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# MEMORANDUM

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Date: January 2, 2018

To: The Honorable Chair and Members  
Pima County Board of Supervisors

From: C.H. Huckelberry  
County Administrator

A handwritten signature in black ink, appearing to read "CHH", is written over the printed name "C.H. Huckelberry".

Re: **Exterior Building Rehabilitation Administration East and West Buildings**

The Administration West Building, formerly Health and Welfare, was built in 1968 and the Administration East Building followed in 1970. Both buildings are approaching 50 years of age. The attached memorandum from Facilities Management Director Lisa Josker and Deputy County Administrator for Administration Tom Burke outline problems regarding the exterior façade of both buildings. We will undertake a major façade renovation of both buildings beginning in May 2018. This façade renovation is necessary to extend the useful life of the buildings for another 50 years. The renovations will include primarily building exterior panel resealing and window replacement. The renovations will improve the weatherproofing of both buildings and significantly reduce energy costs associated with operating the buildings.

The façade improvements will cost several million dollars and will be financed through the Facilities Renewal Fund. The construction schedule for façade renovation is included in the attached memorandum along with other details related to the proposed work.

CHH/lab

Attachment

c: Tom Burke, Deputy County Administrator for Administration  
Lisa Josker, Director, Facilities Management



# MEMORANDUM

## FACILITIES MANAGEMENT

Date: December 20, 2017

To: C.H. Huckelberry  
County Administrator

From: Lisa Josker, Director  
Facilities Management 

Via: Tom Burke  12-22-17  
Deputy County Administrator - Administration

Re: 130 – 150 W. Congress Façade Improvements and Upgrade

Within the last several years many Pima County buildings have begun to “show their age” through obvious signs of both water and air infiltration due to degradation of material sealant, window gasket seals and some roof coping failures. These two buildings, at 130 and 150 W. Congress have experienced a high level of infiltration and failure, particularly in the last monsoon season. The problem reached its height this year when Facilities Management staff had to make certain before each rain day, there were sufficient rags for windowsills and plastic to cover papers and furniture located near the exterior windows.

Staff has been working with an Architect/Engineering (A/E) team to assess the infiltration problem, the problems and damage this has caused and long-term solutions. Below is a summary of the work in progress.

### **130 – 150 W. Congress Exterior Façade Upgrades**

#### **Background:**

The Pima County government center is located in three “sister” buildings located at 110, 130 and 150 W. Congress St. (aka Superior Court, Administration East & Administration West) and were constructed in the late 1960’s and early 1970’s. The exterior façade of the structures are constructed of pre-cast concrete panels and aluminum curtain wall system with single glazed windows. Gasket and sealant failures at the windows and concrete panels permit rainwater infiltration, which has caused water damage to structural connections (rust), interior, finishes, electronic equipment (computers) and furniture. Additionally, the sealant failures allow air infiltration into the building as well. This project addresses and eliminates the infiltration issues thus improving energy efficiency by reducing air conditioning loads.

The first phase of the project involved an intensive study of the materials and conditions and then providing alternative approaches and remediation options. Upgrading exterior systems to higher efficiency levels was analyzed and compared for Return On Investment (ROI) over the long-term benefits. In the beginning of 2017, an analysis was conducted on buildings 130 and 150 to determine the best approach for correcting these issues. The study provided solutions to remediate the water and air infiltration, provide a cost analysis for upgrading window glazing to improve building efficiency, reduction of utility cost and return on investment calculations. Four alternatives were provided, ranging from a minimalist approach of applying a film to the existing single pane glazing, to a complete replacement of the glazing and curtain wall systems.

Additionally, during the on-site study, it was noticed that there are numerous exterior concrete panels that have bowed outward. Further inspections of the connections between the panels and the building structural

steel were completed to determine the cause of the bowing. After studying many of the connections it was determined, the concrete panels and their connections appear to be structurally sound.

**Scope of Work:**

The second project phase is to select the best alternative and implement the corrective actions within the available funding. Minimally, a whole building envelope upgrade will be completed in a single effort. In this case, the current project funding will allow us to address only the Administration West (150 W. Congress St.) and the Administration Building East (130 W. Congress St.) as part of this project.

Alternative #3 was selected to pursue based on the combination of estimated construction cost and high potential energy savings for both buildings. This alternate modifies the existing curtain wall system by installing new aluminum extrusions onto the frame which will provide a thermal break as well as allow it to accept new 1" insulated glazing. This new window installation will effectively add a complete new window system including gaskets, frame, and glazing on the outside face of the original curtain wall. This will eliminate issues of water entering the window frame and building, in particular the first floor addition as well as the water penetration at the higher floor levels, which have become increasingly problematic.

This alternative also provides for new 1" insulated glazing that will meet current energy code requirements and improve thermal efficiency. Installing the new system moves the glazing surface approximately 2" closer to the face of the concrete panels. The details of the new window system installation will cause the decorative aluminum grilles to move closer to the face of the concrete panels creating a slight change to the facade. There are two issues, which still need to be addressed regarding the aluminum grilles, the first is that the new anchor points will be closer to the face of the panels and may cause the concrete to spall. The second issue is that these grilles are difficult to remove which make it difficult to maintain the glazing seals or to clean the windows. Because of these issues, an option being considered is to eliminate the decorative grilles, which will change the look of the buildings.

Another major building element addressed are the condition of the exterior precast concrete panels and the adjacent joint seals. All of the concrete panels need to have the nearly 50-year old joint sealant completely removed and replaced. The failure of this aging sealant material is a major contributing factor to the air and water infiltration. In addition, some concrete panels on each building have bowed outward. Each building has a slightly different method of attaching the panels to the structure. The A/E team has evaluated each building to identify which panels will be required to have the attachment method modified to allow movement. If the attachment method already has the ability to allow movement, then it is possible that no corrective action will be required.

Finally, as part of this project it was determined to include the installation of roof safety tie-offs on the roofs of each building. This was not originally included in the scope of work, but, it was determined to include this work for two reasons.

1. To assist in the construction of this project by providing safety tie-offs for the construction workers.
2. OSHA now is requiring all buildings to have certified safety tie-off points that have a capacity of 5,000 lbs.

The County is coordinating the tie-off points with maintenance, the structural engineer, and a vendor who has performed maintenance on these building in the past to identify the quantity and location of the tie-offs.

**Benefit:**

The immediate benefit will be the prevention of water and air infiltration into the building. This will provide better comfort for the occupants of the building and eliminate the additional maintenance and repairs due to the water damage. The long term benefit will be the energy savings due to the upgraded glazing and frames. Once we know specifically what window system manufacturer is installed we will be able to get a more accurate number on the energy savings. An additional benefit with the insulated glass is that it will help mitigate sound from the exterior when activities take place in El Presidio Park.

**Schedule:**

Currently, the project is at 50% Construction Document review. The County is finalizing the review of the specifications and will return those to the A/E team this week. Additionally, the 50% Construction Estimate will be delivered to the County shortly for our review. The remaining schedule is listed below; the completion date is dependent upon the County and the contractor agreeing to work on both buildings at the same time, vs. working on one at a time. As the construction project progresses, there will be some minor disruption for staff who sit adjacent to the windows. The approach at this point it to work on one side and one floor of each building at a time. Some staff may need to be relocated for a day or two; however, this period will be refined as the project proceeds. The window opening will be taped up from the inside and the contractor will perform a majority of the work from the building exterior. The contractor will only replace windows that can be completed in a single day, working in this manner the buildings will remain secure.

100% Construction Documents	February 2018
Bids Due	March 2018
Construction Start	May 2018

Schedule A: (Both bldg's. concurrently).

Construction Completion	October 2019
Closeout/Record Drawings	November 2019

Schedule B: (One building at a time)

Construction Completion	May 2020
Closeout/Record Drawings	May 2020