



## Memorandum

To: Honorable Mayor and Members of the City Council  
Administration and Public Works Committee

From: David Stoneback, Public Works Agency Director  
Lara Biggs, P.E., Bureau Chief – Capital Planning / City Engineer  
Paul Moyano, P.E., PMP, Senior Project Manager

Subject: Water Treatment Plant Reliability Improvements Construction (RFP 16-17)  
Change Order No. 3 – Project Close-Out

Date: December 21, 2017

### Recommended Action:

Staff recommends that City Council authorize the City Manager to execute Change Order No. 3 for the Water Treatment Plant Reliability Improvements Project with Thieneman Construction, Inc. (TCI) (17219 Foundation Parkway, Westfield, IN 46074) for a deduction of \$4,531.44 to the current contract amount to account for various minor changes to the work throughout the construction. This change order will decrease the total contract amount from the current contract price of \$1,289,721.00 to \$1,285,189.56, and extends the date of final completion date from October 29, 2017 to November 17, 2017.

### Funding Source:

The Illinois Environment Protection Agency (IEPA) has agreed to provide a loan from the State Revolving Fund in an amount up to \$1,634,816.00 for engineering and construction of this project. This amount includes a contingency of 3% (\$37,410.00) of the bid price of the project. With this funding, all eligible engineering and construction costs will be funded by a loan repaid over 20 years at 1.64% interest.

IEPA loan funding for this work is being routed through the Water Fund, Capital Improvement (Account 513.71.7330.65515 – 733094). This project has an overall project allocation of \$2,500,000 funded in both 2016 and 2017.

### Livability Benefits:

Built Environment: Manage Water Resources Responsibly.

Reduce Environmental Impact: Improve energy and water efficiency.

Health and Safety: Enhance resiliency to natural and human hazards.

### Background:

The Water Treatment Plant Reliability Improvement Project has improved critical components of the plant, including the shore wells, chemical feed system, large diameter valves, conveyance ducts, site piping, electrical systems, and instrumentation, resulting in a more dependable water supply for all Evanston residents and wholesale water customers.

The City Council authorized the City Manager to execute the agreement for Construction of the project to Thieneman Construction Inc. (TCI) for \$1,247,000 on July 11, 2016. Notice to Proceed was issued on February 1, 2017 after the Loan was formally awarded by the IEPA. Change Order 1 was authorized on July 24, 2017 for additional shorewell repairs. Change Order 2 was authorized on September 11, 2017 for safety modifications to shorewell ladders. Construction is now 100% complete.

### Analysis:

This Change Order is to document the final completion date and minor changes to the work that were encountered throughout the project. Specific items are detailed in the attached Proposed Change Orders (PCO) which is the result of negotiations between staff, the contractor, and the engineer. These PCO's are also summarized below, indicating both costs and credits associated with these changes, along with impacts to the completion date.

PCO#2 / +\$800.00 – Hydrant Protection Pad: The proposed location of a new hydrant needed to be moved because of interference with the existing wash water basin. The move required some additional concrete work to protect the hydrant from vehicles at the water plant. This PCO addresses the additional cost associated with the concrete work.

PCO#3 / -\$375.00 – Eliminate Pipe Markers: New pipes installed at the water plant are labeled to indicate their purpose. This labeling was included in the original scope of work. To provide more uniform labeling where it is most needed by the operators, City staff completed this task. This PCO deletes the work task from the contract and provides the associated credit.

PCO#7 / -\$1,500.00 – Influent Conduit Concrete: Concrete placed in the water plant around new interconnection pipes between influent conduits 1 and 2 did not achieve the specified strength after curing. While the consultant engineer concluded that the strength achieved by the concrete is sufficient for its intended purpose, the concrete supplier provided a credit associated with the material. This PCO accounts for that credit.

PCO#8 / -\$1,520.00 – Hastelloy Pipe Installation Credit: Wall penetrations needed to install the new phosphate feed system were eliminated because existing pipe penetrations were able to be used instead. This PCO provides the credit associated with the elimination of that work.

PCO#9 / -\$3,500.00 – Engineer Office Trailer: A temporary office space for the resident engineer was to be provided by the Contractor during construction. Instead, the engineer used available office space at the water plant. This PCO

provides the contractor's credit associated with the elimination of the temporary office space.

PCO#10 / -\$2,547.50 – Concrete Repair Final Quantity: Some concrete repair work required at the shore wells was slightly less than shown in the original design. This PCO provides a credit for the unused quantities.

PCO#11 / -\$4,304.94 – Electrician Credits: Some conduits shown in the original design were not needed and a different, but acceptable, type of wire was installed than specified for some runs. This PCO provides a credit these items.

PCO#12 / +\$1,500.00 – Revised Pipe Support: The pipe support originally designed for the new 30-inch filter washwater influent piping could not be installed due to localized deterioration of existing concrete. The support could not be moved, so the Contractor and Engineer developed a new support system. This PCO addresses the additional material and labor costs associated with the new pipe support.

PCO#13 / +\$5,332.00 – Additional Yard Piping: Extra work and materials were required to install new yard piping under the parking lot due to field conditions that were discovered once construction began, including pipe located deeper than expected and unknown buried obstructions. This PCO addresses additional time and material needed to respond to the unexpected conditions.

PCO#14 / +\$1,414.00 – Carrier Pipe Obstructions: Extra work and materials were required to install a new carrier pipe under the parking lot due to obstructions that were encountered once construction began. This PCO addresses additional time and material needed to respond to the unexpected conditions.

PCO#15 / -2,080.00 – Pump Assistance: Four instances were documented where City staff provided support to the contractor beyond the normal partnering that lead to the successful completion of this project. The City provided a pump to dewater influent conduits, City staff lent support during a critical phase of dewatering for construction of the new valve vault, and the City twice responded to the flooding of existing vaults before the contractor could arrive on site. This PCO provides credit associated with these items.

PCO#16 / +1,980.00 – Valve Replacement Water: During installation of new equipment on the 30-inch filter washwater influent piping, the piping could not be isolated and drained as completely as expected. This caused delay to the Contractor during critical shut-down periods. Rather than leaving the site and returning once the conditions improved, the Contractor stayed on site to resume work as soon as possible to minimize the shutdown period. This PCO addresses the additional labor needed to complete the work.

PCO#17 / +270.00 – ARV Piping Change: The routing of discharge piping for discharge from three new Air Relief Valves was changed from the original plans. This PCO addresses the labor and material associated with that change.

PCO#18 / \$0.00 – Schedule: Work throughout the project progressed well and the Contractor demonstrated a commitment to complete the work on time. However, delays from the metals fabricator during the final phases of the work resulted in a delay of the final completion date of 19 days. This PCO addresses this final delay.

This change order results in a reduction to the current Contract Cost. Funding for this Project is from the Water Fund, Account 513.71.7330.65515 – 733094. A summary of the funding for this overall project is shown on the table below.

Item	Account Summary 513.71.7330.62140-733094
Budgeted Amount	\$2,500,000.00 (Multi-Year Budget)
Engineering Agreement Design and Construction	\$475,381.00
Construction Agreement Original amount	\$1,247,000.00
Construction Change Order No. 1 Shorewell Improvements	\$35,611.00
Construction Change Order No. 2 Ladder Rungs	\$7,110.00
Construction Change Order No. 3 Close-Out (Under Consideration)	\$4,531.44 (Credit)
Account Balance	\$739,604.44

Legislative History:

The City Council approved contract award for construction to TCI on July 11, 2016.  
 The City Council approved Construction Change Order No. 1 with TCI on July 24, 2017.  
 The City Council approved Construction Change Order No 2 with TCI on September 11, 2017

Attachments:

Construction Change Order No. 3  
 Includes Proposed Change Orders from TCI