CITY OF JOPLIN
COUNCIL AGENDA ITEM

ITEM
CB 2020-174 - Work Authorization with Allgeier, Martin & Associates Inc. for the Private Side I&I Pilot Project

MEETING DATE
December 7, 2020

ORIGINATING DEPT
Public Works/Engineering

ATTACHMENTS
Exhibit Maps (2); CB 2020-174 Ordinance; Work Authorization AMA-I&I RP-004

REVIEWED BY
Director of Public Works – David Hertzberg, Director of Finance – Leslie Haase, City Attorney – Peter C. Edwards, City Manager – Nicholas Edwards

SUMMARY
This Council Bill approves a work authorization with Allgeier, Martin & Associates Inc. for the Private Side I&I Pilot Project in the not to exceed amount of Four Hundred Thirteen Thousand, Two-Hundred Thirty and no/100 Dollars ($413,230.00)

BACKGROUND
As part of the City's Operating Permits from the Missouri Department of Natural Resources (DNR) for its wastewater treatment facilities, the City is required to seek out sources of inflow and infiltration (I&I) within the collection system and submit annual reports of progress. To date, the City's focus has been on the public portion of the sanitary sewer collection system, reconstructing defective sewer mains and manholes. This work not only increases the reliability of the system, but also serves to remove sources of I&I from the publicly owned and maintained infrastructure. However, roughly half of I&I entering the system comes from the private side—i.e., the service lateral pipes which allow individual properties to connect to the City's public mains. Over time, the condition of the laterals deteriorates, allowing groundwater to enter the public sewer mains. The cumulative effect of such lateral pipes is further magnified by any downspout or sump pump connections onto the sewer system, which were generally allowed by municipalities for most of the 20th century. Having direct connections of rainfall into the sanitary sewer system causes wet weather flows to exceed the carrying pipe's capacity, resulting in sanitary sewer overflows; also, too much flow reaching a treatment plant can cause untreated wastewater to bypass the plant—both of which are not permitted by DNR. Within Missouri, some municipalities are finding that removing a gallon of water from the private side costs a fraction of what it takes to remove the same quantity from the public side. During a Work Session with City Council on Oct. 12, City staff, along with Allgeier, Martin & Associates (AMA) and TREKK Design Group, presented the benefits of implementing a private-side I&I reduction program. Citing successes from the City of Springfield's program, the consultants explained how removing sources of I&I from privately owned sewer laterals can be done in a cost-effective manner.

Springfield's private-side program has resulted in significant reductions in both dry- and wet-weather flows after removing sources of I&I, along with the added benefit of avoiding capacity improvement expenditures. At the end of the work session, City Council authorized City staff to develop a pilot project within two basins; the Council also determined that the City should pay 100% of the private-side I&I removal work in order to maximize participation of property owners within each basin.

In October of 2016, the City published a Request for Qualifications (RFQ), in accordance with the City's procurement policy, for a consultant to develop a targeted program aimed at eliminating unpermitted discharges within the City's wastewater collection and treatment system. Of the three consulting teams that responded, the team of Allgeier, Martin & Associates (AMA), Burns & McDonnell, and TREKK Design Group was selected to provide professional engineering services for this program. This 4th work authorization (WA) under the subsequent contract with AMA covers the engineering fees for the entirety of the pilot project. Initially, the consultant team will review Joplin's ordinances and make any recommended changes deemed necessary for the success of the program, coordinating such efforts with the Legal and Finance Departments. Also, the WA authorizes the AMA team to procure pre-qualified plumbers, participate in public meetings with affected property owners, to perform plumbing evaluations of each participating property, and to assist City staff with inspecting the repair work and administering the contract. At the end of the pilot project, flow metering will be done to determine the cost-effectiveness of the work. The attached exhibit maps show defects discovered during smoke testing within the basins. The consultant's fees are within industry standards for this type of consulting work. The largest portion of the fees is for evaluating the plumbing for each of the 1,061 properties located within the two basins. The quantity of disconnections to the sewer system will be determined through the plumbing evaluation work. During the work session, the estimated construction costs totaling $201,000 were based on known defects found on 75 properties during smoke testing. Public Works intends to participate with the consultants as their staff perform plumbing evaluations and oversee the disconnection efforts in the field. City staff envision supplying as much of these services as possible, should council authorize a future continuation of the program. The consulting fees for future work will be much more proportional to the size of the basins than this WA, whose fees include developing the private-side I&I reduction program.

FUNDING SOURCE

FY 2020-21 budget of the Wastewater fund

RECOMMENDATION

Staff recommends adoption of this Council Bill on First Reading and moving it to Second and Third Reading.