



**DATE:** April 7, 2020

**TO:** Mayor and City Council

**FROM:** Director of Public Works

**SUBJECT:** Adopt a Resolution Authorizing the City Manager to Amend the Contract with Delta Engineering Sales, LLC, to an Amount Not-to-Exceed \$10,748,182 to Purchase and Install Additional Water Meter Materials for the Advanced Metering Infrastructure Project No. 07025

## **RECOMMENDATION**

That Council adopts a resolution (Attachment II) authorizing the City Manager to amend the contract with Delta Engineering Sales, LLC, to increase the contract amount by \$290,000 to a not-to-exceed amount of \$10,748,182, to purchase and install additional water meter materials for the Advanced Metering Infrastructure Project, and to appropriate the funds for use in the project.

## **SUMMARY**

In April 2016, the City Council authorized execution of a contract with Delta Engineering Sales, LLC (Delta Engineering) to purchase water meters and related equipment for the Advanced Metering Infrastructure (AMI) Project. The purpose of the AMI Project is to replace the City's aging water meters with new AMI or smart meters, which eliminate the need for manual meter reading and provide customers with information to better manage their water use. Replacement of all City meters has been completed. However, given the age and condition of some of the City's existing water meter boxes, some of the new lighter-weight plastic box lids may not sit as tightly on the existing meter box frame, and may be more susceptible to movement under certain conditions. In 2018, the City authorized Delta Engineering to replace a portion of the new plastic polymer meter box lids with heavier concrete lids to provide a more secure fit. Staff is now requesting Council approval to increase the contract amount with Delta Engineering by \$290,000, to a not-to-exceed amount of \$10,748,182, to purchase additional materials and complete the replacement of oval meter box lids for the AMI Project.

## **BACKGROUND**

The City has over 36,000 water meters. In 2013, staff began to study the feasibility of implementing Advanced Metering Infrastructure (AMI) in Hayward. AMI enables two-way communication over a fixed network between the utility system and metering endpoints (customers). This allows meters to be read, monitored, and managed from a remote, central

location rather than relying on the physical read of a meter in the field by an employee. Given the significant investment of resources, staff pilot tested three different AMI systems. Based on the results of the pilot test, the City selected Aclara Technologies LLC (Aclara) to implement the City-wide AMI program.

On April 5, 2016, Council approved execution of an installation contract with Aclara in an amount not to exceed \$3,113,000 and a material purchasing contract with Delta Engineering in an amount not to exceed \$9,500,000, to implement the AMI Project. Contracts with Aclara and Delta Engineering were executed by the City on June 28, 2016 and June 15, 2016, respectively. On July 24, 2018, Council approved an amendment to the Delta Engineering contract to increase the budget to \$10,248,182 for the purchase of additional water meters and related equipment.

In August 2018, the City completed replacement of all manual water meters with new AMI meters. One of the project challenges has been the ordering and installation of new meter box lids. The 2013 AMI feasibility study recommended replacing all existing concrete meter box lids with new plastic lids. In 2013, few agencies had installed AMI systems and the industry was recommending changing to plastic lids to ensure system performance and maximum battery life. Based on recommendations from consultants and vendors, the City proceeded with changing all concrete meter box lids to plastic lids.

The City's meter box inventory includes approximately 13,000 oval-shaped, 16-inch long by 10-inch wide, meter boxes. These oval meter boxes were installed in the early 1960s and are no longer manufactured. During the course of the project, staff became aware that the new, plastic oval lids may not seat securely on an existing concrete oval meter box if the meter box is cracked or damaged. This specific issue was not identified during the pilot test or during installation of the AMI meters. The vast majority of the City's oval meter boxes are in good condition with the new oval lids fitting securely.

In 2018, the City began replacing oval-shaped plastic lids in walkable areas back to concrete lids. Concrete lids are heavier and less prone to movement. On October 16, 2018, Council approved an amendment to the Delta Engineering contract to increase the budget by \$210,000 to a not-to-exceed amount of \$10,458,182 to assist the City with replacement of oval meter box lids. The October 16, 2018 Council report<sup>1</sup> provides additional background and discussion.

## **DISCUSSION**

To date, the City has changed approximately 7,000 of the 13,000 plastic meter box lids back to concrete lids. Staff has surveyed other cities and agencies in the United States that have implemented AMI projects without switching to plastic meter box lids. Although these systems have only been in place for a few years, early indication is that AMI system performance is similar for concrete and plastic lids. Staff will continue to work with the AMI

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<sup>1</sup> <https://hayward.legistar.com/LegislationDetail.aspx?ID=3701969&GUID=327A0D4B-B113-47F7-A03E-BAAB75264324&Options=&Search=>

project team and monitor the performance of the City's AMI system to see if future adjustments are needed.

Staff is requesting that Council authorize increasing Delta Engineering's contract by \$290,000 to a not-to-exceed amount of \$10,748,182 to purchase additional materials and replace the remaining 6,000 plastic oval meter box lids with concrete lids.

### **ECONOMIC IMPACT**

The economic benefits of AMI to customers include greater control over water consumption, given increased interval data and a future customer portal and smartphone application, including prompt water leak notification. Most customers will also benefit from having more accurate meters because they will not be subsidizing a small percentage of customers with water meters which may be reading low due to malfunction, and these customers will more equitably share their proportional cost of water. The system should also aid the community in achieving greater water conservation results over time.

Over the next few years, there will be moderate increases in water service costs to account for the wholesale replacement of all water meters in the City.

### **STRATEGIC ROADMAP**

This agenda item supports the Strategic Priority of Improve Infrastructure. Specifically, this item relates to the implementation of the following project(s):

Project 13: Upgrade Water System Infrastructure

### **FISCAL IMPACT**

As shown in the following table, the total estimated project cost for the AMI Project is \$14,123,923, which includes the increase in the Delta Engineering contract amount of \$290,000 for purchase and installation of additional water meter materials to a not-to-exceed total amount of \$10,748,182.

Project Administration/City-supplied materials (estimate)	\$	150,000
Pilot Study (actual)	\$	62,741
Purchase and Installation of AMI System (Aclara contract)	\$	3,113,000
Purchase of Project Materials (Delta Engineering contract)	\$	10,748,182
Customer Web Portal Pilot Program (estimate)	\$	<u>50,000</u>
Total:	\$	14,123,923

The adopted FY 2020 Capital Improvement Program (CIP) includes \$13,833,923 in the Water Replacement Fund for implementation of the AMI Project. The CIP budget was based on the quantities, types, and models of meters and lids in the 2013 AMI feasibility study, which needed to be adjusted to match actual field conditions. The current total estimated capital cost exceeds the budgeted amount by \$290,000.

Staff is requesting that additional funds be appropriated from the Water Replacement Capital Improvement Fund balance in an amount of \$290,000 to cover the increased project costs. Sufficient funds are available in the Water Replacement Capital Improvement Fund for this appropriation. There will be no impact to the General Fund.

## **SUSTAINABILITY FEATURES**

The AMI system promotes efficient water use and water conservation. The more frequent water consumption data will provide detailed information to help measure the overall effectiveness of targeted conservation initiatives. This information can be used to inform customers about potential leaks or overly high consumption. Analyzing data by frequent time intervals could also enable the City to look at consumption profile data for education and awareness related to conservation. Customers will also be able to be notified of unusual increased or continuous water usage, which could be the result of a leak. Remote notification of leaks allows for the ability to alert customers to an issue before substantial water waste or excessive charges occur.

The AMI Project also eliminated the need for manual meter reading, which reduced the number of vehicle miles traveled by City staff, furthering the City's Climate Action Plan goals of reducing greenhouse gas emissions.

## **PUBLIC CONTACT**

Information about the AMI project can be found on the City's webpage.<sup>2</sup>

## **NEXT STEPS**

If Council approves the recommendation, staff will increase the contract amount with Delta Engineering by \$290,000 to a not-to-exceed amount of \$10,748,182, to complete the replacement of oval meter box lids for the AMI Project.

*Prepared by:* Kaitlyn Byrne, Management Analyst

*Recommended by:* Alex Ameri, Director of Public Works

Approved by:



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Kelly McAdoo, City Manager

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<sup>2</sup> Advanced metering webpage:  
<https://www.hayward-ca.gov/advanced-metering-infrastructure>