



THE CITY OF KEY WEST

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EXECUTIVE SUMMARY

Date: January 25, 2022

To: Patti McLauchlin, City Manager

CC: John Paul Castro, Utilities Director

From: Ian McDowell, Associate Engineer

Subject: Approve task order no. 10 for Black & Veatch Corporation for design and bid-phase services for the replacement of the existing sludge conveyor belt system at the Richard A. Heyman Environmental Protection Facility

Action Statement

This resolution would approve task order no. 10 from Black & Veatch Corporation in the amount for \$261,257.00 for engineering design and bid-phase services for replacement of the existing belt filter press dewatering system at the wastewater treatment facility, under the General Engineering contract approved in Resolution 17-207 and extended in Resolution 20-142. Authorize the City Manager to execute this agreement and any necessary budget transfers/amendments.

Background

As part of a continuing effort to reduce energy cost, the implementation of energy efficiency improvements provided in Jacobs' Energy Efficiency Master Plan has included a task order for Black & Veatch for the evaluation of alternative dewatering methods to the existing belt filter press dewatering system, which has reached the end of its useful service life. This evaluation report was provided to the city in June of 2021 and presents the findings of comparative analysis of various dewatering technologies, including belt filter presses, centrifuges, and screw presses and incorporates monetary and non-monetary criteria, such as operations and maintenance costs, staff familiarity, and adaptability.

After review, city and plant staff suggest that the existing belt filter press system be replaced with a new belt filter presses of the same design. While centrifuge technology represents the lowest total present worth cost, the present worth cost of belt filter press technology is only 4.3% higher. This difference is primarily a result of the decreased moisture content that the centrifuge technology is capable of, which reduces costs transporting cake to the mainland, but this is will be negated by the City's implementation of a composting program. Additionally, the frequent

maintenance required for a centrifuge system that must be performed by the vendor, affects the reliability and self-sufficiency of the wastewater treatment plant. Overall, replacement of the existing dewatering system with new belt filter presses is the most economical option that maintains the resiliency needed, given the location of RAEHPF.

Purpose and Justification

The purpose of this task order is to provide detailed design engineering services and bid-phase services for the replacement of the existing belt filter press system. The consultant will provide complete design drawings required for bidding and construction of the project. As the existing system already consists of belt filter presses, there will be much less structural engineering design required. The familiarity that Black & Veatch have with the wastewater treatment plant and the dewatering system presents an advantage in the efficiency and handling of the project.

This resolution supports Key West Forward strategic plan priority 4.3.6: *Evaluate wastewater and sewer systems for repair*

Financial

Funding will come from account Sewer/WWTP/CIP 401-3504-535-6500 for project number SE35042006. Staff has reviewed the hourly cost breakdown and believe the rate mixture is properly balanced and match the hourly rates set forth within the contract documents.

Recommendation

Staff recommends approving task order for \$261,257.00 for Black & Veatch Corporation to provide engineering design and bid-phase services for replacement of the existing belt filter press dewatering system at RAEHPF and authorizing the City Manager to execute this agreement and any necessary budget transfer/amendments.