



City of Columbia

701 East Broadway, Columbia, Missouri 65201

Department Source: City Utilities - Solid Waste

To: City Council

From: City Manager & Staff

Council Meeting Date: July 16, 2018

Re: Amendment to Engineering Service Agreement with Burns & McDonnell for the Bioreactor Landfill Cell #6 and Leachate Handling and Storage projects

Executive Summary

Staff has prepared for Council consideration a resolution authorizing the City Manager to execute an amendment to the current agreement with Burns & McDonnell for the Bioreactor Landfill Cell #6 project and the Leachate Handling and Storage project. The original contract amount was \$426,655 (\$352,155 for Cell #6 and \$74,510 for Leachate). The total not-to-exceed amount of the amendment will be \$79,550 (\$46,250 for Cell #6 and \$33,300 for Leachate) which brings the total not-to-exceed amount of the agreement to \$506,205. The changes in the scope resulted in cost savings to the Solid Waste Utility, Sewer Utility and Electric Utility of approximately \$108,500, \$100,000 and \$619,000 respectively. These savings are detailed in the discussion below.

Discussion

The Bioreactor Landfill Cell #6 project and the Leachate Handling and Storage projects are currently under construction and are approximately 70% complete. These two projects were designed together under a single engineering agreement, then bid and awarded as a single project to Veit Specialty Contracting and Waste Management of Rogers, Minnesota for \$5,498,583.10.

An amendment to the Burns & McDonnell agreement in the amount of \$79,550 is required due to additional professional engineering services that were provided for the two projects as described in Attachment C to the agreement.

The following paragraphs highlight the main items of the amendment.

Beneficial use of CCR

Burns and McDonnell performed geotechnical engineering, slope stability analysis and prepared the necessary documents to secure a permit modification from the Missouri Department of Natural Resources related to the beneficial use of Coal Combustion Residuals (CCR) as fill material in the landfill access road embankment. This work allowed the Solid Waste and Electric Utilities to divert approximately 12,400 tons for CCR material from the landfill and use the material as fill in the landfill access road. Diverting the 12,400 tons of CCR reduced the cost for disposal of CCR to the Electric Utility by approximately \$619,000.

Rock Crushing

The scope of work for the Bioreactor Cell #6 construction involved the excavation of approximately 200,000 yards of soil and 180,000 yards of rock. During the landfill design, it



was determined that a substantial portion of rock that was to be excavated was of suitable quality that it could be crushed, made into surface rock (gravel) and used during future landfill operations. Burns and McDonnell prepared gravel specifications and modified the contract documents to add an alternate bid item for the crushing of rock.

The Solid Waste typically purchases approximately 7,500 tons of gravel per year from the local quarry at \$11 per ton. Solid Waste was able to get approximately 31,000 tons gravel produced with this project at a price of \$5.50 per ton, thus saving the utility approximately \$170,500 in future gravel purchases.

Sanitary Sewer & Leachate Piping Redesign

Solid Waste Utility is currently constructing the Bioreactor Landfill Cell #6 and the Leachate Handling and Storage projects. At the same time, the Sanitary Sewer Utility is in the process of constructing the Upper Hinkson Creek Outfall Sewer Extension Project across the Landfill property. During the construction of these three projects, it was determined that a portion of the sanitary sewer project could be eliminated and the treated leachate discharge piping be redesigned in order to save money for both the Sanitary Sewer and Solid Waste Utilities.

Burns & McDonnell redesigned the leachate pumping and piping system so that treated leachate can be discharged to a newly constructed sanitary sewer line on the landfill property and saved Solid Waste approximately \$38,000. In addition, the redesign allowed the Sewer Utility to eliminate approximately 800 feet of sanitary sewer line at a cost savings of approximately \$100,000.

Leachate Pond Liners

The original design scope of services for the Leachate Handling and Storage portion of the project did not include the replacement of the synthetic liners in the two leachate treatment ponds. During the final design process, it was determined that the two liners are nearing the end of their expected design life. Burns and McDonnell prepared liner specifications and modified the contract documents to add an alternate bid item for the replacement of the two synthetic liners. The replacement of these liners added \$100,000 to the cost of the project.

Fiscal Impact

Short-Term Impact: The total not-to-exceed amount of the amendment is \$79,550 which brings to total not-to-exceed amount of the agreement to \$506,205. This is within the usual and customary guidelines for this type of project. In addition, the changes in the scope resulted in cost savings to the Solid Waste Utility, Sewer Utility and Electric Utility of approximately \$108,500, \$100,000 and \$619,000 respectively.

Long-Term Impact: This amendment is not anticipated to have a long term fiscal impact.



Strategic & Comprehensive Plan Impact

Strategic Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Not applicable, Tertiary Impact: Not Applicable

Legislative History

Date	Action
08/07/2017	B207-17 Authorizing construction of improvements, repairs and upgrades to the leachate collection and storage facilities at the Columbia Sanitary Landfill; calling for bids through the Purchasing Division
08/07/2017	B208-17 Authorizing construction of Bioreactor Landfill Disposal Cell #6 at the Columbia Sanitary Landfill; calling for bids through the Purchasing Division
07/03/2017	PH20-17 Public Hearing – Proposed construction of improvements, repairs and upgrades to the leachate collection and storage facilities at the Columbia Sanitary Landfill
07/03/2017	PH21-17 Public Hearing - proposed construction of Bioreactor Landfill Disposal Cell #6 at the Columbia Sanitary Landfill
06/05/2017	R69-17 Setting a public hearing; construction of improvements, repairs and upgrades to the leachate collection and storage facilities at the Columbia Sanitary Landfill
06/05/2017	R70-17 Setting a public hearing; proposed construction of Bioreactor Landfill Disposal Cell #6 at the Columbia Sanitary Landfill
06/06/2016	Agreement with Burns & McDonnell Engineering Company, Inc. for Bioreactor Landfill Cell #6 Construction Documents and Leachate Study & Design

Suggested Council Action

Staff is recommending Council approval of the resolution.