AGENDA DATE: December 17, 2019

TO: Mayor and Councilmembers

FROM: Engineering Division, Public Works Department

SUBJECT: Contract For Design Of El Estero Water Resource Center Electrical Distribution Renewal Project

RECOMMENDATION: That Council:

A. Authorize the Public Works Director to execute a City Professional Services contract with Brown and Caldwell in the amount of $1,300,000 for design services of the El Estero Water Resource Center Electrical Distribution Renewal Project, and authorize the Public Works Director to approve expenditures of up to $130,000 for extra services of Brown and Caldwell that may result from necessary changes in the scope of work;

B. Approve an increase in appropriations in the Wastewater Operating Fund in the amount of $1,530,000, funded from Wastewater Operating Fund reserves, and authorize the transfer of such funds to the Wastewater Capital Fund; and

C. Approve an increase in appropriations and estimated revenues in the Wastewater Capital Fund in the amount of $1,530,000, funded by a transfer from the Wastewater Operating Fund, to fund design costs for the El Estero Water Resource Center Electrical Distribution Renewal Project.

DISCUSSION:

Background

The El Estero Water Resource Center (El Estero) provides wastewater treatment for the City of Santa Barbara and some adjacent unincorporated areas, serving a population of approximately 95,000. It was initially constructed in 1952; however, the majority of El Estero’s current infrastructure was constructed in 1978.

Over the past several years, planned capital improvements have been implemented, including improvements to the headworks, influent pumps, tertiary treatment, and secondary process. These improvements have helped keep this facility in a reliable operational state, but significant improvements are still needed to replace aging equipment and modernize processes. On September 20, 2016, Council authorized a
contract with Brown and Caldwell (BC) to develop the El Estero Facility Plan, which produced a prioritized list of projects to implement over the next 25 years to maintain the operational performance of the facility. The replacement of the electrical power and distribution system was identified as the top priority. This was based on overall risk factors, which include safety, risk of failure, and consequence of failure.

On August 7, 2018, Council authorized a contract with BC to develop a preliminary design for the Electrical Distribution Renewal Project (Project). BC has produced a conceptual plan, in collaboration with City staff, that will meet the Project intent of installing a new waste gas flare, replacing and upgrading the electrical distribution system, ensuring storm water compliance, and establishing a plan to improve staffing, storage, and public outreach needs at this facility. This conceptual plan will be used as the basis of design for Project implementation.

Project Description

The work consists designing and producing the plans and specifications necessary to replace aging electrical equipment and distribution wiring, eliminate single points of failure within the system, upgrade the fiber optics system, and provide a backup control system server room.

Design Phase Consultant Engineering Services

Staff recommends that Council authorize the Public Works Director to execute a contract with BC in the amount of $1,300,000 for design, with $130,000 for potential extra services, for a total amount of $1,430,000. BC is experienced in this type of work and was selected through a Request For Proposal process that included direct requests to eight qualified firms, from which three proposals were received. Staff interviewed two firms, and BC was selected to perform the preliminary design work with the option to continue this effort through final design. BC has performed well in the preliminary design effort, and staff recommends awarding BC the design phase of this work.

Funding

The following summarizes all estimated total Project costs:

<table>
<thead>
<tr>
<th>ESTIMATED TOTAL PROJECT COST</th>
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<tbody>
<tr>
<td><strong>Design (by Contract)</strong></td>
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<tr>
<td><strong>Other Design Costs - City staff</strong></td>
</tr>
<tr>
<td><strong>Preliminary Design (by Contract)</strong></td>
</tr>
<tr>
<td><strong>Other Design Costs – City staff</strong></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
</tr>
</tbody>
</table>
Estimated Construction Contract w/Change Order Allowance  $24,100,000
Estimated Construction Management/Inspection (by Contract or City)  $2,250,000
Estimated Other Construction Costs (testing, etc.)  $500,000

Subtotal  $26,850,000.00

TOTAL PROJECT COST  $29,952,860.00

As part of the recent wastewater rates adoption on June 11, 2019, Council adopted a 10-year financial plan for the wastewater system. The financial plan contemplates a two-year period during which capital project reserves are used to fund the Project while staff works to secure financing. In this period of time, the Wastewater Fund’s use of reserves will not exceed Council Policy Capital Project Reserves, approximately $4.5 million, but will be needed to fund the recommendations in this report and ensure that the Project is competitive for the Clean Water State Revolving Fund Program (CWSRF) funding. This is the preferred financing instrument due to the low-interest rates offered by the CWSRF. Once financing is secured, either through the CWSRF or issuance of a municipal debt obligation, all Project costs up to that point will be reimbursed to the Wastewater Fund, which will restore capital project reserves to Council Policy levels. The Project costs will then be amortized and paid over the term of a financing agreement.

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

SUSTAINABILITY IMPACT:

El Estero is one of the City’s largest electricity users, and the on-site cogeneration system currently provides 70 percent of its electricity. The electrical infrastructure limits the total amount of cogeneration, along with any other potential renewable energy projects on this site. This infrastructure upgrade would allow for the development of solar, battery, and additional cogeneration at this site, helping meet the City’s 100 percent renewable electricity goal.

ENVIRONMENTAL REVIEW:

This Project requires California Environmental Quality Act compliance along with a Coastal Development review. Applications have been submitted based on the currently developed conceptual plans.

WATER COMMISSION RECOMMENDATION:

This item was presented to the Water Commission at its meeting on November 21, 2019, and the Commission voted X-X in support of staff’s recommendation.

PREPARED BY: Linda Sumansky, Principal Engineer/PM/kts
SUBMITTED BY: Rebecca J. Bjork, Public Works Director

APPROVED BY: City Administrator's Office
Presentation Topics

1. Design Phase
2. Project Overview
3. Background
4. Description, Timeline, and Estimated Cost
5. Recommendation
Final Design Phase

- Brown and Caldwell
- Competitive selection
- Performed well in preliminary design
Project Overview

1. Preliminary Design Complete
2. Administrative Planning Approach Pending
3. Move to Final Design
**Background - Electrical Distribution System**

- Replace Distribution System
- Analyze current and future requirements
- 3 TMs
  - Load Analysis
  - Power Distribution System Analysis
  - Submetering Analysis
- Supporting TMs
Background – Technical Memo 1

- EEWRC Load Analysis
- Analyze current and future electrical needs
- Sufficient power available to meet needs
- Equipment past useful life
- Critical single points of failure
Background –
Technical Memo 2

• Power Distribution System Alternatives Analysis
• Several routing alternatives were evaluated
• Also assessed backup generation, power factor, UPS, arc flash, and fiber optic routing
Background – Technical Memo 3

- Submetering Analysis
- Evaluate equipment power monitoring and sub-metering needs
- Recommendation to monitor Recycle DPS, UF facility, IPS, Blowers, Cogen, and backup generation
Background - Waste Gas Flare

- TM – Gas Production & Flare Evaluation
- Production estimate
- Evaluate flare technologies
- Evaluate permit requirements
- Recommendations
Background - Cogeneration Analysis

- TM – Cogeneration Cost/Benefit Analysis
- Evaluated several alternatives
- Not cost effective at this time
- Continue with current system and plan for future needs
Background – Stormwater Compliance

- TM – Regulatory Approach & SW Improvements
- Reviewed all SW requirements at this facility
- Recommended appropriate BMPs to meet permit requirements
Background - Administration Planning

• TM - Space Planning
• Consolidation/Storage Plan
• Coordinated for conceptual Design
• Project to be programmed at a later date
Description, Timeline, and Estimated Cost

- Replace the electrical distribution system
- Provided redundant power and distribution feeds
- Allow for increased cogen power production
- Allow for other future power sources
Project Timeline

- November 2019: Preliminary Design
- February 2020: Admin Pre-Design
- July 2020: Permitting
- June 2021: Final Design
- July 2025: Construction

Timeline:
- 2019: Preliminary Design
- 2020: Admin Pre-Design, Permitting
- 2021: Final Design
- 2022, 2023, 2024: Construction
- 2025: Completion
Final Design Timeline

- Detailed Design Field Investigation
- Notice to Proceed: 1/6/20
- 60% Design Submittal: 8/12/20
- 90% Design Submittal: 1/29/21
- 100% Design Submittal: 4/23/21
- Ready to Bid: 6/25/21
# Estimated Project Cost - Design

<table>
<thead>
<tr>
<th>Element</th>
<th>Budgetary Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Final Design</td>
<td>$1,665,787</td>
</tr>
<tr>
<td>City Staff Costs</td>
<td>$100,000</td>
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<tr>
<td>Preliminary Design</td>
<td>$1,517,946</td>
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<tr>
<td>City Staff Costs</td>
<td>$54,914</td>
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<tr>
<td><strong>Subtotal (Design Cost)</strong></td>
<td><strong>$3,338,647</strong></td>
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## Estimated Project Cost - Total

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<td><strong>Subtotal</strong></td>
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<tr>
<td>Total Project Cost</td>
<td><strong>$30,188,647</strong></td>
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</table>
Project Financing & Interim Funding

- Two financing options
  - Clean Water State Revolving Fund loan (lowest cost to rate payers)
  - Municipal Bonds
- Interim use of Capital Project Reserve
  - Complete final design and increase CWSRF application score
  - Reimbursement of reserves upon execution of financing agreement - CWSRF or bonds
Recommendation

Support Staff’s Recommendation to Council

• Authorize a Professional Services Contract with Brown and Caldwell for Design Services for the EEWRC Electrical Distribution Renewal Project

• Authorize a transfer from the Wastewater Capital Reserves to support these design services
Summary

EEWRC Electrical Distribution Renewal Project

- Move to Design Phase
- Priority project, addressing critical system with increasing risk
- Reasonable timeline
- Costs captured by CWSRF Loan
Thank you!

Any Questions?