raise/lower function

One (1) green "stabilizer fully extended" indicator light for each stabilizer

One (1) green "firm on ground" indicator light for each stabilizer

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

AERIAL FLOODLIGHTS

There will be three (3) 12 volt DC LED lights provided on the aerial device below the top edge of the so the overall height of the unit isn't increased.

- One (1) Whelen Model MPB*, 4,100 lumens 12 volt DC LED light with bail mount installed on the driver's side of the base section of the ladder as a tracking light.
- One (1) Whelen Model MPB*, 4,100 lumens 12 volt DC LED light with bail mount installed on the passenger's side of the base section of the ladder as a tracking light.
- One (1) Fire Tech Model FT-SL-18, 18,000 lumens 12 volt DC LED light installed on the front of the basket.

Power to the tracking lights will be controlled by a master on/off switch at the turntable control operator's position.

The light at the platform will be controlled by platform/tip and turntable.

The painted parts of the tracking lights will be white.

The painted parts of the tip lights will be black.

LIGHTING ON AERIAL LADDER

There will be TecNiq, Model D02, LED rung lighting provided on both sides of the aerial ladder base, 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:

- The base section of the ladder to be red.
- The mid section of the ladder to be red.
- The fly section of the ladder to be red.

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 our (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 four (4) lights will be installed. The lights will be activated by the aerial master switch.

DC [POWER CABLE TO BASKET

There will be a cable installed in the aerial device to provide 14.0 amps @ 12 volts DC to the aerial basket.

ADDITIONAL PLATFORM 12 VOLT DC LIGHTING

There will be two (2) Whelen Micro Pioneer, Model MPB*, 12 volt DC LED spotlight(s) with a bail bracket installed on the front of the platform basket, aerial basket front, top.

The painted parts of this light assembly to be white.

The light(s) will be activated by a switch located at the platform/tip and turntable.

2-WAY AERIAL COMMUNICATION SYSTEM

There will be a Fire Research model ICA900-112 two-way intercom system provided. The control module will be located on the turntable operator console, provided there is room, and have 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 control module push-to-talk button is pressed.

Each intercom unit will be weatherproof.

VIDEO CAMERA SYSTEM

There will be one (1) color CCD back-up style cameras with 150-degree field of view, color camera attached to the aerial platform facing outward and connected to two (2) 2.4GHz wireless transmitters. A 2.4GHz receiver will be provided at the aerial turntable and the video will go to Command Zone information center. A 2.4GHz receiver will be provided at the pump panel and the video will go to a 7" monitor mounted at the pump panel.

The following Safety Vision components will be supplied:

- One (1) SV-630A-Kit Camera
- Two (2) Wlink Transmitters
- Two (2) Wlink Receivers
- One (1) SV-LED-70WP4 Monitor
- All required cables

BREATHING AIR

Breathing air will be supplied to the aerial platform. The air system will incorporate one (1), 6000-psi, 510 cubic foot cylinder. To allow the turntable operator an unobstructed view of the platform, the cylinder will be mounted on the right side of the ladder. The air cylinder will be interconnected through a pressure regulator located at the air cylinder. A shutoff valve with guard will be provided on the cylinder. At the platform, the breathing air will be accessible via two (2) quick couplings for air masks. These will have a Hansen brass 3000 series coupling. One (1) coupling will be located at the front of the basket on the right side and one (1) coupling will be located at the rear of the basket on the left hand side. There will be a weather resistant storage compartment for two (2) air masks provided at the

basket with a rubber draw latch. A 100' recharge hose will be provided for refilling the air cylinder without having to remove the tank from its mounting.

The breathing air cylinder will be designed and constructed to conform to the requirements of the United Nations (UN) on the transportation of dangerous goods.

BREATHING AIR LEVEL AND WARNING SYSTEM

The level of breathing air remaining will be visible on the LCD display at all operating positions. The display will incorporate a low-pressure warning circuit that activates an audible alarm when 20% of maximum air cylinder capacity remains. A second, louder audible alarm will activate when the remaining air level drops to 10% of maximum air cylinder capacity.

BREATHING AIR OUTLET AT TURNTABLE

A breathing air outlet will also be provided at the right side of the turntable control console. The air fitting will match those supplied at the tip.

ADDITIONAL BREATHING AIR OUTLET

There will be additional breathing air quick disconnect outlet(s) provided at the basket and located at the left rear side of the basket next to the standard outlet. The fitting(s) will match the type provided with the standard outlets.

RAISED AERIAL PEDESTAL

The aerial pedestal will be raised to accommodate the height of the cab.

LYFECOMBO™ BRACKETS

One (1) set of brackets will be supplied and mounted to the front of the platform basket. The brackets have been designed to increase firefighter safety and add to the functionality of the aerial device. The brackets will have three (3) functions that include: securing the roof ladder to the basket to allow firefighter access below the basket, two (2) rappelling arms to serve as an anchor point which allow rappelling from the basket, and mounting bars to allow the secure mounting of a rescue basket for transporting patients using the aerial. Each bracket will be easily removable using two (2) positively latched, 1.00" diameter aluminum pins.

LyfeLadder™ support brackets will be incorporated into the design of the 3-in-1 option brackets. The brackets will be designed to mount an 875A Duo-Safety roof ladder up to 20 feet long securely in place. 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 while maintaining a minimum of a two to one (2:1) safety factor. There will also be a latch to keep the ladder in a vertical position at all times that will attach to a rung 28.00" below the primary attachment point. Strain gauging and testing will have been completed on the system (ladder and complete holding device) providing the above criteria has been met. A set of nylon guides will be provided to aid in positioning the roof ladder on the mounting brackets.

LyfeEye™ rappelling brackets will be provided. The **LyfeEye** brackets will be incorporated into the design of the 3-in-1 option brackets. Each bracket in the set will have a forged stainless steel eyebolt with a 1.38" inside diameter for use as a rappel line anchor. Each bracket will have a capacity of 300 lbs.

LyfeSupport™ rescue basket support bars will be provided. The bars will be incorporated into the design of the 3-in-1 option brackets. The bars will be easily removable from the 3-in-1 bracket to allow for individual storage of these bars when they are not needed. Two (2) quick clip basket straps will be used to secure the rescue basket to the brackets.

AERIAL TURNTABLE MANSAVER™ BARS

ManSaver™ bars 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 rear 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 -11.5 degrees to 76 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 5.00" diameter tube for the base section, 4.50" diameter tube for the mid-section and 4.00" diameter tube for the fly section.

A 1.50" drain will be provided for the waterway with the control at the rear of the unit.

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 -11.5 degrees to 76 degrees. The water will be routed from the swivel to a 4.00" gear operated butterfly valve on the front of the platform using a 4.00" 6061 pipe. The deluge gun will be bolted onto the butterfly valve.

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. 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 2000 gpm Model 5170 manual nozzle.

One (1) will be a 3480 StreamMaster II electronic control with stow and deploy and a Akron 2000 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.

REAR INLET

A 5.00" NST inlet to the aerial waterway will be provided at the rear of the apparatus on the left side. It will be furnished with a 5.00" chrome plated adapter and a 5.00" chrome plated, long handle cap.

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

There will be no soft suction hose provided.

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.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT - BODY PAINTED TO MATCH CAB

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.

2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.
3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T. standard in critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab and the body will be painted #10 white.

PAINT - ENVIRONMENTAL IMPACT

Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with 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

FILM TECHNICAL PROPERTIES		
PROPERTY	TEST METHOD	PERFORMANCE
Color	—	Black
Film Thickness	—	0.5 - 1.5 Mils
Gloss - 60 Degree	ASTM D523	65 - 85
Pencil Hardness	ASTM D3363	2H Minimum
Direct Impact	ASTM D2794	100 in. - lbs. Minimum
Reverse Impact	ASTM D2794	60 in. - lbs. Minimum
Crosshatch Adhesion	ASTM D3359	4B - 5B
Humidity	ASTM D1735	1000 Hours Minimum
Water Immersion	ASTM D870	250 Hours Minimum
Gravelometer	GM9508P	6 Minimum
Throwpower	GM9535P	12 - 15 in.
Cold rolled steel lab panels, Zinc Phosphate pretreatment, 0.6 mils average film thickness, cured 20 minutes @ 350°F.		
PROPERTY	SUBSTRATE PRETREATMENT	SALT SPRAY* 1000 HOURS
Corrosion Resistance	CRS / Zinc Phos / Non-Chrome	1 - 2 mm
*Salt Spray - ASTM B117, cold rolled steel lab panels cured 20 minutes @ 350°F. (Average Total Scribe Creep)		

- Castings
- Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process will meet the technical properties shown.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

AERIAL DEVICE PAINT COLOR

All aerial device ladder sections will have a natural swirl finish.

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:

- Rear of basket and basket leveling cylinders at tip: engine turned The sides of the basket will have an engine turned finish
- Aerial turntable and leveling cylinders at turntable: white 10
- Aerial control console: white 10
- Aerial lift and extension cylinders: white 10
- Aerial torque box, support structure and components below the rotation point: black 101 paint
- Aerial stabilizers: black 101
- Aerial boom support: black 101

REFLECTIVE BAND

A 10.00" white reflective band will be provided across the front of the vehicle and along the sides of the body.

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, smooth aluminum doors, and rear bumper. Rear compartment doors and stainless steel access doors will not be covered.

The colors will be gold and black reflective.

Each stripe will be 6.00" in width.

NFPA 1901, 2016 edition, Section 15.9.3.2.1 requires each stripe in the chevron to be a single color alternating between red and either yellow, fluorescent yellow, or fluorescent yellow green. Use of the red and yellow color is endorsed by the International Association of Fire Chiefs. The fire apparatus purchaser will realize that by requesting an exception to this aspect of NFPA 1901, this fire apparatus will not contribute to the national standardization initiative. Per the purchaser's specification, this apparatus will not be compliant to NFPA 1901 standards in this regard.

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.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" white 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

Sixty-one (61) to eighty (80) reflective lettering, 6.00" high, with outline will be provided.

LETTERING

Sixty-one (61) to eighty (80) reflective lettering, 5.00" high, with outline will be provided.

LETTERING

Forty-one (41) to sixty (60) reflective lettering, 7.00" high, with outline will be provided.

LETTERING

Sixty-one (61) to eighty (80) reflective lettering, 6.00" high, with outline will be provided.

LETTERING

Twenty-one (21) to forty (40) reflective lettering, 9.00" high, with outline will be provided.

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 Cummins **five (5) year** limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

STEERING GEAR WARRANTY

A Sheppard **three (3) year** limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.

FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY

A Pierce fifty four (54) month warranty will be provided for the camera system.

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A **six (6) year** limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included with this proposal.

PUMP WARRANTY

A Hale pump limited warranty certificate, WA0248, is included with this proposal.

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.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

The Pierce graphics fading and deterioration limited warranty limited warranty certificate, WA0168, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of bid.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab integrity certification with this proposal. The certification will state that the cab has been tested and certified by an independent third-party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state-licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Roof Crush

The cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of 10 metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lbs. This value exceeds the ECE 29 criteria by nearly 4.5 times.

Side Impact

The same cab will be subjected to dynamic preload where a 13,275 lb moving barrier slams into the side of the cab at 5.5 mph at a force of 13,000 ft-lbs. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lbs of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lbs of force using a moving barrier, (twice the force required by SAE J2420).

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION

Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

CAB DEFROSTER CERTIFICATION

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 HEATER CERTIFICATION

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters will warm the cab 75 F from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify 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).

Alvin RMAP

- 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).

Line	Option	Type	Option Description	Qty
40	0601009		Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal, Aerials Qty, Pair - 01 Location, Wheel Chocks - Left Side Rear Tire, Forward	1
41	0593759		ESC/ABS/ATC Wabco Brake System, Tandem Rear Axle, 2010	1
42	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
43	0000730		Brakes, Meritor, Cam, Rear, 16.50 x 7.00"	1
44	0020784		Air Compressor, Brake, Cummins/Wabco 18.7 CFM	1
45	0000794		Brake Reservoirs, Six	1
46	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
47	0000790		Brake Lines, Nylon	1
48	0000854		Air Inlet, w/Disconnect Coupling Location, Air Coupling(s) - a) DS Step Well, Forward Qty, Air Coupling (s) - 1	1
49	0070810		All Wheel Lockup (Aerial/Tanker Chassis)	1
50	0612549		Fittings, Compression Type, Entire Apparatus, Tandem Rear Axle	1
51	0795318		Engine, Cummins X15, 600 hp, 1850 lb-ft, W/OBD, EPA 2017, Velocity	1
52	0001244		High Idle w/Electronic Engine, Custom	1
53	0687994		Engine Brake, Jacobs Compression Brake, Cummins Engine Switch, Engine Brake - e) ISC/ISM/ISL9/ISX Hi Med Lo	1
54	0552334		Clutch, Fan, Air Actuated, Horton Drive Master	1
55	0123135		Air Intake, w/Ember separator, Imp/Vel	1
56	0794743		Exhaust System, 5", X12/X15 Engine, Horizontal, Right Side	1
57	0787999		Radiator, Impel/Velocitey	1
58	0511425		Cooling Hoses, Rubber	1
59	0001125		Fuel Tank, 65 Gallon, Left Side Fill	1
60	0001129		Lines, Fuel	1
61	0595087		DEF Tank, 4.5 Gallon, DS Fill, Forward of Rear Axle Door, Material & Finish, DEF Tank - Polished Stainless	1
62	0552793		Not Required, Fuel Priming Pump	1
63	0582243		Shutoff Valves, Fuel Line @ Primary Filter, Cummins	1
64	0553019		Cooler, Engine Fuel, Imp/Vel, AXT/Qtm/Sab/DCF/SFR/Enf	1
65	0578959		Fuel/Water Separator, Racor Inline	1
66	0642533		Trans, Allison 5th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/DCF/Enf	1
67	0512762		Transmission, Shifter, 6-Spd, Push Button, 4500, Imp/Vel/Qtm/DCF/Enf Trans, ratio - 4500 EVS, 6Spd	1
68	0684459		Transmission Oil Cooler, Modine, External	1
69	0535530		Mode, Downshift, Aggressive downshift to 2nd, w/engine brake, 6 speed	1
70	0001375		Driveline, Spicer 1810	1
71	0669988		Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	1
72	0001544		Not Required, Steering Assist Cylinder on Front Axle	1
73	0509230		Steering Wheel, 4 Spoke without Controls	1
74	0690274		Logo/Emblem, on Dash Text, Row (1) One - Alvin Text, Row (2) Two - Fire Text, Row (3) Three - Department	1
75	0123625		Bumper, 19" Extended, Imp/Vel	1
76	0510226		Lift & Tow Package, Imp/Vel, AXT, Dash CF	1
77	0522573		Tow Hooks Not Required, Due to Lift and Tow Package	1
78	0668314		Cab, Velocity FR, 7010 Raised Roof w/Notch	1
79	0601652	SP	Engine Tunnel, ISX, Spray Insulation, Imp/Vel FR	1
80	0677478		Rear Wall, Exterior, Cab, Aluminum Treadplate	1
81	0122466		Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	1
82	0123176		Grille, Bright Finished, Front of Cab, Impel/Velocitey	1
83	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab Material Trim/Scuffplate - c) S/S, Polished	1
84	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
85	0087357		Molding, Chrome on Side of Cab	1
86	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1

Line	Option	Type	Option Description	Qty
87	0667937		Door, Full Height, Velocity FR 4-Door Cab, Raised Roof	1
			Key Model, Cab Doors - 751	
88	0655511		Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	1
89	0667905		Storage Pockets w/ Elastic Cover, Recessed, Impel/Velocity FR	1
90	0667902		Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	1
91	0555485		Steps, 4-Door Full Tilt Cab, Imp/Vel	1
92	0770194		Handrail, Exterior, Knurled, Alum, 4-Door Cab	1
93	0509649		Lights, Cab and Crew Cab Access Steps, P25, LED w/Bezel, 1Lt Per Step	1
94	0002140		Fenders, S/S on Cab	1
95	0682764		Grab Handles, Interior, Crew Cab, Location	1
			Location - just below window, crew cab doors	
96	0122479		Window, Side of C/C, Fixed, Velocity	1
97	0552935		Trim, Cab Side Windows, Velocity	1
98	0012090		Not Required, Windows, Front/Side of raised roof	1
99	0509287		Windows, Rear CC, (2) 11.25" x 18", Velocity	1
100	0553196		Trim, Cab Rear Windows, Velocity	1
101	0764717		Compt, Storage, 10.71 W x 30 H x 14 D, (1) Ea Side C/C, Dbl Pan, Imp/Vel	1
			Light, Aux Cab Compartments - Pierce, Hinged Side	
			Finish, Exterior Cab Compt - Spatter Gray	
			Door, Cab Exterior Cabinet - Double Pan, (2), Non-Locking	
			Door, Exterior Stop - 2-Chain	
102	0748671		Cab Interior, Vinyl, Velocity FR, CARE	1
			Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Light Gray	
103	0667943		Cab Interior, Paint Color, Impel/Velocity FR	1
			Color, Cab Interior Paint - i) fire smoke gray	
104	0509532		Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	1
105	0667936		Heater/defroster, Dual Zone Control, Impel/Velocity FR	1
106	0601514		Air Conditioning, Dual Zone Control, Hinge Acc Pnl, Velocity FR w/ ISX15 Engine	1
			Paint Color, A/C Condenser - Painted by OEM	
107	0640814		Dual Condensate Drain Tubes for A/C Drip Pan, Imp/Vel FR	1
108	0639675		Sun Visor, Smoked Lexan, AXT, Dash CF, Imp/Vel, Saber FR/Enforcer	1
			Sun Visor Retention - No Retention	
109	0543257		Grab Handles, Driver Door Post & Passenger Dash Panel, Imp/Vel	1
110	0583938		Lights, Engine Compt, Custom, Auto Sw, Wln 3SC0CDCR, 3" LED, Trim	1
			Qty, - 01	
111	0122516		Fluid Check Access, Imp/Vel	1
112	0583042		Side Roll and Frontal Impact Protection	1
113	0622617		Seating Capacity, 6 Seats	1
114	0697005		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety	1
115	0587668		Seat, Officer, Pierce PS6, Base, SCBA, Safety	1
116	0510037		Radio Compartment, Below Officer Seat, Imp/Vel	1
117	0122183		Seat, Rear Facing C/C, DS Outboard, Pierce PS6, Premium, SCBA, Safety	1
118	0102783		Not Required, Seat, Rr Facing C/C, Center	1
119	0122186		Seat, Rear Facing C/C, PS Outboard, Pierce PS6, Premium, SCBA, Safety	1
120	0645433		Seat, Forward Facing C/C, DS Outbrd, Pierce PS6, Base, SCBA, Safety, Inboard 3"	1
121	0103319		Not Required, Seat, Forward Facing C/C, Center	1
122	0645431		Seat, Forward Facing C/C, PS Outboard, Pierce PS6, Base, SCBA, Safety, Inbrd 3"	1
123	0766467		Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE	7
			Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Black	
			Qty, - 07	
124	0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats	6
			Qty, - 06	
125	0603867		Seat Belt, ReadyReach	1
			Seat Belt Color - Red	
126	0604863		Seat Belt Height Adjustment, 6 Seats, Imp/Vel, Dash CF	1
127	0602464		Helmet Storage, Provided by Fire Department, NFPA 2016	1
128	0647647		Lights, Dome, FRP Dual LED 4 Lts	1
			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	
129	0631776		Not Required, Overhead Map Lights	1

Line	Option	Type	Option Description	Qty
130	0602622		Portable Hand Light, Provided by Fire Department, Quint NFPA 2016 Classification	1
131	0568369		Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010, Dash CF	1
132	0509511		Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	1
133	0543751		Light, Do Not Move Apparatus	1
			Alarm, Do Not Move Truck - Pulsing Alarm	
134	0509042		Messages, Open Door/Do Not Move Truck, MUX w/Color Display	1
135	0611681		Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX	1
			Location, Emerg Sw Pnls - Driver's Side Overhead	
136	0555915		Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	1
137	0669028		Hourmeter, Aerial Inside Cab, Deadman Switch	1
138	0002615		Switch, Aerial 12V Master	1
139	0002617		PTO switch, w/light - aerial	1
140	0598394		Wiring, Spare, 30 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025 1st	1
			Qty, - 01	
			12vdc power from - Battery direct	
			Location - behind driver seat	
141	0548004		Wiring, Spare, 15 A 12V DC 1st	2
			Qty, - 02	
			12vdc power from - Battery direct	
			Wire termination - Butt Splice	
			Location, Spare Wiring - Officer Dash	
142	0787001		Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 2nd	1
			Qty, - 01	
			12vdc power from - Battery direct	
			Location - officer dash	
143	0636439		Wiring, Spare, 37.5 A 12V DC, Cust Install Radio, 30A Bat Dir, 7.5A Ign & Grnd	1
			Qty, - 01	
			Location - refer to radio location	
144	0615386		Vehicle Information Center, 7" Color Display, Touchscreen, MUX	1
			System Of Measurement - US Customary	
145	0615121		Vehicle Information Center, 7" Color Display, MUX, Additional, Touchscreen	1
			Qty, - 01	
			System Of Measurement - US Customary	
			Location, CZ Displays - PS Instrument Panel	
146	0606249		Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	1
147	0767718	SP	Radio, Portable, Motorola, APX 6000XE, 700/800 w/Charger	4
			Location - TBD	
			Qty, - 04	
148	0696439		Antenna Mount, Custom Chassis, Cable Routed to Instrument Panel Area	1
			Qty, - 01	
			Location, Antenna Mount - Right Side	
149	0653520		Camera, Pierce, Mux, R, RS Cameras	1
			Camera System Audio - Speaker Near Drivers Left Knee	
150	0657694		Recess, Rear Vision Camera, Flanged Treadplate	1
			Location - centered	
151	0766203		Camera, Pierce, Body Camera, 7" LCD Display Pump Panel	1
			Location - DS pump panel	
152	0615100		Pierce Command Zone, Advanced Electronics & Control System, Diag LEDs, Vel, WiFi	1
153	0624254		Electrical System, Velocity	1
154	0079166		Batteries, (4) Exide Grp 31, 950 CCA ea, Threaded Stud	1
155	0008621		Battery System, Single Start, All Custom Chassis	1
156	0123174		Battery Compartment, Imp/Vel	1
157	0614406		Charger, Sngl Sys, IOTA, DSL-75, 75 Amp, Kussmaul 091-94-12 Ind, AXT/DCF/Vel/Imp	1
158	0012782		Location, Charger, Front Left Side Body Compartment	1
			Location, Battery Chrgr/Cmpr - High On Left Wall	
159	0531403		Location, Bat Chrg Ind, Driver's Seat with Bracket	1
160	0016857		Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	1
			Qty, - 01	
			Color, Kussmaul Cover - c) white	
			Shoreline Connection - Battery Charger	

Line	Option	Type	Option Description	Qty
161	0026800		Shoreline Location	1
			Location, Shoreline(s) - DS Cab, Frt Corner	
162	0647728		Alternator, 430 amp, Delco Remy 55SI	1
163	0092582		Load Manager/Sequencer, MUX	1
			Enable/Disable Hi-Idle - e)High Idle enable	
164	0783153		Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	1
			Color, Headlight Bez - Chrome Bezel	
165	0648425		Light, Directional, Wln 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF	1
			Color, Lens, LED's - m)match LED's	
166	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
167	0648074		Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	1
168	0647993		Lights, Clearance/Marker/ID, Platform, P25 LED, 5 Lts	1
			Light Guard - With Guard	
169	0511569		Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts	1
			Light Guard - Without Guard	
170	0514453		Light, Marker End Outline, Rubber Arm, LED Marker Lamp	1
			Location, Lights - side, towards the rear	
			Qty, Lights, Pair - 1	
171	0564683		Lights, Tail, Wln M6BTT* Red LED Stop/Tail & M6T* Amber LED Dir Arw For Hsg	1
			Color, Lens - Colored	
172	0561471		Lights, Backup, Wln M6BUW, LED, For Tail Lt Housing	1
173	0664481		Bracket, License Plate & Light, P25 LED	1
174	0556842		Bezels, Wln, (2) M6 Chrome Pierce, For mtg (4) Wln M6 lights	1
175	0589905		Alarm, Back-up Warning, PRECO 1040	1
176	0769420		Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	1
177	0769564		Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 1lt	1
178	0768765		Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Turntable Access	1
			Control, Perimeter Lts - Parking Brake Applied	
179	0554198		Lights, Step, P25 LED, Aerial With Pump 2Lts, Pump Pnl Sw	1
180	0620741		Light, HiViz FT-B-46-*, 46", 2nd	1
			Location, Lights - LS above rear axle	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw DS	
			Color, Lt Housing - White	
			Scene Light Optics - Flood/Spot	
181	0620745		Light, HiViz FT-B-46-*, 46", 1st	1
			Location, Lights - RS above rear axle	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw DS	
			Color, Lt Housing - White	
			Color, Lt Housing HiViz - Other	
			Scene Light Optics - Flood/Spot	
182	0603109		Light, HiViz FT-MB-24-TRGWA-FT-*, 31.11" 1st	2
			Location, Lights - front on roof under light bar, one each side	
			Qty, - 02	
			Control, Scene Lts - Cab Sw Panel DS and Pump Panel Sw DS	
			Color, Lt Housing - White	
			Scene Light Optics - Flood/Spot	
183	0640629		Light, Wln, 12V PCPSM1* Pioneer LED Fld/Spt, Surface Mount 1st	2
			Location, Lights - rear body, one each side, as high as possible	
			Qty, - 02	
			Switch, Lt Control 1 DC,1 - a) DS Switch Panel	
			Switch, Lt Control 2 DC,2 - e) No Control	
			Switch, Lt Control 3 DC,3 - d) No Control	
			Switch, Lt Control 4 DC,4 - d) No Control	
			Color, Wln Lt Housing - Chrome Flange	
184	0768061		Lights, Wln, PCPSM2* Pioneer, 12 VDC, 1st	1
			Location - RS high, between cab and crew cab door	
			Qty, - 01	
			Color, Wln Lt Housing - Chrome Cover	
			Control, Scene Lts - Side Scene Controls	
185	0768059		Lights, Wln, PCPSM2* Pioneer, 12 VDC, 2nd	1
			Location - LS cab, high, between cab and crew cab doors	

Line	Option	Type	Option Description	Qty
185			Qty, - 01 Color, Wln Lt Housing - Chrome Cover Control, Scene Lts - Cab Sw Panel DS and Side Scene Controls	
186	0565198		Not Required, Deck Lights, Other Hose Bed & Rear Lighting, Aerial	1
187	0645877		Lights, Hose Bed, Sides, Dual LED Light Strips	1
188	0646143		Control, Hose Bed Lts - Cup Switch At Rear Lights, Rear Scene, Wln, 70K000CD Halogen, 15 Deg Brkt, Below Tailboard	1
189	0709438		Control, Rear Scene Lts - Cab Switch Panel DS Light, Walking Surf, FRP Flood, LED	1
190	0554959		Aerial, Platform 100' RMAP, Alum Body	1
191	0554269		Body Skirt Height, 18"	1
192	0001170		Tank, Water, 500 Gallon, Poly, 85/100 PAP	1
193	0003405		Overflow, 4.00" Water Tank, Poly	1
194	0028107		Not Required, Foam Cell Modification	1
195	0003429		Not Required, Direct Tank Fill	1
196	0751577		Hose Bed, Aluminum, Trough Style, 2G Aerial	1
197	0003492		Location, driver's/passenger's/center - Right Side Door, Material & Finish, Access - smooth aluminum Latch, Door, Access - lift and turn latch Hose Bed Capacity, Special Amount, Ascendant, 100AAT, PAP, PAL	1
198	0581819		Capacity, Hosebed - 500' x 5" Hose Restraint, Hose Bed, Vinyl, Top, Aerial	1
199	0003509		Color, Vinyl Cover - c) black Type of fastener - jacket snap - Sides of Hosebed Type of fastener, Front - jacket snaps - Front Hosebed	1
200	0579754		Running Boards, PAP Turntable Steps-Morton Cass, Swing Down, Recessed Rear Handrails, LS & RS, RMAP	1
201	0554004		Lights, Step (6), P25 LED, Swing Down Access Steps, Each Side	1
202	0690023		Wall, Rear, Smooth Aluminum	1
203	0029503		Tow Eyes (2), Painted, Aerial	1
204	0555229		Construction, Compt, Alum, 100' RMAP	1
205	0588261		Compt, LS F/H F/D, Roll Drs, w/o Chute, 100' RMAP	1
206	0555262		Compt, LS Turntable, F/H F/D, Roll Drs, 100' RMAP	1
207	0023672		Compt, IPO Stairs, Not Required, LS	1
208	0555271		Compt, RS F/H, Roll Drs, 100' RMAP	1
209	0594272		Compt, RS Turntable, F/H, Roll/Lift Drs, 100' RMAP	1
210	0023673		Compt, IPO Stairs, Not Required, RS	1
211	0693023		Doors, Gortite, Rollup, Side Compartments	8
212	0555345		Qty, Door Accessory - 08 Color, Roll-up Door, Gortite - Painted to Match Lower Body Latch, Roll-up Door, Gortite - Non-Locking Liftbar Bumper, Rear, 8" Cntrweight, w/Treadplate Cover, Notch, Angled Corner, RMAP/PAL	1
213	0689549		Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door Location - Each body compartment	8
214	0655467		Qty, - 08 Lights, Compt, Pierce, LED Light Strip, 9" IPOS Location, Lights - compartment over stabilizer	2
215	0626900		Qty, - 02 Access Door, Cargo Compt, LS, Vert Hinged Door, Material & Finish, Storage - Aluminum Treaplate Latch, Door, Storage - "D" Handle Latch Hinge Location - Forward	1
216	0779625	SP	Cover, Alum Treadplate, Cargo Compt, Single Panel, Reinforced	1
217	0603420		Shelf Tracks, Painted, Aerial	6
218	0600289		Qty, Shelf Track - 06 Location, Shelf Track - LS1, LS3, LS4, RS1, RS3 and RS4 Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial	6
			Qty, Shelf - 06 Material Finish, Shelf - Painted - Spatter Gray Location, Shelves/Trays, Predefined - RS4-Centered, LS3-Lower Third Right of Partition and LS4-Transition Point	

Line	Option	Type	Option Description	Qty
219	0647091		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides	1
			Qty, - 01	
			Location, Tray Slide-Out, Floor Mounted - RS4	
			Material Finish, Tray - Painted - Spatter Gray	
220	0558500		Drawer Assembly, CTECH, Three Drawers, Up To 48" Wide	1
			Location - LS4	
			Qty, - 01	
			Size, Drawer Height 1 (Top) - 6.25"	
			Size, Drawer Height 2 - 6.75"	
			Size, Drawer Height 3 - 10.75"	
221	0797957		Pac Trac, Installed on Compt Wall, Back Wall Only	4
			Location - LS1, LS3, RS1, RS3,	
			Qty, Comp. Accessory - 04	
222	0600281		Partition, Vertical Compartment, Predefined Locations	1
			Qty, Partition - 01	
			Location, Partition/Toolboard, Predefined - LS3- 24.00" From Forward	
			Door Frame	
			Material Finish, Partition - Painted - Spatter Gray	
223	0004016		Rub Rail, Aluminum Extruded, Side of Body	1
224	0004027		Fender Crowns, Rear, S/S, Two Pair	1
225	0519849		Not Required, Hose, Hard Suction	1
226	0626229		Handrails, Side Pump Panels, Per Print	1
227	0621698		Compt, Air Bottle, Between Tandems, Four (4) Bottles, w/ Straps, Aerial	2
			Qty, Air Bottle Comp - 2	
			Location, driver's/passenger's/center - 1LS & 1RS	
			Door Finish, Fender Compt - Painted	
			Latch, Air Bottle Compt - Pair, Flush Lift & Turn	
			Door Type - drop down with support cable	
228	0637785		Compt, Extinguisher in Fender Panel, 9.00" Square	4
			Qty, - 04	
			Door Finish, Fender Compt - Painted	
			Location, Fender Compt - Single - LS Fwd, Single - LS Rear, Single - RS	
			Fwd and Single - RS Rear	
			Latch, Air Bottle Compt - Southco C2 Chrome Raised	
			Insert, Air Bottle Compt - Dura-Surf Lining	
229	0004218		Ladder, 35' Duo-Safety 1200A 2-Sect	1
			Qty, - 1	
230	0004222		Ladder, 24' Duo-Safety 900A 2-Section	1
			Qty, - 01	
			Location, Extension Ladder - torque box	
231	0004232		Ladder, (2) 16' Duo-Safety 875A Roof	1
232	0074232		Ladder, 12' Duo-Safety 775A Roof	1
			Qty, - 1	
233	0004233		Ladder, 14' Duo-Safety Fresno 701	1
			Qty, - 1	
234	0004246		Ladder, 10' Duo-Safety Folding, 585A	1
			Qty, - 01	
			Location, Folding Ladder Aerial - torque box	
235	0555347		Ladders Stored in Torque Box, Gortite Roll, w/Glide Plate, RMAP	1
			Color, Roll-up Door, Gortite - Painted to Match Lower Body	
236	0602102		Lights, Torque Box Ladder Storage, Truck-Lite 44042C 2lts, LED, Round 4"	1
237	0787704		Ladder, Little Giant, Overhaul - Model 17, 15197	1
			Location - ladder storage	
238	0775907		Pike Pole, 12' DUO Safety, Fiberglass	2
			Qty, - 02	
239	0789564		Pike Pole, 8' DUO Safety, Fiberglass, Aerial	2
			Qty, - 02	
240	0789566		Pike Pole, 6' DUO Safety, Fiberglass, Aerial	2
			Qty, - 02	
241	0789586		Pike Pole, 3' DUO Safety, Fiberglass, w/D Handle	2
			Qty, - 02	
242	0770578		Pike Pole Tubes, in Torque Box/Ladder Storage, ABS	6
			Qty, - 06	
243	0024388		No Steps Required, Front Of Body	1

Line	Option	Type	Option Description	Qty
244	0014456		Pump, Hale, QMAX-200, 2000 GPM, Single Stage	1
245	0014482		Seal, Mechanical, Hale	1
246	0014477		Trans, Pump, Hale, Gear	1
247	0635600		Pumping Mode, Stationary Only	1
248	0604308		Pump Shift, Air w/o Manual Override, Split Shaft, Interlocked, Hale	1
249	0003148		Transmission Lock-up, EVS	1
250	0004547		Auxiliary Cooling System	1
251	0014486		Not Required, Transfer Valve, Stage Pump	1
252	0746508		Valve(s), Relief Intake, Trident Air Max, Control Location	1
			Qty - 1	
			Pressure Setting - 125 psig	
			Intake Relief Valve Control - Behind Right Side Pump Panel	
253	0692045		Controller, Pressure, FRC, Pump Boss, PBA400	1
254	0072153		Primer, Trident, Air Prime, Air Operated	1
255	0780364		Manuals, Pump, (2) Total, Electronic Copies	1
256	0602512		Plumbing, Stainless Steel and Hose, Single Stage Pump, Control Zone	1
257	0089437		Plumbing Without Foam System	1
258	0004645		Inlets, 6.00" - 1250 GPM or Larger Pump	1
259	0004646		Cap, Main Pump Inlet, Long Handle, NST, VLH	1
260	0084610		Valves, Akron 8000 series- All	1
261	0004660		Inlet, Left Side, 2.50"	1
262	0004680		Inlet, Right Side, 2.50"	1
263	0016158		Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	2
			Qty, Inlets - 2	
264	0004700		Control, Inlet, at Valve	1
265	0092569		No Rear Inlet (Large Dia) Requested	1
266	0092696		Not Required, Cap, Rear Inlet	1
267	0064116		No Rear Inlet Actuation Required	1
268	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
269	0092568		No Rear Auxiliary Inlet Requested	1
270	0563738		Valve, .75" Bleeder, Aux. Side Inlet, Swing Handle	1
271	0029043		Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing	1
272	0004905		Outlet, Tank Fill, 1.50"	1
273	0004940		Outlet, Left Side, 2.50"	2
			Qty, Discharges - 02	
274	0092570		Not Required, Outlets, Left Side Additional	1
275	0004945		Outlet, Right Side, 2.50"	1
			Qty, Discharges - 01	
276	0065030		Outlet, Right Side, 2.50" w/3" Plumbing (added)	1
			Qty, Discharges - 01	
277	0005047		Outlet, 4" w/4" Right, Handwheel	1
			Valve, Brand - Akron	
278	0092572		Not Required, Outlet, Front	1
279	0092575		Not Required, Outlet, Rear	1
280	0092574		Not Required, Outlet, Rear, Additional	1
281	0092573		Not Required, Outlet, Hose Bed/Running Board Tray	1
282	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
283	0563739		Valve, 0.75" Bleeder, Discharges, Swing Handle	1
284	0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
285	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
286	0025091		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	1
287	0055096		Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH, Additional	1
			Qty, Discharges - 01	
288	0045099		Not Required, Elbow, Rear Outlets	1
289	0085695		Not Required, Elbow, Rear Outlets, Large, Additional	1
290	0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	1
			Qty, - 01	
291	0062133		Control, Outlets, Manual, Pierce HW if applicable	1
292	0029106		Not Required, Deluge Outlet	1
293	0029302		No Monitor Requested	1
294	0029304		No Nozzle Req'd	1

Line	Option	Type	Option Description	Qty
295	0029107		No Deluge Mount	1
296	0048117		Waterway Outlet & Control, Akron, Foam Bypass, PAL/PAP	1
297	0796853	SP	Crosslays Sngl Sheet, (2) 1.50", Spl. Cap Ea Bed/Arrangement Capacity, Special Xlay - (1) 200' , (1) 150' Qty, Crosslays - 2	2
298	0029196		Not Required, 2.50" Crosslay	1
299	0623374		Hose Restraint, Crosslays, 2" Nylon Web, Seat Belt Buckle, Tether, Bar, Sides Qty, - 02	2
300	0029260		Not Required, Speedlays	1
301	0750536		Hose Restr, Spdly, Not Required, No Spdly	1
302	0075205		Cover, Crosslay, Bi-fold Alum, Hinge @ Rear	1
303	0044333		Not Required, Foam System	1
304	0012126		Not Required, CAF Compressor	1
305	0552517		Not Required, Refill, Foam Tank	1
306	0042573		Not Required, Foam System Demonstration	1
307	0045465		Not Required, Foam Tanks	1
308	0091110		Not Required, Foam Tank Drain	1
309	0091079		Not Required, Foam Tank #2	1
310	0091112		Not Required, Foam Tank #2 Drain	1
311	0620530		Pump House, Side Control, 52", Control Zone, Aerial	1
312	0032479		Pump Panel Configuration, Control Zone	1
313	0562698		Step, Slide-Out/Fold-Out, Pump Operator Platform, Aerial	1
314	0667186		Light, Slide-Out Pump Operator Step, On Scene Solutions Access LED, Short Step	1
315	0005530		Material, Pump Panels, Side Control Polished Stainless	1
316	0005578		Panel, Pump Access - Right Side Only	1
317	0035501		Pump House Structure, Std Height	1
318	0583824		Light, Pump Compt, Wln 3SC0CDCR LED White Qty, - 01	1
319	0586382		Gauges, Engine, Included With Pressure Controller	1
320	0005601		Throttle Included w/ Pressure Controller	1
321	0549333		Indicators, Engine, Included with Pressure Controller	1
322	0745568		Indicator Light, Pump Panel, Ok To Pump, Green	1
323	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
324	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
325	0062586		Gauge, Water Level, Class 1, Pierce Std	1
326	0750203		Water Level Gauge, Wln PSTANK2, LED 1-Light, 4-Level, Use w/Pierce Class 1, PMFD Qty, - 03 Activation, Water Level G - pb) parking brake is applied Location, Water Level Gauge - Each Side Custom Cab and Rear Body - LS Color, Trim - Chrome Housing	3
327	0006774		Not Required, Foam Level Gauge	1
328	0593161		Light Shield, S/S LED	1
329	0682488		Light Shield, S/S, PS LED	1
330	0606697		Air Horns, (2) Grover, In Bumper	1
331	0606835		Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	1
332	0016065		Control, Air Horn, Horn Ring, PS Chrome Push Button	1
333	0547475		Siren, Wln 295HFSA7 200W, Dual Tone, Flush Mount	1
334	0510206		Location, Elect Siren, Recessed Overhead In Console Location, Elec Siren - Overhead, DS Center Sw Pnl	1
335	0076156		Control, Elec Siren, Head Only	1
336	0601298		Speaker, (2) Wln, SA315P, 100 watt Connection, Speaker - siren head	1
337	0601559		Location, Speaker, Frt Bumper, Recessed, Each Side, Inside Frame (Pos 3 & 5)	1
338	0016080		Siren, Federal Q2B	1
339	0006097		Location of Siren, Recessed in Bumper Location, Siren, Mech - b) right	1
340	0026163		Control, Mech Siren, DS & PS Foot Sw	1
341	0019877	SP	Guard, Foot Switches, Treadplate, 2 swts Location - RS and LS foot switch	1

Line	Option	Type	Option Description	Qty
342	0773431	SP	Lightbar, Wln, Freedom IV-Q, 2-21.5", RRRRR RRRRR, 90 Deg, Front Lts Off PB Rel	1
			Filter, Whl Freedom Ltbrs - No Filters	
343	0541106		Lights, Frnt Zn Up, Pltform, Wln, M7RC LED, Clear Lens 4lts	1
344	0671816		Lights, Basket, Wln, M6*, LED, Clear Lens, 2nd	6
			Location - under basket step (1) each side, (1) each angled portion, (2) forward	
			Color, Light - ae) red	
			Qty, - 06	
345	0543668		Lights, Basket, Wln, M6*, LED, Clear Lens 1st	2
			Location - front of basket, spread out evenly, upper portion	
			Color, Light - red	
			Qty, - 02	
346	0540460		Light, Front Zone, Wln M6*C LED, Clear Lens, 4lts Q Bezel	1
			Color, Lt DS Frnt Outside - DS Front Outside Red	
			Color, Lt PS Frnt Outside - PS Front Outside Red	
			Color, Lt DS Front Inside - r) DS Front Inside Red	
			Color, Lt PS Front Inside - r) PS Front Inside Red	
347	0653937		Flasher, Headlight Alternating	1
			Headlt flash deactivation - a)w/high beam	
348	0540692		Lights, Side Zone Lower, Wln M6*C LED, Clear Lens, 3pr, Ovr 25	1
			Location, Lights Front Side - b)each side bumper	
			Color, Lt Side Front - Red	
			Color, Lt Side Middle - Red	
			Color, Lt Side Rear - Red	
			Location, Lights Mid Side - Rearward of Crew Cab Doors	
			Location, Lights Rear Side - Between Tandem	
349	0644686		Lights, Side Rf, Wln M4** LED, Paint Brkt, Custom 6lts	1
			Location, Light Bar - b)over the crew cab doors	
			Color, Lens, LED's - c)clear	
			Color, Lt Side Front - Red	
			Color, Lt Side Middle - Red	
			Color, Lt Side Rear - Red	
350	0564655		Lights, Rear Zone Lower, Wln 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	
351	0080676		Lights, Rear/Side Up Zone, Wln 50*03Z*R LED, 3pr	1
			Color,Whln Sup500 LED,BCK - a) rd/rd	
			Color,Whln Sup500 LED,UPR - a) rd/rd	
			Color,Whln Sup500 LED,LWR - a) rd/rd	
352	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
353	0791501		Light, Traffic Directing, Wln TAL65, 36" Long LED, Aerials	1
			Activation, Traffic Dir L - Not Connected	
354	0530074		Location, Traf Dir Lt, On Top of Body Below Turntable w/Trdplt Box	1
355	0530282		Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	1
356	0519934		Not Required, Brand, Hydraulic Tool System	1
357	0649753		Not Required, PTO Driven Hydraulic Tool System	1
358	0592962		Aerial, 100' Aluminum Platform (RMAP)	1
359	0000042		Boom Support, Rear of the Chassis Cab	1
360	0762413		Light, Boom Support, Amdor AY-LB-12HW012, 12" LED	1
361	0799560		Boom Support Compartment, Not Required	1
362	0680821		Boom Panel, Pair	1
			Paint Color, Predefined - #10 white	
363	0526890		Not Required, Indicator, Extension	1
364	0678815		Brackets Only, Axe, 6lb or 8lb, Aerial Fly Section	1
365	0678711		Brackets, Stokes Storage, Base Section, Inboard of Boom Panel	1
			Qty, - 01	
			Finish - DA Finish	
			Location, Aerial Device - left side	
366	0663732		Brackets Only, Roof Ladder, Base Section, Inboard of Boom Panel, RMAP	1
			Qty, - 01	
			Location, Aerial Device - left side	
			Roof Ladder, Make/Model, Multi-Select - 12' Duo-Safety 875-A	

Line	Option	Type	Option Description	Qty
367	0678641		Brackets Only, Pike Pole, Aerial Fly Section Qty, - 01 Pike Pole Make/Model - Duo-Safety 8' Pike Pole	1
368	0677710		Brackets Only, Folding Ladder, Aerial Fly Section Fldg Ladder, Make/Model - 10' Duo Safety 585A	1
369	0603890		Basket, 100' RMAP, NFPA 2016	1
370	0739308	SP	Box, Split Hose Storage and Nozzle, Platform, w/ Divider Qty, - 01 Size - 50' section of 1.75" hose one (1) 8' section of 1.75" one (1) 1.5" fog nozzle w/pistol grip Latch, Door, Storage - Southco 97 Draw Latch Stainless Steel Location, Aerial Basket - left Cover - cover Hose Size, Hosebox - 8' of 1.75"/50' of 1.75"	1
371	0601972		Lights, Turntable Walkway, P25, LED	1
372	0601949		Light, Turntable Console, TecNiq T-10, LED Strip Light	1
373	0553753		Basket Heat Shields, 100' RMAP	1
374	0553792		Control Stations, 100' RMAP, Color Display	1
375	0593514		Stabilizers, 100' RMAP, Two Sets, Split Pan Material, Stabilizer Pad - Composite	1
376	0530819		Not Required, Aerial Stabilizer Pins	1
377	0548900		Door, Stabilizer Control Box, Aerial MUX, Hinged Outboard, Smooth Aluminum	1
378	0596605		Hydraulic System, 100' RMAP	1
379	0553817		Swivels, w/Encoder, 100' RMAP (36 Collector Rings)	1
380	0553759		Electrical System, 100' RMAP	1
381	0614161	SP	Lights, Wln MPB* Micro LED Trk 2lts, HiViz FT-SL-18 @ Basket 1lt (PAP) Location, Sw, Arl DC Lts - m) 2 locations Color, Wln Lt Housing - White Color, Lt Housing - Black	1
382	0653737		Lighting, Rung, LED, TecNiq, 3 Section, Base, Mid, Fly Control, Aerial Rung Lighting - Aerial Master Color, Lt Aerial Fly Sect - Red Color, Lt Aerial Base Sect - Red Color, Lt Aerial Mid Sect - Red	1
383	0540743		Lights, Stabilizer Warn (2) Sets, Wln M6*C LED, Clear Lens Color, Lt Rr Stabilzr Pan - r) Pan Light Red Color, Lt Fr Stabilzr Pan - r) Pan Light Red	1
384	0068701		Lights, Grote Supernova LED, Stabilizer Beam, (2) Sets	1
385	0762388		Lights, Stabilizer Scene, (2) sets, Amdor AY-LB-12HW012, LED	1
386	0750301	SP	DC Power to Basket 14 Amps @ 12 Volts DC, 100'PAP, RMAP	1
387	0634522	SP	Light, Wln MPB* Micro LED Spot, Bail Mount, On Front Of Basket, PAP Location - aerial basket front, top Qty, - 02 Location, Sw, Arl AC Lts - M)2 Pos Color, Wln Lt Housing - White Paint	2
388	0594648		Intercom, 2-Way Fire Research ICA900 Hands Free	1
389	0740028	SP	Camera System,SV, Wireless Fixed Camera to Pump Panel 7", Turntable Display, PAP	1
390	0590096		Breathing Air to Tip, (1) 6000 PSI, 100' RMAP Refill Hose - 100' Breathing Air Fitting - Hansen Breathing Air Mask Box - mask box platform rubber draw latch	1
391	0024742		Not Required, Mask, Breathing Air To Tip	1
392	0016936		Breathing Air To Turntable w/o Mask	1
393	0681375		Outlet, Breathing Air at Basket, Additional Location, Additional Breathing Air Outlet - additional left rear	1
394	0126600		Raised Pedestal, 3.00", Rear Mount Aerials, AXT, Velocity, Impel, Enf	1
395	0690967		Lyfe Brackets, 3-In-1, Used w/Duo-Safety 875 Ladders ONLY, RMAP	1
396	0530826		Turntable Access, ManSaver Bars, Yellow	1
397	0553820		Waterway, 100' RMAP	1
398	0016952		(1) Preconnect At Platform, 2 Monitors	1

Line	Option	Type	Option Description	Qty
399	0630798		Monitors, (2), Akron, 3481 StreamMaster II Manual, 3480 StreamMaster II Electric	1
			Nozzle, Monitor 1, PAP - Akron 5170 Manual 2000 gpm	
			Nozzle, Monitor 2, PAP - Akron 5178 Electric 2000 gpm	
400	0086971		Flowmeter, Waterway, MUX, PAP	1
401	0555362		Inlet, 5.00" at LS Rear w/ Pump, 100' RMAP	1
402	0047897		Tools, Aerial	1
403	0559491		Manuals and Training, 3 Consecutive Days, Platform	1
404	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
405	0602497		NFPA Required Loose Equipment, Quint, NFPA 2016, Provided by Fire Department	1
406	0519913		Not Required, Soft Suction Hose	1
407	0027023		No Strainer Required	1
408	0602534		Extinguisher, Dry Chemical, Quint NFPA 2016, Provided by Fire Department	1
409	0602352		Extinguisher, 2.5 Gal. Pressurized Water, Quint, NFPA 2016, Provided by Fire Dept	1
410	0007482		Not Required, Crowbars	1
411	0007484		Not Required, Claw Tools	1
412	0602883		Axe, Flathead, Quint NFPA 2016, Provided by Fire Department	1
413	0602670		Axe, Pickhead, Quint NFPA 2016, Provided by Fire Department	1
414	0007494		Not Required, Sledgehammers	1
415	0559573		Paint, Single Color, Custom	1
			Paint Color, Predefined - #10 white	
416	0646901		Paint Chassis Frame Assy, With Liner, E-Coat, Standard	1
			Paint Color, Frame Assembly, Predefined - Standard Black	
417	0693797		No Paint Required, Aluminum Front Wheels	1
418	0693792		No Paint Required, Aluminum Rear Wheels	1
419	0007230		Compartment, Painted, Spatter Gray	1
420	0792091		Aerial Platform, Ladder Swirl Finish, 100' RMAP	1
			Paint Color, Turntable - White 10	
			Paint Color, Boom Support - black 101	
			Paint Color, Cylinders - white 10	
			Paint Color, Aerial Torque Box - black 101 paint	
			Paint Color, Aerial Stabilizers - black 101	
			Paint Color, Aerial Basket - engine turned	
			Paint Color, Aerial Control Console - white 10	
421	0544111		Reflective Band, 10"	1
			Color, Reflect Band - A - a) white	
422	0510041		Reflective across Cab Face, Imp/Vel	1
423	0602751		Stripe, Chevron, Rear, Reflective, Non-NFPA 2016 Colors, Aerial	1
			Color, Reflect Band - A - i) gold	
			Color, Reflect Band - B - p) black	
424	0598754		Stripe, Reflective/Diamond Grade, 4.00" on Stabilizers	1
			Color, Reflect Band - A - p) fluorescent yellow green diamond grade	
425	0065687		Stripe, Reflective, Cab Doors Interior	1
			Color, Reflective - a) white	
426	0033179		Lettering Specifications, Reflective	1
427	0686139		Lettering, Reflective, 6.00", (61-80)	1
			Outline, Lettering - Outline	
428	0686004		Lettering, Reflective, 7.00", (41-60)	1
			Outline, Lettering - Outline	
429	0686014		Lettering, Reflective, 5.00", (61-80)	1
			Outline, Lettering - Outline	
430	0686008		Lettering, Reflective, 6.00", (61-80)	1
			Outline, Lettering - Outline	
431	0685996		Lettering, Reflective, 9.00", (21-40)	1
			Outline, Lettering - Outline	
432	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	1
			Qty, - 01	
433	0772037		Manual, Chassis Service, USB Flash Drive, Custom	1
			Qty, - 01	
434	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	1
435	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
436	0611136		Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	1

Line	Option	Type	Option Description	Qty
437	0696698		Warranty, Engine, Cummins, 5 Year, WA0181	1
438	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
439	0595767		Warranty, Frame, 50 Year, Velocity/Impel, Dash CF, WA0038	1
440	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
441	0777368		Warranty, Axle, 2 Year, Meritor, General Service, WA0328	1
442	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
443	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
444	0595813		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
445	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
446	0695416		Warranty, Pierce Camera System, WA0188	1
447	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
448	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
449	0685945		Warranty, Transmission Cooler, WA0216	1
450	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
451	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
452	0693127		Warranty, Gortite, Roll-up Door, 6 Year, WA0190	1
453	0639211		Warranty, Pump, Hale, 5 Year Parts, 2 Year Labor, WA0248	1
454	0648675		Warranty, 10 Year S/S Pumping, WA0035	1
455	0641372		Warranty, Foam System, Not Available	1
456	0006999		Warranty, Structure, 20 Year, Aerial Device, WA0052	1
457	0687388		Warranty, Swivels, 5 Year, Aerial Device, WA0197	1
458	0685727		Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200	1
459	0687327		Warranty, Waterway, 10 Year, Aerial Device, WA0198	1
460	0595860		Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047	1
461	0553455		Warranty, Electronics, 5 Year, MUX, WA0014	1
462	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
463	0595412		Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	1
464	0683627		Certification, Vehicle Stability, CD0156	1
465	0794805		Certification, Engine Installation, Velocity, Cummins X15, 2017, CD0153	1
466	0686786		Certification, Power Steering, CD0098	1
467	0667417		Certification, Cab Integrity, Velocity FR, CD0009	1
468	0548950		Certification, Cab Door Durability, Velocity/Impel, CD0001	1
469	0548967		Certification, Windshield Wiper Durability, Impel/Velocity, CD0005	1
470	0667411		Certification, Electric Window Durability, Velocity/Impel FR, CD0004	1
471	0549273		Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	1
472	0667416		Certification, Cab Heater and Defroster, Velocity/Impel FR, CD0015	1
473	0674479		Certification, Not Available, Cab Air Conditioning Performance	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	0000033		PAP BODY	1
478	0000012		PIERCE CHASSIS	1
479	0004713		ENGINE, OTHER	1
480	0046396		EVS 4000 Series TRANSMISSION	1
481	0020012		HALE PUMP	1
482	0020009		POLY TANK	1
483	0028047		NO FOAM SYSTEM	1
484	0020006		SIDE CONTROL	1
485	0020007		AKRON VALVES	1
486	0020015		ABS SYSTEM	1
487	0755454		AERIAL MEDIUM	1

and into manufacturing. Siddons-Martin Emergency Group endeavors to mitigate any such costs through the sale of such product to another purchaser; however, the customer shall remain liable for the difference between the purchase price and, if applicable, the sale price obtained by Siddons-Martin Emergency Group upon sale of the product to another purchaser, plus any costs incurred by Siddons-Martin Emergency Group to conduct such sale.

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

Sincerely,



Cory Frankum

Siddons-Martin Emergency Group, LLC

I, _____, the authorized representative of **ALVIN VOLUNTEER FIRE DEPARTMENT**, agree to all of the terms of this proposal and the specifications attached hereto and this proposal will be binding upon **ALVIN VOLUNTEER FIRE DEPARTMENT**.

Signature & Date

Reviewed by Department Head, if applicable ☒

Reviewed by City Attorney, if applicable ☒

Reviewed by Chief Financial Officer, if applicable ☒

Reviewed by City Manager ☒