



AGENDA MEMORANDUM

Action Item for the City Council Meeting of May 12, 2020

DATE: April 14, 2020

TO: Peter Zanoni, City Manager

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<p style="text-align: center;"><u>Professional Services Contract Amendment</u> Choke Canyon Dam Infrastructure Improvements</p>

CAPTION:

Motion awarding Amendment No. 2 to a contract with Freese and Nichols, Inc. for engineering services to design and prepare construction documents for Spillway Electrical Upgrades, Outlet Tower Improvements, new maintenance facility and other safety and maintenance improvements at the Choke Canyon Dam in the amount of \$600,330, for a total contract value not to exceed \$648,482, effective upon issuance of notice to proceed, with funding approved and available from Water Supply 2020 Capital Improvement Program Budget.

SUMMARY:

This contract, Amendment No. 2, provides for design, bid and construction-phase services for dam infrastructure improvements at Choke Canyon Dam.

BACKGROUND AND FINDINGS:

The gated controls systems at the Choke Canyon Dam provide the ability to regulate reservoir water levels and floodwater releases during storm events. The United States Bureau of Reclamation (USBR) owns the dam that is operated by the City. The USBR conducted a Comprehensive Facilities Review in 2012 and identified maintenance issues requiring rehabilitation. The current conditions of the controls systems are unsafe, not to standard, and have been determined in some cases to be inoperable or unreliable if not repaired. Outlet works (water release) controls are important dam infrastructure components which measure release of water from Choke Canyon Dam to receiving waters downstream, including Lake Corpus Christi. Emergency spillway controls are essential to keeping the dam from overtopping during flood events. To protect this important infrastructure, City directed Freese and Nichols, Inc. to conduct

two evaluations, one in 2017 (small contract) and the other in 2019 (amendment 1) to develop recommendations that will help to extend the service life of the dam and appurtenances in accordance with guidance from the USBR and Texas Commission on Environmental Quality (TCEQ) focused on gate controls systems.

The initial small contract in 2017 was for evaluation of the emergency spillway controls protecting the dam from overtopping and evaluation of the low flow outlet controls to comply with the TCEQ standards. The evaluation report scoped and estimated the engineered solutions required to address the USBR's identified action items concerning the defunct controls system for the emergency spillway and to allow for continued compliance with the TCEQ standard concerning downstream water releases through the low flow outlet. Amendment No. 1 in 2019 was to provide a report evaluating numerous safety issues and age-related deficiencies with the 40-year-old gantry crane used by staff to deploy 20-ton stoplogs in front of (upstream of) the emergency spillway gates during routine maintenance or periodic rehabilitation and to retain water supplies in event of a spillway gate failure.

This amendment provides for design, bid and construction phase services that will be necessary to complete the project scoped by Freese and Nichols and based on USBR identified action items from 2012 to the present. The scope of Amendment No. 2 includes upgraded gate control systems at the emergency spillway and the low flow outlet tower, refurbishment of the outlet tower trash racks protecting each sluice gate, life safety improvements for safe operation of the stoplog system, repair of concrete spalling on the emergency spillway chute, stabilization of Gantry Crane resting pad and rails, and a new maintenance facility(46' x 60'). The maintenance facility will be a small pre-engineered metal building with engineered foundation and limited electricity for lights and outlets to support vehicle repair and maintenance activities currently performed in the elements. The maintenance facility will not support any occupancy.

PROJECT TIMELINE:

2020-2021	2021				2021-2022
MAY- MAY	J	J	A	S	OCT - OCT
Design	Bid				Construction

Projected Schedule reflects City Council award in May 2020 with design completion in May 2021. Construction is anticipated to begin in October 2021 with a duration of one year and completion in October 2022.

COMPETITIVE SOLICITATION PROCESS:

Freese and Nichols, Inc. was selected for the Transportation and Utilities, Part B Utilities Projects in April 2016 under RFQ-2016-01. Choke Canyon Dam Infrastructure Improvements was one of three selections that were announced under the Utility Projects Category of the RFQ.

Freese and Nichols, Inc. was selected from five (5) applicants for this project. The selection committee was comprised with representatives from the Utilities Department and Engineering Services. The final evaluation ranked Freese and Nichols, Inc. the highest and recommended the firm as most qualified based five factors: 1) experience of the firm, 2) experience of the key personnel with specific experience in water resources engineering, reservoir infrastructure design and construction, 3) project approach and management plan, 4) capacity to meet the project

requirements and timelines, and 5) past performance.

ALTERNATIVES:

Without this project, the Choke Canyon Dam will not be in compliance with the USBR and TCEQ dam safety guidelines for operation and maintenance of high hazard dams. The proposed improvements are needed to maintain proper functioning of the City's water supply system, to stay in compliance with the TCEQ standard, and to rehabilitate the emergency system used to prevent overtopping and catastrophic failure of one of the largest reservoirs in the state. The USBR, who is the City's funding partner for maintenance and repair of the dam has withheld funding from the City in the past for not following maintenance and repair recommendations timely.

FISCAL IMPACT:

This contract will award design, bid and construction phase services for Spillway Electrical Upgrades and Outlet Tower Improvements as well as other safety improvements at the Choke Canyon Dam in the amount of \$600,330, for a total contract value not to exceed \$648,482, effective upon issuance of notice to proceed, with funding approved and available from Water Supply 2020 CIP.

FUNDING DETAIL:

Fund:	Water 2020 (Fund 4099)
Mission Elem:	Water Distribution (041)
Project No.:	E13050
Account:	550950
Activity:	E13050-01-4099-EXP
Amount:	\$600,330

RECOMMENDATION:

City staff recommends award of the professional services contract in the amount of \$600,330 to Freese and Nichols, Inc. The design phase is planned to begin in May 2020 with completion estimated 12 months after notice to proceed. The construction phase is planned to start in October 2021 and end in October 2022.

LIST OF SUPPORTING DOCUMENTS:

Location and Vicinity Maps
Contract