File #: 17-260, **Version:** 1

Report Prepared by: Michael R. Wilkinson, Fire Chief, Fire

SUBJECT: Purchase of a Pierce Quantum Fire Engine with a Pump Under Cab and a Pierce 107 Foot Quantum Tractor Drawn Aerial Utilizing a Government Procurement Program and Waiving the Completive Bidding Process

REPORT IN BRIEF

Recommends purchase of one Pierce Quantum Fire Engine with a Pump Under Cab and a Pierce 107 Foot Quantum Tractor Drawn Aerial from Pierce Manufacturing, Inc., using the Houston-Galveston Area Council Government Cooperative Purchasing Program and waiving the bidding threshold.

RECOMMENDATION

City Council - Adopt a motion:

A. Authorizing the purchase of one (1) Pierce Quantum Fire Engine with a Pump under Cab with the total purchase price of $806,029.78 (including equipment); and,

B. Authorizing the purchase of one (1) Pierce Quantum 107' Tractor Drawn Aerial with the total purchase price of $1,660,937.85 (Including equipment); and,

C. Waiving the competitive bid requirements, in conformance with Section 3.04.210 of the Merced Municipal Code.

D. Authorizing a Supplemental Appropriation in the amount of $2,466,967.63 to make the purchases and allowing the Interim Finance Officer to make the necessary budget adjustments.

ALTERNATIVES

1. Authorizing the purchase of one (1) Pierce Quantum Fire Engine with a Pump under Cab with the total purchase price of $806,029.78 (includes equipment) and/or;
2. Authorizing the purchase of one (1) Pierce Quantum 107' Tractor Drawn Aerial with the total purchase price of $1,660,937.85 (Includes equipment) or;
3. Deny the purchase of the requested Pierce Quantum Fire Engine with a Pump under Cab and/or Pierce Quantum 107' Tractor Drawn Aerial and/or the waiving of the completive bid; or
4. Continue this item to a future City Council Meeting.

AUTHORITY

Title 3, Article III of the Merced Municipal Code, Purchases over Twenty-Five Thousand Dollars.

Section 3.04.210 - Exemptions from competitive bidding

Except as otherwise provided in this chapter, competitive bidding requirements for purchases in excess of twenty-five thousand dollars ($25,000), and the “bidding threshold”, may be waived with the approval of the City Council. Waivers may be authorized for, but are not limited to, cooperative purchasing in conjunction with other governmental entities, professional services, annual service or supply agreements, or purchases necessary for standardization on particular types of equipment. The bidding threshold shall be adjusted for inflation utilizing the same index and methodology as the bidding threshold in Section 3.04.080 of this code.

CITY COUNCIL PRIORITIES

As provided for in the 2016-17 Adopted Budget and making Public Safety a priority.

DISCUSSION

The Merced Fire Department (MFD) is requesting City Council to authorize the purchase of one (1) Pierce Quantum Fire Engine with a Pump under Cab (Engine) with a total purchase price of $806,029.78 (including equipment) and one (1) Pierce Quantum 107’ Tractor Drawn Aerial (Ladder Truck) with a total purchase price of $1,660,937.85 (Including equipment) from Pierce Manufacturing, Inc. (Pierce) using the Houston-Galveston Area Council Government Cooperative Purchasing Program (HGAC) and waiving the bidding threshold due to the need of standardizing our apparatus fleet. Total purchase price includes the discount through the HGAC, factory inspection trips, delivery/dealer preparation, performance bond, contingency fund, 100% prepayment discount, and 8.25% sales tax.

Definitions

An ***Engine***, also known as a Fire Pumper, carries fire hose, nozzles, hose couplings, and other equipment. It also carries a water tank for a quick attack on a fire which is critical to fire control until firefighters can establish a dedicated water supply from a fire hydrant.

A ***Ladder Truck***, also known as a Fire Truck, is equipped with very large ladders that extend from the truck, but do not come off. Key components of a Ladder Truck are a hydraulically operated aerial ladder; full complement of ground ladders of various types and lengths; specialized equipment for forcible entry, ventilation, and search and rescue responses.

*A **Reserve Engine** or **Reserve Ladder Truck*** is an apparatus, which is utilized when front-line apparatus are placed out-of-service four routine maintenance or any other number of operational reasons. At one point in time, our reserve apparatus served in a front-line capacity, but were placed in reserve status as new apparatus were purchased.

History and Past Actions

During the 1982 Insurance Services (ISO) evaluation, it was determined the City needed at least an 85’ Ladder Truck and a reserve unit of equal size. This size unit allows minimal access to such buildings as the Tioga Hotel, El Capital Hotel, Mercy Medical Center, Holiday Inn Express & Suites, Hampton Inn & Suites, Courtyard by Marriott, the future UC Merced Administration building, many multi-story apartments and buildings downtown. With the increase in multi-story buildings during the

last several years and the construction and projected construction on many buildings with substantial setbacks (i.e. Target, Costco, City Hall). Additionally, a ladder truck is required to maintain the City of Merced Fire Department's ISO e rating of two. A ladder truck is used for the following purposes;

- Vertical reach for:
    - Rescue
    - Technical Rescue
    - Roof Access
    - Elevated Water Master Streams for Fire Control
- Horizontal Reach
    - Rescue
    - Technical Rescue
- Auto Extrication
- Confined Space Rescue
- Technical Rescue

The proposed Ladder Truck is 107' in length. The length is critical to the ability to reach windows and the roofs of any multi-story structure. The proper positing of the Ladder Truck (typically 20' - 50' away from the structure to ensure it is not within the collapse zone. The Ladder Truck will provide for a safer operation for firefighters and increase out capability to perform rescue and ventilation in a timely manner, increasing the opportunity for a successful rescue and fire control. A Ladder Truck is equipped to provide fire suppression tactics and all types of rescue tactics at emergency scenes.

In FY 92/93, City Council authorized the purchase of the 1993 Pierce Ladder Truck.

On July 7, 2013 and July 20, 2015, City Council authorized the MFD to utilize the HGAC Buy program and waive the competitive bidding process based upon apparatus standardization to purchase from Pierce. Due to the favorable outcome of the purchase, the MFD is requesting to utilize the same processes for the replacement of its Engine and Ladder Truck.

Fire Engine and Aerial Specifications
The Engine and Ladder Truck specifications have been attached for your review and meet and/or exceed the applicable ISO and National Fire Protection Association (NFPA) Standards as well as meeting the clean air emission Tier IV Compliance for the California Air Resources board (CARB).

Cooperative Purchasing
The Engine and tractor drawn aerial will be purchased through the HGAC Buy Program. All products and price structures offered through the HGAC Buy program have been awarded through an open, competitive bidding process. Merced Municipal Code 3.04.210-*Exemptions from competitive bidding,*

provides the opportunity to purchase equipment through cooperative purchasing in conjunction with other governmental entities. In 2010, the City Council approved the use of HGAC, and the City has used HGAC to procure public works equipment/vehicles. The HGAC is a regional council of governments operating under the laws of the State of Texas, governed by a board of elected officials, and has been in existence for more than 30 years. The HGAC Board awards all contracts, which can then be made available to local governments nationwide through HGACBuy, which specializes in capital-intensive products and services that require technical, detailed specifications and extensive professional skills to evaluate the bid responses. All products offered through HGACBuy have been awarded by virtue of an open competitive bid process and enables the City to purchase large specialized equipment at a greater savings than the traditional method of creating detailed specifications and soliciting and administering the bid process. Because of the national sales base, HGAC's pricing is typically more competitive than a local agency can obtain through its own bidding process. There are no membership fees to purchase through HGAC, however, a transaction fee, will apply. The City of Merced is eligible to participate in the HGACBuy program, due to execution of an Interlocal Contract for Cooperative Purchasing between the City of Merced and the Texas Interlocal Cooperation Act under Contract Number SW04-08.

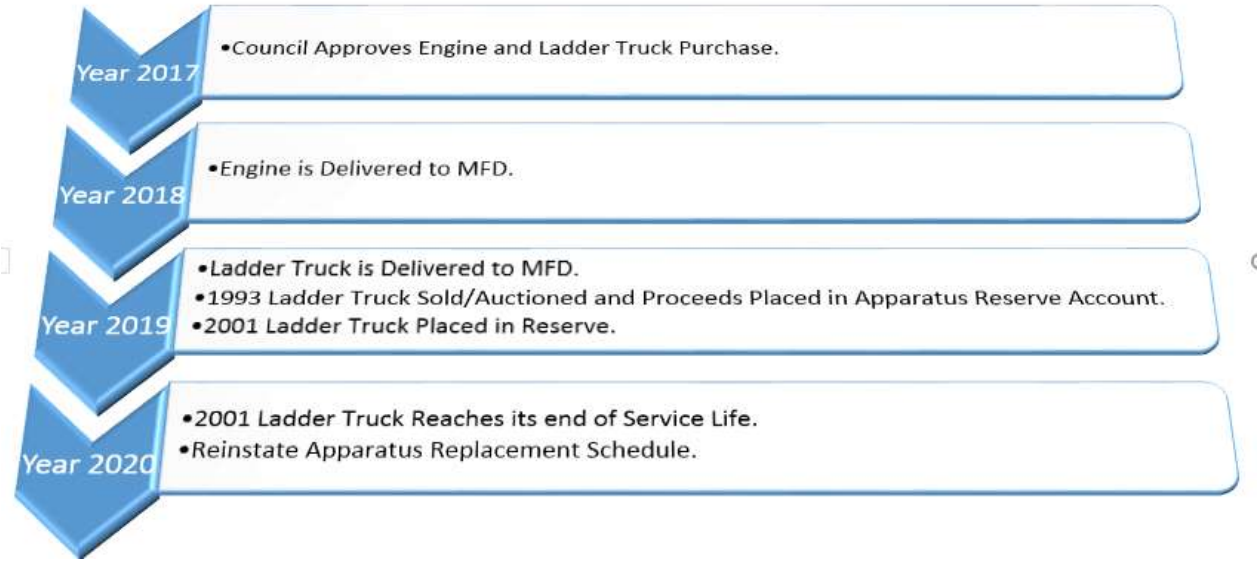
Standardization

This purchase also would continue the MFD practice of standardization of its vehicles. The MFD currently has an existing fleet of 12 City-owned fire apparatus of various kinds and types, ten of which were manufactured by Pierce in Appleton, Wisconsin. For 24 years, Pierce has provided the City with excellent quality workmanship, reliability, serviceability, and availability of parts. Pierce produces fire apparatus that is used throughout the nation for various firefighting applications and each piece of firefighting apparatus is individually customized for the specific needs of the requesting agency. Prior to the start of the manufacturing process, Pierce Engineers meet with agency representatives to discuss the specific performance and functional requirements of the apparatus being ordered. As a result of the City's longstanding relationship with Pierce , the MFD has been provided with a fleet of apparatus that has been specifically customized and is ideally suited for the needs of Merced. Fire apparatus developed and engineered in cooperation with Pierce has provided the MFD with an end product that cannot be easily duplicated through the publication of specifications and collection of bids. Although there are many other providers of customized firefighting apparatus, Pierce provides the MFD with the best overall value based on the quality of the construction, performance, warranties, maintenance, and overall service life of the apparatus. Pierce has a long standing reputation for producing high quality firefighting apparatus. All of the major components used in the assembly of their firefighting apparatus, with the exception of the motor, are manufactured on-site by Pierce. The frame, cab, chassis, pumps, and other major components are manufactured by Pierce to provide quality assurance. Since 1993, the MFD has had many opportunities to send representatives to the Pierce plant to tour and observe processes and each department representative would attest to the quality and precision that is involved in the construction of new fire apparatus.

Justification for Engine and Aerial Replacement

The MFD is requesting to replace its 24-year old 1993 Pierce Arrow 105' Ladder Truck which cost $475,000 and its 21-year old 1996 KME Type 2 Engine. Both apparatus were scheduled to be replaced at their 20-year point, which is seen to be the crossover age for maintenance costs and reliability for fire apparatus where keeping an old vehicle operational loses its financial advantage and dependability.

If the Engine and Ladder Truck replacement are approved, the following sequence of events will occur:



Apparatus Replacement schedules exist to:

- Reduces breakdowns, which interrupt emergency responses to incidents
- Reduces repair costs of older apparatus
- Provides for safer apparatus, which are reliable
- Increase fuel efficiency
- Reduce emissions
- Provide current technology, thereby improving firefighter safety and response
- Provides sustainable and robust emergency apparatus

There are trends and factors that are weighing heavily on the emergent need to replace the Ladder Trucks.

These trends include:

- Increased call volume - wear and tear
- Increased travel distances as developments and industries grow within the city limits.
- Age of fleet.
- Serviceability.
- Repair costs.
- Both Ladder Trucks simultaneously being out of service thereby resulting in the need to rely on

outside agencies for Ladder Truck responses.

The current 16 year old front line 2001 Ladder Truck is eight years newer than the apparatus in need of replacement, but has far surpassed the reserve unit in both miles and engine hours. Aerial hours are not being considered a factor, as technology has evolved so that hours of usage are calculated more finite.

The 2001 Ladder Truck has a recommended replacement date in fiscal year 2020-2021, typically, we would place a unit in reserve status after 10-15 years of use as a front line apparatus, but due to budgetary constraints and the lack of vehicle replacement funds during the budget downturn we have asked more of our equipment. The run total for the front line Ladder Truck (T51) from the year 2003 to present supports the positive correlation between increased call volume, creating accelerated apparatus usage and wear, resulting in the need for premature replacement of the 1993 Ladder Truck and the need for planning for the early replacement of the 2001 Ladder Truck.

Conclusion on the Ladder Truck Purchase:
The above information brings forth information that raises a concern in regards to apparatus replacement. The data reinforces the need to acquire a replacement for the 1993 Ladder Truck and solidify the planning for the future needs to refurbish or replace the 2001 Ladder Truck.

The proposed Ladder Truck is commonly referred to as a “tiller”, requiring one firefighter in the rear seat, steering the rear axle. This design allows the 107’ ladder truck to negotiate tighter spaces on our road ways and around structures and other obstacles. This capability gives the fire department greater flexibility when positing the apparatus for rescue, access and fire suppression purposes. With this design, the apparatus reduces increased fire code requirements for new construction and is a relief to proposed projects trying to meet road way widths, turnarounds and other access concerns.

Pumping Apparatus (Engine)
The MFD is requesting authority to replace the 1996 KME Engine now serving as a reserve engine, which was scheduled for replacement in fiscal year 2015-16. Although this Engine has exceeded its economic and useful life, due to the economic downturn in 2011, many of the vehicles service lives have been extended beyond their original projected replacement dates, as is the case of this KME Engine. This Engine is also not designed to accommodate the staffing levels now required on each Engine and Ladder Truck.

Engine Specification
The proposed Engine specification consists of a Pierce Quantum PUC Pumper, which meets and/or exceeds the applicable ISO and NFPA standards. Additionally, the Engine will meet the clean air emission Tier IV compliance for the CARB.

Timelines
Ladder Truck: The process of designing, building, outfitting and training crews on the apparatus will range from 20-24 months. The MFD Apparatus Committee has started the groundwork on the specification to expedite the delivery when funding becomes available. With an aging aerial fleet that is past due for replacement of the reserve unit and quickly approaching the replacement date for the front line unit it is essential for fire fighter safety and to provide the highest level of service to the community to replace the reserve Ladder Truck and work toward the replacement of the front line

Ladder Truck as well. Type 1 Engine: The process of designing, building, outfitting, and training the crews on the apparatus ranges from 12-16 months. Currently we have a specification on the Type 1 Engine that fits the operational/strategic plan of the department. This replacement engine would put the department in the position of not needing to replace another Type 1 Engine until budget year 2021-2022, at that time two Type 1 Engines would be due for replacement.

Summary
The need for the replacement apparatus is based on several contributing factors:

- Providing the highest level of service to the community, providing resultant reliable equipment
- Firefighter safety
- Apparatus replacement timelines to avoid increased need for service resulting is additional cost and the apparatus being out of service
- Rising maintenance costs

IMPACT ON CITY RESOURCES

Funding for the purchase of the apparatus will come from Redevelopment Agency property tax residual of $1,500,000, Office of Emergency Services (OES) revenue received over expenditures from Fiscal Year 16-17 and 17-18 totaling $131,243, and $835,725 from the Public Facilities Financing Program.

ATTACHMENTS

1. Engine Proposal No. 1
2. Aerial Proposal No. 1
3. Engine Equipment List
4. Truck Equipment List
5. State Board of Equalization Response - Transportation Charges and Fixed-Price Contracts
6. State Board of Equalization Response - Taxable Selling Price
7. HGAC Agreement