

**Metropolitan Domestic Water Improvement District  
Board of Directors Meeting**

**October 15, 2014**

**Approval of Final Change Order for the Hub Well 1A Site Improvements**

**Synopsis**

The Board of Directors is requested to approve the final change order (Change Order #3) for the Hub Well 1A Site Improvements contract with Innova Engineering, LLC (Innova) for the purpose of establishing a new contract amount of \$551,004.40 to accommodate final “as-built” materials and labor costs, and establishing a new contract completion date of October 15, 2014 for the time required to complete additional requested work.

**Background**

On May 13, 2013, the Board of Directors awarded a contract for the construction of the Hub 1A Well Site Improvements to Innova Engineering LLC. This work included a well pump, discharge piping and appurtenances, electrical and instrumentation appurtenances, a screen wall, gate, driveway and landscaping.

The work did not include the furnishing and installation of an arsenic treatment system to address arsenic issues at the well. At that time, District staff anticipated that the existing arsenic treatment system from the old Hub 1 well site would be transferred to this site upon completion of the well site improvements and integrated into the operation of the site.

At the September 9, 2013 meeting, the Board awarded a contract to Smyth Industries for the construction of arsenic treatment vessels for the Hub 1A and Hub 3 well sites after it was determined that the existing vessels were undersized and in poor condition, and unspent Water Infrastructure Finance Authority (WIFA) funds were approved for replacement vessels.

At the May 12, 2014 meeting, the Board approved Change Order No. 2 to provide additional funds for the construction of improvements necessary to integrate the arsenic vessels into the Hub 1A Well Site, which had not been factored into the contract for construction of the replacement vessels. The contract increase was based upon an estimate by Innova of materials and labor required to complete the improvements, with the understanding that actual costs would be tracked on a “time and materials” basis.

Previously at the February 10, 2014 meeting, the Board of Directors approved Change Order No. 1 to the contract, providing additional funds and time for the construction of the Orange Grove

Road, Camino de la Tierra to La Cholla Boulevard Waterline Relocations, in order to expedite the required work to avoid any potential construction delay claims from Pima County, when additional waterlines were determined to be in conflict with road improvements. Innova was the District's contractor for the original waterline relocations for this project.

### **Issues**

The final costs associated with the two change orders and required additional work under the contract were as follows:

#### **Change Order No. 1**

The work for Change Order No. 1 was completed for \$3,510.01 less than the approved amount.

#### **Change Order No. 2**

Innova provided a preliminary cost estimate of \$70,000 for the materials and labor required to complete the arsenic piping installation work, which was approved by the Board of Directors as Change Order No. 2. The final tally of labor and materials cost totaled \$90,760.79 or \$20,760.79 above the approved amount. Two main factors contributed to the higher final tally versus the initial estimate. The first is that the original estimate assumed that the ductile iron flanged pipe sections would be factory fabricated based upon measurements taken in the field, and then delivered upon fabrication, to be installed. After the first batch of pipe was ordered, it was discovered that the fabricator could not or would not provide pipe sections fabricated to the required degree of precision for above-ground flanged pipe installation (within 1/8-inch tolerance). No alternate suppliers could be located to complete the work in a timely manner. The solution was to fabricate the required flanged pipe sections on-site using flange adapters. The material cost difference was nominal but resulted in higher labor costs to cover the additional on-site work.

A second factor was that the cost of painting the above-ground piping was left out of the initial material and labor cost estimate. Additional lesser costs were due to minor changes to the scope of the work (additional fittings were required to provide sample tap, chlorine injection and flushing locations on the treatment system piping), and to furnishing and installing materials required to complete the original design that Innova's supplier had neglected to include in their original material cost estimate.

#### **Additional Work under the Contract**

The Board of Directors authorized in the Fiscal Year 2014 budget, the purchase and installation of a mobile office trailer, to be installed at the Hub 1A well site following completion of the well site improvements project. To facilitate the installation of this trailer, Innova was requested to complete the installation of a sewer connection (HCS) to serve the trailer. The cost of these additional items (not included in the original scope of the contract), totaled \$17,020, and was authorized to be paid under the Force Account bid item (Field Order No. 1).

Innova was also requested to complete the installation of a concrete pad on the site, suitable for mounting the arsenic treatment system vessels, piping and related appurtenances. This work was authorized early in the project timeline to facilitate installation with a minimum of disruption to the progress of the original scope of work. The cost of this item (not included in the original scope of the contract) was \$13,863.23 and was authorized to be paid under the Force Account bid item (Field Order No. 9).

There were also minor corrections and additions to the original scope of work throughout the course of the project that were issued field orders to facilitate the required additional work. Bid Item 18 (\$4,000) was eliminated and the required work was included in Field Order No. 10. The total amount of Field Orders that was completed during the project was \$47,708.62. This cost exceeded the amount of the Force Account bid item included in the original contract by \$22,708.62 and the final cost of the original contract by \$18,708.62.

#### Final Contract Amount

The final tally for this contract including all of the above noted items is \$551,004.40, which is \$35,959.40 over the previously authorized contract amount of \$515,045.00. During the original contract approval on May 13, 2013, the Board of Directors authorized the General Manager to approve up to \$30,000 in additional monies; however this authorization was not utilized.

#### Final Contract Time

Change Order No. 1 extended the contract time to June 30, 2014. In addition, the Board of Directors authorized the General Manager to extend the contract deadline by a cumulative amount not to exceed sixty days. When Change Order No. 2 was prepared, it was anticipated that the contract time extension granted in Change Order No. 1, plus the General Manager's authority, which would have extended the contract time to August 29, 2014, would be adequate time to complete the requested work.

Three main factors contributed to the additional time required to complete all work under the contract. The first is that the delivery of the arsenic vessels from Smyth Steel was delayed by two weeks. The vessels were finally delivered to the site and set on the concrete pads on May 28, 2014. Innova was not able to begin pipe installation before that date.

The second factor is that the turnaround time for the factory fabricated ductile iron pipe pieces was longer than anticipated. Three to four business days was expected, but it required almost two weeks from ordering to delivery for the first batch, before the decision was made to fabricate on site.

The third factor is that Innova experienced repeated, substantial delays obtaining the required services from their electrical supplier and the manufacturer of a major electrical component. The District's project specifications require this component to be "no approved equal" from this manufacturer, and the electrical supplier has a protected territory in Arizona for this manufacturer's product line. This left Innova with little leverage to hold the supplier to contract

deadlines.

At this time, all work on the site has been completed, and project close-out is underway.

**Recommendation**

It is recommended that the Board of Directors approve the final change order to the Hub Well 1A Site Improvements contract with Innova Engineering, LLC which establishes a new contract amount of \$551,004.40, and a new contract completion date of October 15, 2014.

**Suggested Motion**

I move to approve the final change order to the Hub Well 1A Site Improvements contract with Innova Engineering, LLC which establishes a new contract amount of \$551,004.40 and a new contract completion date of October 15, 2014.

Respectfully submitted,

Charlie A. Maish, P.E., R.L.S.  
District Engineer

I concur with the above-noted recommendation.

Respectfully submitted,

Joseph Olsen, P.E.  
General Manager