

# MEMORANDUM

Department of Public Works



**DATE:** April 27, 2023

**TO:** Mayor and Council

**THROUGH:** *Ashwini Kantak* (Signature) *Ashwini Kantak*

**FROM:** Christian Di Renzo, Public Works Director

**SUBJECT:** **Emergency Declaration – HVAC Repairs at City Hall and Public Works, Information Technology, and Police Department Buildings**

This memorandum serves to inform the City Council about various emergency HVAC repairs identified at the following two City buildings: 1) City Hall located at 455 East Calaveras Blvd.; and 2) Public Works/Information Technology/Police Department Building located at 1265 and 1275 North Milpitas Boulevard.

Pursuant to Public Contract Code section 22050 and [Resolution No. 9134](#), the Public Works Director is authorizing immediate emergency repairs and dispensing with public bidding requirements.

## **Background**

In April 2023, staff met with the City's Heating, Ventilation and Air Conditioning (HVAC) contractor, Environmental Systems, Inc. (ESI), to discuss concerns with the equipment and HVAC systems at City Hall and the Public Works/Information Technology/Police Department building. Through regular preventative maintenance activities performed by ESI, the following concerns were noted in both buildings:

### 1. City Hall

- a. Boiler – City Hall is equipped with one boiler that is used to heat the entire building, located on the 4<sup>th</sup> floor. The boiler is original to the building from 2002. The current boiler exterior has visible leaks from the header seals followed by signs of overheating on the unit. The water pumps for the boiler are also leaking and will need to be replaced. A delayed ignition causing gas odors and a “booming” sound on start-up was also reported. These combined issues require the replacement of the boiler and pump in order to keep the HVAC system in operation. The delivery timeframe for a new boiler and pumps is 4 to 6 months, thus staff estimates installation of the new boiler in Fall 2023.
- b. Air Handlers – there are a total of three air handlers for the building. Air handlers circulate cool and warm air throughout the building as part of the HVAC system. The air handlers are original to the building from 2002. The two air handlers on the roof are operating at half capacity thereby restricting the system from circulating air efficiently throughout the building. A refrigerant leak is also present.
- c. Variable Air Volume (VAV) boxes – City Hall is equipped with over 90 VAV boxes. VAV boxes are designed to supply air at a variable temperature and airflow rate from the air handlers. 18 of the VAV boxes require repairs to keep the system operational.

- d. Air Conditioning (AC) units – City Hall is equipped with two AC units on the roof which need to be replaced. Staff is proposing to fund the design with an expected installation of new AC units in 2025.
- 2. Public Works/Information Technology/Police Department
  - a. Building Management System (BMS) –The BMS controls the cooling and heating of the building based on established set points and occupancy levels for energy efficiency. The BMS at this building has been in a failed state for some time, which is causing the mechanical systems to run unnecessarily, thus reducing their useful life.
  - b. Boiler Pumps – there are two pumps that support the boiler for the heating of the building. Both pumps are leaking and need to be replaced. The state of these pumps is such that they could fail at any given time.
  - c. Variable Air Volume (VAV) boxes – several of the VAV boxes have failed and are leaking. With the installation of a new BMS, new VAV boxes would be installed to replace the current leaking pneumatic valves. This project would take place after the installation of the BMS and will be phased to minimize disruption to building operations.

The HVAC mechanical equipment at City Hall is original to the construction of the building in 2002. Most of the equipment is beyond repair and has reached the end of its useful life. The current boiler that provides heat to the building is showing signs of failure and will need to be replaced. In September 2022, both AC units at City Hall failed and required the shutdown of City Hall. These units were customized for City Hall, and staff is anticipating the design process to take 6 to 8 months to ensure the specified equipment will support the cooling of the building. Additionally, there is a market shortage of available HVAC equipment, creating long lead times.

The Public Works/Information Technology/Police Department building's current BMS system has failed repeatedly. Staff has not been able to regulate the temperature to meet the needs of the building occupants. Furthermore, the pneumatic valves in the current VAV boxes are leaking throughout the building requiring daily checks to minimize water intrusion into the building. Funding for the replacement of the BMS and VAV boxes at the Public Works/Information Technology/Police Department building is funded in CIP Project 3499 – HVAC System Repairs and Upgrades in FY 2022/23.

### **Discussion**

Pursuant to Public Contract Code section 22050 and [Resolution No. 9134](#), the Director of Public Works, in case of emergency, may authorize a repair of a public facility and procure the work without giving notice for bids to let contracts. An emergency is defined as “a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or essential public services.” Additionally, State law requires the Public Works Director, as the City official with delegated authority to take emergency action, to report any emergency authorization and the reason(s) for the authorization to the City Council not later than seven days after the action, or at its next regularly scheduled meeting if that meeting will occur not later than 14 days after the action.

The Public Works Director will provide the City Council with an update on the emergency repairs at the May 2, 2023, City Council meeting. The City Council is required to review the emergency action at every regularly scheduled meeting thereafter until the emergency repair is completed. At each review, the City Council shall determine, by a four-fifths vote, whether there is a need to continue the action.

Since the potential failure presented various safety concerns, the boiler at City Hall was decommissioned on Wednesday, April 26, 2023. The City Hall boiler is an integral component in the HVAC system by providing heat to the entire building and its occupants. There is only one boiler serving the heating needs for City Hall, and given the various issues identified by ESI, failure of the boiler was imminent, and there are no alternative methods or temporary systems that could be installed to heat the building. The declaration of an emergency and subsequent ability to order replacement equipment will allow for the receipt and installation of new equipment in the Fall. However, if staff waits until the boiler fails to order a replacement and then is subject to the 4 to 6-month estimated delivery timeframes, there is the risk that the building will not have heat during the Fall and Winter seasons and may necessitate a building shutdown. The impact of this decommissioning on building occupants is expected to be minimal, with temperature drops felt more acutely in the morning hours; the air conditioning system can continue to operate without the boiler.

At the Public Works/Information Technology/Police Department building, the VAV boxes are leaking. There are currently four pneumatic valves that are leaking into workspaces. The leaking VAV boxes may cause water intrusion, which could result in health and safety issues. The VAV box replacement portion of the project will need to be phased in since the work will be done in the ceiling over workspaces. Staff will work with the impacted departments to coordinate the repairs and minimize the disruption to department operations.

Due to the essential City services provided in the buildings and the age of the mechanical equipment, and as authorized by [Resolution No. 9134](#), the Public Works Director will be authorizing an agreement with ESI for the following scope of work:

DRAFT SCOPE OF WORK	Cost Estimates
<b>City Hall</b>	
Design and installation of new boilers to include redundancy for the heating and boiler pump replacement at City Hall	\$250,000
Repair of two air handlers	\$18,500
Repair of 18 VAV boxes	\$22,000
Design for two AC Unit Replacement	\$120,000
City Hall Sub-Total	\$410,500
<b>Public Works/Information Technology/Police Department Building</b>	
Design and installation of new Building Management System for the HVAC system	\$285,000
Replace two boiler pumps	\$18,000
Replace all VAV boxes	\$140,000
PW/IT PD Sub-Total	\$443,000
<b>TOTAL PROJECT COST</b>	<b>\$853,500</b>

These projects are planned in the 2024-2028 Capital Improvement Program adopted by the Mayor and City Council on April 18, 2023. However, given the condition of the equipment, the intended schedule for these improvements must be expedited. Due to the long timeframes for the delivery of equipment and the essential services that will be jeopardized if heat and cooling cannot be adequately provided to City Hall and the Police-IT-Public Works building, delay caused by competitive solicitation is likely to cause an interruption in essential services to residents of Milpitas. Staff will work with the contractor to

make all other necessary repairs as parts become available. The entire project is expected to be completed by Fall 2023.

Funding for these repairs is available in the City's Capital Improvement Program (CIP) budget. CIP Project 3499 - HVAC Systems Repairs will fund \$620,000 for the upgrades to the BMS and VAV boxes at both buildings. The remaining repairs will be funded by CIP Project 3406 – City Building Improvements in the amount of \$233,500.

Upon completion of these necessary critical repairs, the City will need to identify funding for the replacement of the two AC units at City Hall. The 2024-2028 Adopted Capital Improvement Program contemplates \$900,000 in additional funding will need to be identified to complete this project. Preliminary estimates indicate that this need may range between \$900,000 to \$1,200,000. More accurate cost estimates will be available once the design of the AC units is completed and will be considered for funding prioritization during the development of the Fiscal Year 2024-25 Capital Improvement Program budget.