

City Council Report

915 I Street, 1st Floor

Sacramento, CA 95814

www.cityofsacramento.org

File ID: 2019-00590

May 14, 2019

Consent Item 30

**Title: Change Order: E. A. Fairbairn Water Treatment Plant (FWTP) Filters #9-16
Rehabilitation Project**

Location: District 6

Recommendation: Adopt a Resolution: 1) authorizing the City Manager or the City Manager's designee to execute Change Order No. 6 to City Agreement No. 2018-0672 with Utility Service Co. Inc., for an amount not-to-exceed \$499,536, bringing the agreement's total not-to-exceed amount to \$4,502,396; 2) resetting the City Manager's authority to issue Change Orders for the Agreement; and 3) approving budget related transfers.

Contact: Megan Thomas, Project Manager, (916) 808-1729; Michelle Carrey, Supervising Engineer, (916) 808-1438; Dan Sherry, Engineering & Water Resources Division Manager, (916) 808-1419, Department of Utilities

Presenter: None

Attachments:

- 1-Description/Analysis
- 2-Change Order
- 3-Resolution

Description/Analysis

Issue Detail: Staff recommends Council approve Change Order No. 6 with Utility Service Co. Inc. (USCI) for the City Agreement No. 2018-0672, to complete additional concrete coating repairs on the walls and floors of the filters due to the unforeseen soft condition of the concrete.

Policy Considerations: This Change Order exceeds the City Manager's approval authority and requires Council approval.

Economic Impacts: This Change Order is expected to create 2.00 total jobs (1.15 direct jobs and 0.85 jobs through indirect and induced activities) and create \$308,430.70 in total economic output (\$194,406.23 of direct output and another \$114,024.47 of output through indirect and induced activities).

The indicated economic impacts are estimates calculated using a calculation tool developed by the Center for Strategic Economic Research (CSER). CSER utilized the IMPLAN input-output model (2009 coefficients) to quantify the economic impacts of a hypothetical \$1 million of spending in various construction categories within the City of Sacramento in an average one-year period. Actual impacts could differ significantly from the estimates and neither the City of Sacramento nor CSER shall be held responsible for consequences resulting from such differences.

Environmental Considerations: The subject project was reviewed and determined to be categorically exempt from the California Environmental Quality Act (CEQA). The project includes maintenance and minor alteration of existing public utility facilities (CEQA Guidelines Section 15301) and replacing existing filter media and coating existing structures within the treatment process involving no expansion of capacity (CEQA Guidelines Section 15302 (c)).

Sustainability: The proposed project is consistent with the 2035 General Plan as it maintains existing water treatment capacity by replacing filter media that has reached the end of its useful life and will improve the life of the treatment plant facilities by providing a protective coating on the filter basins.

Commission/Committee Action: Not applicable.

Rationale for Recommendation: During the surface preparation of the concrete filter walls and floors, it was realized that the concrete was soft in more surfaces than anticipated for a 14-year-old asset. The softness extended more than an inch beyond the existing concrete

surface, which would eventually impact the rebar and structural aspects of the filter walls. A new coating is required to provide a barrier to protect the rebar.

In order for the coating application to meet City specifications and coating application requirements, the voids need to be filled with a cement-based material which will provides the needed smooth surface for the coating application. This work will result in an extended life of the filter structures.

Financial Considerations: The FWTP Filters No. 9-16 Rehabilitation Project has an original contract not-to-exceed amount of \$3,808,312. The net change by previous change orders in the amount of \$194,549, increased the contract not-to-exceed amount to \$4,002,861. Proposed Change Order No. 6 in the amount of \$499,536 will increase the contract not-to-exceed amount to \$4,502,397. Staff recommends transferring \$250,000 from the Base CIP Contingency-Water Project (Z14000700) to the FWTP Rehab project (Z14130200). Sufficient funding for the project will be available after the transfer is made.

There are no General Funds allocated or planned for this project.

Local Business Enterprise (LBE): USCI is not an LBE, but has partnered with an LBE, Mason Painting, Inc., for this project to exceed the minimum LBE participation requirement. Mason Painting, Inc. has been providing coating services for the project.

Background: The FWTP is one of two City treatment plants that provide drinking water for the City of Sacramento. As part of the treatment process, the plant uses filters to finish cleaning the water, so it will meet drinking water standards and can be distributed into the City's drinking water system. Generally, filter media life ranges between 12 and 15 years at which time it starts losing the ability to efficiently finish cleaning the water and plant production capacity is affected. Actual life of filter media is dependent on use, backwash cycles, and quality of the source water being treated.

The filter media within FWTP Filters #9-16 was originally installed in 2004 with the construction of the FWTP Expansion Project. At that time, filter media smaller than designed was installed by the contractor resulting in a settlement to the City to account for the anticipated shorter life expectancy of the material. Over the past couple of years, the filter media efficiency of Filters #9-16 has begun to impact the water treatment plant's ability to treat water at the designed capacity. This project will replace the existing filter media in the 8 filter basins to maintain the design capacity of the treatment plant.

Upon initial inspection of the filter basins, the structural concrete showed initial signs of corrosion where the aggregate of the concrete had become exposed. To prolong the life of the

concrete, coating of the basins was recommended. Since coating of filter basins could only occur when filter media is removed, coating the basins was included as part of the project base bid scope.

Steel bulkheads installed as part of the original construction of the FWTP in 1964 had lost their original protective coating and required a replacement coating to protect the steel from corroding further. Additive Item #1, which incorporated surface preparation and coating of the steel bulkheads, was included as part of the bid scope.

After the bid results came in on November 1, 2017, a bid protest was filed which delayed the award of the contract. On May 15, 2018, Utility Service Co. Inc. was awarded the contract by Council.

Due the delay caused by the bid protest, Change Order No. 1 was approved and provided an additional 85 construction days. The extra time addressed additional contract restrictions required to ensure the treatment plant could address water production needs during the summer months. There were no additional costs associated with this change order.

Change Order No. 2 approved an additional 28 construction days to address delays caused by suppliers not being able to meet the contract specifications that required the contractor to solicit other suppliers that could meet the specifications. There were no additional costs associated with this change order.

Since the existing filters were in use, there was limited information City staff could obtain regarding the condition of the filters during the design phase of the project. Once the Contractor started working on the first set of filters and the old filter media was removed, the City and Contractor were able to evaluate the condition of the concrete. When the coating preparation of the concrete commenced, the condition of the filter basins became more apparent and actual line item quantities could be determined based on what was found. Filter nozzles were in better condition than originally anticipated as was any apparent cracking of the concrete, while the expansion joints existing within the filters were more prevalent requiring additional joint sealant than originally anticipated. The City was able to negotiate better pricing on line items that increased by more than 20% and saved funds where line items could be reduced due to the condition of the filters. The total cost of the change order was \$98,691.25 with an additional 40 calendar days of construction time due to some of the extended line items.

Change Order No. 4 was a corrective change order that addressed an error from the original base bid of one of the line items where all of the quantities were not included in the base bid

price calculation. This change order increased the total contract by \$14,640.00 to address this error.

In November 2018 when the treatment plant was taken off-line, the Contractor was able to commence work on the bulkheads throughout the plant. Since the grit basin was the most time restrictive location, work commenced on 3 of the bulkheads located there. Unfortunately, during the surface preparation of the steel surfaces, it was quickly realized that the structural steel was impacted more than originally anticipated and a series of weak points were found. The smaller bulkheads had sufficient steel remaining to complete a temporary repair until staff could schedule a more permanent repair for the next treatment plant shutdown period. However, due to the minimal structural steel remaining on the larger of the bulkhead, there was no temporary repair feasible that could have been implemented, and an emergency directive was given to the contractor to build a new replacement bulkhead for this location. Within 3 weeks, the contractor was able to build, coat, and install the new bulkhead which allowed the treatment plant to return to service without an extended interruption. Without this effort, the treatment plant wouldn't have been able to return to service. Final costs of the time and materials were put together and submitted in spring for a total of \$81,217.42 which included the temporary repairs on the smaller bulkheads and the replacement of the larger bulkhead. Change Order No. 5 increased the project schedule by 8 calendar days to account for the extra effort.

Since each filter could have different conditions within, it wasn't until the second round of filters were cleared of media that staff had a better understanding of what change orders would be needed to complete the project. Since more than the initial filters had the same concrete condition that required parge coating (a cement based coating) on the walls, Change Order No. 6 is needed to increase the parge coating quantities to complete the remaining filters and address the separate parge needed to properly coat the floors.

CITY OF SACRAMENTO

CHANGE ORDER

Contract # & Date: 2018-0672 05/15/2018

Budget #: 472011-50000-6005-51000000-Z14130209

Purchase Order #: 0000045677

Change Order No: 6

Sacramento, California

May 14, 2019

TO: Utility Service Co., Inc./SUEZ Advanced Solutions, Contractor

CONTRACT FOR: E. A. Fairbairn Water Treatment Plant Filters No. 9-16 Rehabilitation Project (B1814321008)

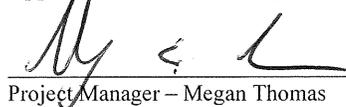
Upon mutual acceptance of this document by the City of Sacramento, hereinafter referred to as "CITY", and your firm, hereinafter referred to as "CONTRACTOR", in accordance with the terms and conditions of the original contract documents, you are hereby directed to make the following change or changes for the consideration set forth below:

Description: See Exhibit A, attached and incorporated herein

The original contract sum was:	\$ 3,808,312.00
Net change by previous change orders:	\$ 194,548.67
The contract sum prior to this change order was:	\$ 4,002,860.67
The contract sum will be increased by this C.O.	\$ 499,535.50
New contract sum including all Change Orders:	\$ 4,502,396.17

CONTRACTOR agrees that the amount of increase or decrease in the contract sum specified in this change order shall constitute full compensation for the work required by this change order, including but not limited to all compensation for the additional and/or revised work specified herein, and shall fully compensate CONTRACTOR for any and all direct and indirect costs that may be incurred by CONTRACTOR in connection with such additional and/or revised work, including any changes, disruptions or delays in work schedules or in the performance of other work by CONTRACTOR. The time for performance of the Contract will **be increased eight (8) calendar days** by reason of the work required by this Change Order. Except as herein above expressly provided, CONTRACTOR further agrees that the performance of the work specified in this Change Order or the rescheduling of other project work made necessary by this Change Order, shall not constitute a delay which will extend the time limit for completion of the work as said term is used in the Contract between CITY and CONTRACTOR for the project.

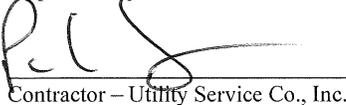
Approval Recommended By:

 4/9/19
Project Manager – Megan Thomas Date

Approved as to Form by:

Michael Voss, Senior Deputy City Attorney

Approved By:

 4/9/19
Contractor – Utility Service Co., Inc. Date

Approved By:

William O. Busath, Director, Department of Utilities

Approved By:

Mindy Cuppy – City Clerk Date

**CITY OF SACRAMENTO
CHANGE ORDER
EXHIBIT A**

Contract # & Date: 2018-0672 05/15/2018

Budget #: 472011-50000-6005-51000000-Z14130209

Purchase Order #: 0000045677

Change Order No: 6

- 1) Per the contract bid documents, the CONTRACTOR removed the existing filter media which allowed staff to better assess the condition of the existing filter floors and walls. Due to the soft condition of the concrete, there was an increased loss of cementitious material around the aggregate of the concrete which caused significant voids in the surface of the concrete walls. As a result, Bid Item #6, *Provide Parge Coating on Concrete Surfaces of Filter Wall and Slab Areas Where Required*, was determined to be needed more than originally anticipated in the original bid documents to eliminate the voids and allow for coating of the concrete surfaces. Per Change Order No. 3, new line item *Supplemental Bid Item #6* was created that consisted of the same scope of work as Bid Item #6, with a total of 19,393 sq.ft. for a price of \$25.00 per sq.ft.. An additional 16,789 sq.ft. of parge coating is needed to complete the remaining filters in the project. This increases the total line item to 36,182 sq.ft. of parge coating, which increases the project total by \$419,725.00 for the additional parge coating required.

Item No.	Item Description	Unit	Previous Quantity	Previous Contract Price	New Quantity	New Contract Price
Supplemental #6	Provide Parge Coating on Concrete Surfaces of Filter Wall and Slab Areas Where Required	SQ FT	19,393	\$484,825	36,182	\$904,550

This change order will compensate the CONTRACTOR and constitutes full compensation for the work, including all mark ups, profits, surcharges, taxes, and overhead costs.

This change will add 0 calendar days to the Contract Time.

(Database Code: Unforeseen Conditions)

Total This Item: \$419,725.00

- 2) Per the contract bid documents, the CONTRACTOR removed the existing filter media which allowed staff to better assess the condition of the existing filter floors and walls. Due to the soft condition of the concrete, there was an increased loss of cementitious material around the aggregate of the concrete which caused significant voids in the surface of the floors. As a result, in order to meet the coating coverage requirements, either additional coating needed to be applied or a smoothing parge used to help fill in the voids. Due to the high cost of the coating material, the parge option was selected and proven to meet the needs of the project without impacting the integrity of the final results. The additional cost for the parge coat to complete the filter floors is a lump sum of \$79,810.50 which includes material, preparation, and application of the parge coating. This change order will compensate the CONTRACTOR and constitutes full compensation for the work, including all mark ups, profits, surcharges, taxes, and overhead costs.

This change will add 8 calendar days to the Contract Time.

(Database Code: Unforeseen Conditions)

Total This Item: \$79,810.50

Total This Change Order = \$499,535.50

RESOLUTION NO. 2019-

Adopted by the Sacramento City Council

May 14, 2019

Approving a Change Order for E. A. Fairbairn Water Treatment Plant (FWTP) Filters #9-16 Rehabilitation and Approving Budget Related Transfers

BACKGROUND

- A. The filter media within Filters 9 through 16 was originally installed in 2004 with the construction of the FWTP Expansion Project. At that time, media smaller than originally designed was installed by the contractor resulting in a settlement to the City to account for the anticipated shorter life expectancy of the material. This project will replace the existing filter media in the eight filter basins to maintain the design capacity of the treatment plant.
- B. The structural concrete of the basins for Filters 9 through 16 has begun showing signs of corrosion. Since coating of filter basins can only occur when filter media is removed, coating of the basins has been included as part of the project scope to prolong the life of the concrete.
- C. During the surface preparation of the concrete filter walls and floors, staff discovered the concrete was soft in more surfaces than anticipated for a 14-year-old asset. The softness extended more than an inch beyond the existing concrete surface, which would eventually impact the rebar and structural aspects of the filter walls. A new coating is required to provide a barrier to protect the rebar.
- D. Change Order No. 6 to City Agreement 2018-0672 allocates additional funding for the application of parge (a cement based material) to ensure that the coating application meets City specifications and coating application requirements. The proper application of parge and subsequent coating of the filters will result in an extended life of the filter structures.
- E. A budget transfer of \$250,000 is required to fund this change order.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

- Section 1. The City Manager or the City Manager's designee is authorized to execute Change Order No. 6 with Utility Service Co. Inc. (USCI) for the application of parge coating for an amount not-to-exceed \$499,536.
- Section 2. The City Manager's authority to issue change orders for City Agreement No. 2018-0672 with USCI is reset.
- Section 3. The City Manager or the City Manager's designee is authorized to transfer \$250,000 from the Base CIP Contingency-Water Project (Z14000700) to the FWTP Rehab Project (Z14130200).

Adopted by the City of Sacramento City Council on May 14, 2019, by the following vote:

Ayes:

Noes:

Abstain:

Absent:

Attest:

The presence of an electronic signature certifies that the foregoing is a true and correct copy as approved by the Sacramento City Council.