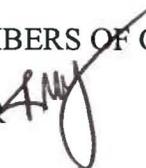


City of Alexandria, Virginia

MEMORANDUM

DATE: APRIL 12, 2013

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

THROUGH: RASHAD M. YOUNG, CITY MANAGER 

FROM: NELSIE L. SMITH, DIRECTOR OF MANAGEMENT & BUDGET 

SUBJECT: BUDGET MEMO #16: ESTIMATED COST SAVINGS FROM THE CITY HALL HVAC AND INFRASTRUCTURE REPLACEMENT PROJECT

This memorandum is in response to Councilman Wilson's and Councilman Smedberg's inquiry into the estimated planned maintenance cost avoidance and reduced energy costs of the City Hall HVAC and Infrastructure Replacement Project, and the project's relationship to a potential Citywide municipal fiber network project.

Project Description

The City Hall HVAC and Infrastructure Replacement Project is scoped to replace the major heating, ventilation and air conditioning (HVAC) systems as well as the distribution system throughout the building. This work will also involve parts of the electrical and plumbing systems in the building. Much of the building is currently served by 40-year old mechanical equipment, which has been periodically piecemealed together as the City's operations have changed. The project schedule includes completing feasibility studies and space programming and design work in FY 2014. Construction would likely commence in FY 2015 and run through FY 2017. Any cost savings would likely occur only after project completion.

Funding for the City Hall project is included in the FY 2014 – FY 2023 Proposed CIP. In total, \$18.0 million (\$0.25 million in FY 2013; \$2.95 million in FY 2014; \$14.8 million in FY 2015) has been budgeted or planned for this project. This amount is based on preliminary cost estimates for the replacement of major HVAC and distribution systems in the building. With the information available at this time, we believe that this cost estimate is as accurate as possible. More precise estimates will be known once feasibility and preliminary design work is completed. We may want to use this opportunity to undertake some major reallocations of space and business functions within City Hall during this highly disruptive project. The current usage of space has been developed gradually over time and does not necessarily reflect the most efficient or logical strategy. We will need to explore the scope of any further building changes and determine what additional funding would be needed to incorporate these efforts into the project scope.

Much of the uncertainty surrounding this project derives from performing major renovations in a building as old as City Hall. It is a relative certainty that the City will discover unknown and

complicating factors once construction commences. Compounding the pure age of the building is the fact that there currently exist several competing and redundant HVAC systems. As partial renovations have occurred over time, partial HVAC solutions have been implemented in and around the older, preexisting systems. An example is the renovation that occurred in the 1980's on the Cameron Street side of the building. Newer HVAC components were installed as part of this renovation, but they were installed alongside older systems. Taking apart these separate systems and putting back together a single, modern solution represents an enormous design and implementation effort. Knowing more precisely what the implementation strategy is, and what the new HVAC system looks like, will allow staff to more accurately calculate long term energy consumption levels and maintenance needs.

Energy and Maintenance Savings/Cost Avoidance

Without completed feasibility and design work it is difficult to forecast precise savings estimates for maintenance and utilities. However, understanding the current energy inefficiencies of the HVAC system in City Hall, staff believes the project could potentially reduce utility costs (natural gas and electricity) by approximately \$15,000 to \$25,000 annually (12% to 20%).

On the maintenance side, the City currently spends \$10,000 to \$20,000 annually for contractual repairs to various components of the HVAC and plumbing systems. City staff also performs repair work in house, when feasible. These patches have enabled the City to avoid any major system failures to date, which could be very costly to repair. A new HVAC system would require preventative maintenance support and the occasional repair, but would ultimately pose a greatly reduced threat for a critical failure and would provide significantly improved control over environmental comfort levels. Another benefit of this project would be to free up staff time for necessary preventative maintenance support on the updated equipment, rather than simply performing repairs after the fact.

Staff Relocation during Construction

Implementation of a project as disruptive to a building's physical plant as the City Hall HVAC project will be, will necessarily involve the phased, temporary relocation of staff to new space within and outside of the building. A component of the project feasibility and design work will be the development a specific strategy for phasing and implementing these moves. As the entire scope of the project is still under development, it is unknown at this time what relocation strategy will be employed during construction.

Citywide Municipal Fiber Network

Finally, as currently envisioned, the City Hall HVAC project is not projected to overlap with the municipal fiber network project that is being contemplated (though not included for funding in the Proposed FY 2014 – 2023 CIP). While the City may include a remote monitoring and control system for the new HVAC system, this system could operate with any network connection, be it municipal fiber or another network provider. The majority of the work associated with the municipal fiber network project will be completed outside City facilities (the connections to each facility), so it is unlikely construction inside City Hall would impact that potential project.