



MEMORANDUM

To: Mayor and City Council

From: Ken Griffin, P.E., Director of Engineering and Public Works

Date: March 27, 2018

Reference: Work Session Discussion on Proposed Water Tower #1 Rehab

2030: Sustainable City Government, Goal 3
Excellent and Well-maintained City Infrastructure and Facilities

General Information:

- Dunham Engineering provided inspection services in July 2014
- Water Tower #1 was constructed in 1986 and is in fair condition
- Discovered minor corrosion, less than 5%, recommended a new protective coating
- Replace interior wet area coating with a three coat zinc/epoxy/epoxy coating system (15-20 years) \$450,000
- Replace exterior coating with a four coat zinc/epoxy/polyurethane/fluoropolymer coating system (15-20 years) \$600,000
- Structural repairs including the roof hatch = \$50,000 (ladder replacements, roof vent installation, overflow pipe repair, door replacement, new safety climb device, etc....)
- Engineering fees for design and construction management, approximately 20% of construction cost.
- Received bids in 2015, low bid was \$918,000, high bid was \$937,000.

Introduction:

The elevated storage tank (water tower #1) at 520 Southwestern Blvd. was constructed in 1986. This tank has a capacity of 1.5 million gallons of storage and total height is 155 feet. In 2009, we placed a top coat paint on the outside of the tower to refresh the look of the tower. Now we are at the point that we need to perform a complete rehabilitation on the tower. The American Water Works Association (AWWA) and the Texas Commission on Environmental Quality (TCEQ) have requirements for the condition of water towers.

Analysis:

In July of 2014, we hired Dunham Engineering to perform inspection services to evaluate both towers and to provide recommendations on necessary maintenance based on AWWA and TCEQ

requirements and guidelines. Tower 1 being about 13 years older than tower #2, is the first one they recommended to perform a rehabilitation on. In their report, Dunham Engineering provided a list of items that needs to be included in the rehabilitation. Their recommendations include stripping of the interior and exterior paint, repainting the interior with at 3-coat blend and the exterior with a 4-coat blend. Both new coats are expected to last 15-20 years. There are many structural items that need to be replaced such as the roof vent, interior ladders, handrails, roof hatch, safety climb devices, the bowl manway as well as several other replacements.

In 2015, we went out to bid for these services and received bids ranging from \$918,00 to \$937,000. The best time to perform this work is during the winter months, late November to early March. The tank must be emptied to perform the work and this is the time when we use less water.

In late 2017, we had Dunham perform a follow up inspection to compare the condition from 2014. Their findings resulted in continued corrosion of the exterior coating. Their recommendation is to rehab the tower within the next 2 years.

Legal Review:

This item did not require legal review.

Fiscal Impact:

The amount being requested from the water/sewer revenue funds is \$1.2 Million.

Recommendation:

Staff will bid this project out and will award a contract at a future council meeting.