AGENDA DATE: January 29, 2019

TO: Mayor and Councilmembers

FROM: Engineering Division, Public Works Department

SUBJECT: Contract For Consulting Services Of Water Distribution Infrastructure Plan

RECOMMENDATION:

That Council authorize the Public Works Director to execute a City Professional Services contract with Carollo Engineers, Inc., in the amount of $490,958 for consulting services of the Water Distribution Infrastructure Plan, and authorize the Public Works Director to approve expenditures of up to $50,000 for extra services of Carollo Engineers, Inc., that may result from necessary changes in the scope of work.

DISCUSSION:

Background

The City’s water system began with the establishment of the Mission and has been growing and evolving to meet the City’s needs ever since. The City has 18 pump stations and 17 reservoirs in service. The oldest, Reservoir 1, was constructed in 1897, and the newest two, Hover and McLaughlin, were constructed in 2005. There are many other assets that help deliver water to the citizens of Santa Barbara. This Infrastructure Planning Project (Project) takes a fresh look at the entire distribution system through the lens of current water storage and distribution standards, with the goals of increasing reliability, increasing water distribution efficiency, and reducing vulnerabilities.

Project Description

The Project will start with updating and calibrating the City’s Water Model using current demand patterns based on 2018 data. The City’s water model was last calibrated in 2013. The updated model will also take into account planned work for support of the desalination plant and its potential expansion. The updated water model will be the basis of evaluation for: storage requirements; distribution and transmission system resiliency; and summer, winter, and emergency water delivery strategies. Technical memos from this Project will make reservoir sizing and operational recommendations to reduce water age, which will help improve water quality. The final report will summarize operational changes and capital projects along with budgetary estimates for the capital work.
Consultant Engineering Services

Staff recommends that Council authorize the Public Works Director to execute a contract with Carollo Engineers Inc. (Carollo), in the amount of $490,958 for water system evaluation and $50,000 for potential extra services, for a total amount of $540,958. Carollo is experienced in this type of work and was selected as part of a Request For Proposals process that was sent out to eight consulting firms. The City received three proposals, and Carollo was selected based on its understanding of the City’s needs and the City’s distribution system.

Funding

The following summarizes all estimated total Project costs:

<table>
<thead>
<tr>
<th>ESTIMATED TOTAL PROJECT COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water System Evaluation (by Contract)</td>
</tr>
<tr>
<td>Other Design Costs - City staff</td>
</tr>
<tr>
<td><strong>TOTAL PROJECT COST</strong></td>
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</table>

There are sufficient appropriated funds in the Water Resources Fund to cover these costs. The total Project cost estimate is $600,089.

The Water Commission reviewed this item at its regular meeting on January 17, 2019 and voted X-X-X in support of staff’s recommendation.

**SUSTAINABILITY IMPACT:**

The purpose of this study is make recommendations to improve the operations of the water distribution system. There are no direct impacts on sustainability, but it is likely the recommendations of the study will result in lower operating costs.

A copy of the contract is available for public review at the City Clerk’s Office.

**PREPARED BY:** Linda Sumansky, Principal Civil Engineer/CW/kts

**SUBMITTED BY:** Rebecca J. Bjork, Public Works Director

**APPROVED BY:** City Administrator’s Office
WATER DISTRIBUTION INFRASTRUCTURE PLAN
WATER COMMISSION

January 17, 2019
Purpose

• Address Aging Infrastructure
• Study Current and Future Demands
• Continue to Improve Water Quality
• Identify Potable Water Storage Requirements
• Prioritize Capital Improvement Needs for Planning
• Improve Operational Strategies
Background
1921

- 14 Square Miles
- 50 Miles of Pipe
- 4 Reservoirs
- 3 Pressure Zones
- 1 Treatment Plant
- 0 Retail Meters
- 0 Pump Stations
- 0 Municipal Wells
- 0 Sample Stations
2018

- 22 Square Miles
- 300 Miles of Pipe
- 14 Reservoirs
- 17 Pressure Zones
- 3 Treatment Plants
- 27,000 Meters
- 13 Pump Stations
- 8 Municipal Wells
- 41 Sample Stations
1921
~ 339 Hydrants
2018
~ 2509 Hydrants
Major Infrastructure and Supply Changes

• Over the years – Drilled municipal groundwater wells
• 1964 – Moved water treatment operations from the Sheffield Filtration Building to the Cater WTP
• 2010 – Renovated the Ortega Groundwater Treatment Plant
• 2018 – Recommissioned the Charles E. Meyer Desalination Plant
Changes in State Water Quality Requirements

• 1974 – Safe Drinking Water Act
  - Required adding chlorine in the distribution system to maintain residuals

• 2006 – Disinfection By-product Rule
  - Reduced water holding times at reservoirs
  - Added Pre-treatment at Cater (Carbon, Ozone)
  - Installed aeration and mixing systems at three reservoirs
  - Increased sampling throughout the system
**Water Distribution Infrastructure Plan**

- Survey distribution assets elevations
- Calibrate existing hydraulic model
- Model system demand patterns
- Recommendations:
  - Identify water storage needs
  - Modify system operations
  - Improve water system resiliency
  - Prioritize Capital Improvement Projects (CIP)
Contract Overview:

- Competitive Selection Process: RFP $540,958
- Consultants: Carollo Engineers and MNS Engineers
- Plan is to be complete by Sept 2019
  - Recommendations to be incorporated into the next Water Rate Study
- Will return to Water Commission with the Findings
Questions?