MEMORANDUM

10/11/2017

TO: Robbie Corder, City Manager

FROM: Jacob Speer, Director of Public Works

SUBJECT: Discussion of Mile-per-Year Program, In-house vs. Contract Work

BACKGROUND:

The City of University Park maintains approximately 88 miles of water mains and 63 miles of sanitary sewer mains. The original infrastructure was installed between 1925 and 1950. In 1989, the City began a capital replacement program to replace about 1 mile each of water mains, sanitary sewer mains, and associated pavement. This program is referred to as the Mile-per-Year (MPY) program. The life expectancy of the replacement mains is 80 – 100 years. Historically, these replacements have been designed and bid for private contractors to perform the work. Over the last several years, budgeted funds have not allowed for the replacement of a full mile. In response to the budget shortfall, the scope of replacement projects were adjusted to align with the available funds. Recent funding levels and market pricing have allowed for the replacement of less than 0.6 miles of infrastructure per year.

Over the last couple of years, Staff has attempted to address this shortfall in two ways. We have steadily increased funding for MPY projects. Simultaneously, we have looked for ways to reduce the cost of replacement projects. While changes in the materials and methods used for replacement have brought some cost savings, the greatest opportunity for cost reductions lies in the service delivery method.

The construction market is volatile and especially sensitive to the local demand for construction projects. Simply stated, when there is a great deal of construction and development occurring in North Texas, the costs for construction-related services increases. In these instances, our dollar won't buy as much utility line replacement as it did previously. Under our current contract methodology and market pricing, the replacement of a mile of infrastructure will cost in excess of $3.3 million.

Our efforts to keep construction costs as low as possible have led to some unintended consequences. Historically, we have allowed contractors a great deal of influence in determining the time allowed for the completion of each project. This method has resulted in longer project completion schedules in exchange for lower contract pricing. Contractors have typically been allowed 18 – 20 months to complete a mile of utility replacement. Contractual changes can easily correct this problem and get us back to our MPY goal. However, such a change will certainly lead to higher costs. Staff does

not have an estimate of how much the pricing will increase because we have no history with this type of contract structure.

In response to rising contract pricing, the Public Works Advisory Committee suggested in 2015 that Staff look at the cost of using City employees to replace our utility infrastructure. To better estimate the true cost of performing this work “in-house”, Staff identified a Pilot-Project to measure our actual costs of performing this type of work. Using existing employees and rental equipment, our staff replaced approximately 630 linear feet of water main, sanitary sewer main, and associated paving in the 4200 block of the Amherst / Stanford alley.

Upon completion of that work, Staff revised our estimates regarding staffing levels, production rates, and costs associated with completing MPY projects in-house. It was determined that the work could most efficiently be completed by 18 employees (3 crews of 6 people). It is estimated that the combined efforts of these crews will replace 5,400 linear feet of infrastructure annually at a cost of $3.1 million.

The primary benefits of the in-house method lie in the areas of cost, customer service, and budget stability. The in-house method will almost certainly cost less than the contract method. How much less will depend on the cost of requiring contractors to complete the work in one year. The savings is approximately $200,000 per year when compared with our historical contract method. Staff believes an additional savings of $500,000 could easily be realized when compared against the new contract methodology. The pilot project resulted in much fewer citizen complaints and generally higher levels of satisfaction compared to our experiences with contract work. The in-house method is also much less susceptible to price fluctuations in conjunction with the local construction market. This allows for greater stability in capital improvement budget levels.

The primary benefits of the contract method lie in the areas of budgetary flexibility and liability. If the City were to experience a major reduction in revenues or a significant unexpected expense, the scope of contracted work could easily be reduced to align with unforeseen budget changes; whereas, costs are fixed under the in-house method. The City might also experience slightly less liability for damages or faulty work under the contract method. Under the contract method, repairs or corrections of substandard work are performed at no additional cost to the City.

RECOMMENDATION:

Staff recommends a 3-year, phased transition to the in-house MPY method beginning in Fiscal Year (FY) 2019. The recommended transition would begin with the addition of one in-house crew in FY 2019. This crew would consist of 6 new employees and necessary equipment. Production rates and costs associated with the new crew will be reviewed at the end of that year. If the program is performing as expected, a second crew would be added in FY 2020 and the program would be fully staffed with 3 crews beginning in FY 2021. If the program does not perform as expected within that first year, the costs associated with a single crew can more easily be shed and/or absorbed than if the program were fully implemented from the beginning.