



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: January 10, 2017

TO: Mayor and Councilmembers

FROM: Engineering Division, Public Works Department

SUBJECT: Increase In Construction Change Order Authority For The Charles E. Meyer Desalination Facility

RECOMMENDATION: That Council:

- A. Authorize an increase in the Public Works Director's Change Order Authority to approve expenditures for extra work and a claims resolution contingency for the Charles E. Meyer Desalination Facility contract with IDE Americas, Inc., Contract No. 25,277, in the amount of \$9,575,000, for a total Project expenditure authority of \$60,926,654;
- B. Authorize an increase in the extra services amount with Carollo Engineers, Inc., for to the Owner Support Services contract for the Charles E. Meyer Desalination Facility, Contract No. 25,222, in the amount of \$200,000, for a total Project expenditure authority of \$2,623,782;
- C. Authorize the Public Works Director to amend and increase a City Professional Services Contract for cultural monitoring with Patrick Tumamait, Contract No. 21600039, in an amount of \$25,000, for a total Project expenditure authority of \$95,000;
- D. Approve an increase in appropriations in the Water Fund in the amount of \$9,950,000, funded from the Water Fund reserves, and authorize the transfer of such funds from the Water Fund to the Water State Revolving Fund (SRF) Loan Fund to cover the proposed cost increases related to the reactivation of the Charles E. Meyer Desalination Facility, including \$150,000 for City engineering staff time, until an amendment to the SRF Loan is authorized, at which time loan proceeds will be utilized to offset any use of reserves; and
- E. Approve an increase in appropriations and estimated revenues in the Water SRF Loan Fund in the amount of \$9,950,000, funded from the Water Fund reserves.

EXECUTIVE SUMMARY:

The City's 2011 Long Term Water Supply Plan (LTWSP) included the Charles E. Meyer Desalination Facility (Desal Facility), which was constructed in March 1992, and put into long-term standby mode in 1997. The Desal Facility was included in the LTWSP as a drought water supply.

The City is currently experiencing a persistent drought condition that is drier than the historic drought of record, which was used as the drought planning basis for the LTWSP. As a result of continued dry conditions, Council awarded a Design Build Operate contract on July 21, 2015, to IDE Americas, Inc. (IDE), to reactivate the Desal Facility. Reactivating the Desal Facility will ensure that the community continues to have sufficient uninterrupted drinking water supplies into the future, should drought conditions continue beyond 2016.

This Council Agenda Report updates the project status since the last Council report in August 2016, requests authorization to increase the Change Order Authority for IDE and Carollo Engineers, Inc. (Carollo), and requests funding for a claims resolution fund.

DISCUSSION:

Background

Onsite construction for the Desal Facility reactivation project began in September 2015. On August 2, 2016, Council received a report and request to increase the Change Order Authorization for the IDE and Carollo contracts. At that time, the project experienced several unanticipated issues including contaminated soils, direct bury electrical, and brine box modifications which increased costs and extended the time to complete the project. To date, Council has authorized change order amounts of \$7,914,420 and \$391,160 for the IDE and Carollo contracts, respectively.

Current Status

All underground piping and electrical conduits have been installed. The reverse osmosis skids have been delivered, set in place, and are going through dry commissioning. Work on the above-ground piping and the power connections for the Desal Facility and pump station equipment is almost complete. Filter media preparation began at the end of November 2016, so filter media maturation can begin when the marine work is complete and sea water is available. The marine work to install the intake pumps and intake pipeline is anticipated to be completed in January 2017.

Since the last increase of the Contract Change Order Authorization in August 2016, several additional unanticipated items have been discovered including:

1. Additional off-shore intake pipeline work
2. Unusable off-shore pump conduit

3. On-shore intake pipeline leak
4. Contaminated soils at Padre Pump Station
5. Potable water pipeline replacement

Additional Off-Shore Intake Pipeline Work

The August 2, 2016, Council Agenda Report included increased costs for replacing an intake pipeline fitting in the ocean. Since that time, two fittings connecting the intake structure to the pump were found to have damaged flanges, requiring the fabrication of custom connection pieces and related parts. These additional costs include the materials and extra time required by the marine contractor to install custom flanges and related parts. In addition, between the August off-shore work and the current marine work, the tidal influence in the area of the intake caused scouring around the Intake B pump box so that the box is no longer resting on the ocean floor. This has caused the box to differentially settle and therefore, any equipment set inside is no longer level. Level equipment is important for the reliability of the off-shore pump's operation. The box will be shored to prevent further settlement and the equipment will be re-leveled. The additional time for the barge and additional crew to complete all extra marine work is substantial and has been estimated to last through mid-January 2017. This includes employing more divers to work extended days and Saturdays. The additional days include standby time in case of inclement weather, which would be paid on a time-and-materials basis.

Unusable Off-Shore Pump Conduit

Three conduits carry the power and communication wires to the pumps in the ocean. These conduits were to be reused, while the wires inside the conduit were to be replaced. One wire could not be removed without damaging the conduit, requiring installation of a new 1,500-foot long conduit. After installing the new conduit and transition piece, one of the other conduits could not be pulled in far enough to connect to the transition piece. Rather than damage the conduit, all three conduits will be removed out and reinstalled. This also requires substantial additional work and time in the ocean.

On-Shore Intake Pipeline Leak

During the installation of the new transition fitting in the beach area, the contractor found water inside the intake pipe. The contractor had to rent tanks to collect and haul away the water. The intake pipeline valve was the likely cause of the water. The valve was repaired and since then, the pipe has had no further water intrusion. With the valve repaired, that portion of the intake line will be retested for any additional leaks in the pipeline. The type of repair and the impact to the schedule is unknown at this time. A cost estimate has been added to the ocean work line item for this effort.

Contaminated Soils At Padre Pump Station

Converting the Padre Well site to a pump station was one of the items to be addressed later in the project. During trenching for the Southern California Edison service connection, soils contaminated with petroleum products were found. Sampling was completed and a soils management plan was prepared. The soils will need to be hauled away and replaced with clean fill dirt, as with other contaminated soil areas. This has increased the amount of funding needed for soils handling beyond that requested in the previous authorization.

Potable Water Pipeline Replacement

During testing, the buried 350-foot long potable water line that connects the Desal Facility to the water distribution system was found to be leaking. Out of prudence, it was decided to replace the entire pipeline, rather than attempt to locate and repair the leak(s) and risk further pipeline failures.

Means And Methods Of Expedited Schedule To Address Unforeseen Conditions

Based on current water supplies, the City is working with the contractor to expedite completion in order to supply desalinated water sooner than currently scheduled. Filter media preparation is being completed with potable water rather than sea water, requiring the installation of a temporary connection to convey potable water to the filters. Several other pieces of equipment are being tested with potable water in advance of sea water availability at the Desal Facility. While it is possible to check operations without running sea water through the Desal Facility, sea water will be necessary to fine-tune the system. This will require an additional mobilization by the equipment vendors and extra time from IDE.

Schedule Extension And Extended Overhead

Because the contractor will finish the contract work prior to completing change order work, the contractor will need to be compensated for extended overhead. Staff is negotiating with IDE an amount of extended overhead for project delays through project completion. At this time, staff seeks sufficient funding to negotiate all claims.

The table below summarizes the proposed cost increases for IDE in this report to date:

Item	Description	Costs
Contaminated soils	Padre pump station	\$ 200,000
Ocean work: on-shore and off-shore	Additional conduit, intake line work, and beach work	\$5,100,000
Product water line	Replacement including contaminated soils	\$ 650,000
Acceleration	Temporary connections, rework, labor	\$ 125,000
Claims Resolution		\$3,500,000

Contingency		
TOTAL		\$9,575,000

In addition to the IDE contract increase, staff is recommending a \$200,000 increase in the contract with Carollo, who is providing owner-support services for the City on the project. Carollo's extra services include inspections, schedule analysis, and administrative duties. Staff also recommends increasing the contract with Patrick Tumamait by \$25,000 for the required cultural monitoring related to new product line construction. Cultural monitoring is a State Revolving Fund Loan condition. Additional funds of \$150,000 are also recommended for Public Works Engineering staff time for administrative duties, bringing the total increase in appropriations to \$9,950,000. The recommended amount is sufficient to cover staff time through completion, and for closing out the project.

BUDGET/FINANCIAL INFORMATION:

Funding

The following summarizes the approved and recommended additional project expenditures:

CONSTRUCTION CONTRACT FUNDING SUMMARY

	Base Contract	Previous Change Orders	Proposed Change Order	Claims Resolution Contingency	Total
IDE	\$43,437,234	\$7,914,420	\$6,075,000	\$3,500,000	\$60,926,654
Carollo	\$2,032,622	\$391,160	\$200,000		\$2,623,782
Tumamait	\$34,900	\$35,100	\$25,000		\$95,000
Staff	\$255,739	\$75,000	\$150,000		\$480,739

Once negotiations with the Montecito Water District have concluded and/or staff has determined the need for plant expansion, staff will work with the State Water Resources Control Board to increase the State Revolving Fund Loan to cover these additional costs. Initial discussions about increasing the amount of the SRF Loan have been favorable. If the SRF Loan cannot be increased, there are sufficient reserve funds in the Water Fund to cover the increased costs. However, reserves will be well below policy levels and alternative financings will have to be considered.

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SUBMITTED BY: Rebecca J. Bjork, Public Works Director

APPROVED BY: City Administrator's Office