POST PROJECT EVALUATION
FOR A
CM/GC PROJECT

Project Name: **Geren Island Water Treatment Facility Filter No. 2 Reconstruction Project**
Exemption Approval: Council Meeting, May 24, 2021
Contractor: Slayden Constructors Inc. (SCI)

PROJECT DESCRIPTION

The project constructed improvements to the existing Geren Island Water Treatment Facility. Improvements included demolishing existing Roughing Filter No. 2, constructing a new Finish Filter No. 2 that is similar to existing Filters No. 1, 3, and 4, connecting to existing underground infrastructure to integrate Filter No. 2 into facility operations; and integrating operational control systems into the existing platform.

INTRODUCTION AND BACKGROUND

The Geren Island Water Treatment Facility located near Stayton, Oregon, has been providing the City of Salem (City) with a clean, safe, and reliable potable water supply since 1937. Salem provides drinking water to more than 195,000 residents in the cities of Salem and Turner, and portions of unincorporated Marion and Polk counties. Salem also provides backup/emergency water supplies to another 45,000 residents in the cities of Keizer and Stayton.

In 2018, raw water quality changes in the North Santiam Watershed created challenges in the drinking water treatment process. Those water quality challenges have been addressed by the reconstruction of Filter No. 2 and a separate project to construct an ozone treatment facility and expand groundwater collection capacity.

Due to the complexities of the project and the relatively short timeline to deliver, City staff recommended delivering the project using a form of alternative contracting known as Construction Manager / General Contractor (CM/GC). The CM/GC method allows for contractor involvement at the beginning of the design phase to develop the most cost-effective solution that can be delivered in a shorter overall construction duration, compared to traditional design-bid-build contracting methods.

On May 24, 2021, City Council acting in its capacity as the local contact review board, approved staff's recommendation by adopting findings in support of an exemption from the typical competitive bidding process and authorized the use of a CM/GC contracting method for design and construction of this project.

Oregon Revised Statute (ORS) 279C.355 and Public Contracting Rules (PCR) 9.7 require a final evaluation of the public improvement project upon its completion. The evaluation must include the following:

1. Financial information consisting of cost estimates, the Guaranteed Maximum Price (GMP), contract changes, and the actual cost.
2. A narrative description of successes and failures during the design, engineering, and construction of the project.
3. An objective assessment of the use of the alternative contacting process as compared to the findings required by ORS 279C.355.

FINANCIAL INFORMATION

The original project budget was funded with a $20 million bond from the State of Oregon through a funding agreement approved by City Council on March 8, 2021. Additional funding was allocated from Water Utility Rates (Water-Rates) and Water System Development Charges (Water-SDC). These additional funds included $5,250.000 from Water-Rates and $2,900,000 from Water-SDC. The total project budget was $30,477,760.

Fund Source	Amount	Percent
State of Oregon	$20,000,000	65.6%
Water-Rates	$8.397,760	27.6%
Water-SDC	$2,080,000	6.8%
Total	**$30,477,760**	**100%**

In November 2021, the City awarded the CM/GC contract to Slayden Constructors Inc. (SCI). The original CM/GC Guaranteed Maximum Price (GMP) was $26,533,445, including the pre-construction services phase of the Project. The City initiated three early work amendments throughout the project establishing pricing for materials and labor prior to establishment the GMP. The early work amendments were possible due to good fiscal management and close coordination between SCI, the project designer Carollo Engineers (Carollo), and the City throughout design and construction. The early work amendments were approved at key points in the contract to maximize efficiency of the work. Upon completion, final GMP reconciliation resulted in a reduction of $2,250,688 for a reconciled GMP amount of $24,282,757. Other project costs not included in the GMP make up the difference between the total budget (less savings) and the GMP. Those costs include items such as project management, consultant engineering, inspection, testing, archeology, and permit fees.

PROJECT SUCCESSES AND FAILURES

The Geren Island Water Treatment Plant Filter No. 2 Reconstruction Project was a success. The final project met the objectives of the State of Oregon funding agreement

and provided improvements that enhanced water treatment capabilities at the facility. Some specific examples of benefit added to the project by the CM/GC method are as follows:

- Early contractor/designer/City collaboration to consider design elements and weigh costs against the criticality of the improvement. This allowed the project team to work together to optimize project design and construction means and methods, saving both time and cost through the schedule and improved constructability. The project team worked together to create accurate and concise cost estimates early and throughout the project duration. This allowed the project team to complete multiple value engineering efforts and ensure the project was delivered with the best value. Through this collaboration the project was delivered ahead of schedule and under budget.

- Open and transparent financial management between the contractor, designer and City allowed the project team to identify cost savings within the contingency funds included in the GMP. This allowed incorporation of additional improvements necessary to maintain and operate the facility. Examples include replacing the Geren Island Bridge deck and additional entry road paving.

- Open communication within the project team allowed for the continued operation of an active water treatment facility during the project. This allowed the contractor and City to work in coordination, minimizing construction impacts on the City's operation to provide clean, safe, and reliable drinking water. One example included widening the south access road, which allowed the north access road to be closed during construction. Original construction sequencing required both access roads to be closed intermittently throughout the duration of the construction. By widening the south access road, City staff had a continuous access road to perform operations and the contractor was able to accelerate construction.

- Continuous collaborative communication within the Project team allowed for innovative construction techniques and phasing. One example included using a telebelt to move and place the filter media and sand. This technique allowed for quicker and more efficient material placement, reducing the labor initially scoped. The City also purchased additional sand to provide additional filter longevity.

- Other than City-initiated early work amendments leading to the final GMP, there were no change orders on the project. Communication within the CM/GC team between the contractor, designer, and City during design and construction allowed for issues to be resolved early and within the contractor's and owner's contingency. This allowed for $2,250,688 to be returned to the City from the project GMP.

OBJECTIVE ASSESSMENT OF ALTERNATIVE CONTRACTING PROCESS

ORS 279C.355 requires contracting agencies to submit evaluations for public contracts that have been exempted from the typical competitive bidding process. In May 2021, Council adopted findings in support of an exemption from the typical competitive bidding process and authorized the use of CM/GC contracting for construction of the Geren Island Water Treatment Plant Facility No. 2 Reconstruction Project.

Alternate contracting processes provide agencies with another tool to respond to the challenging demands of delivering complex projects. In particular, the CM/GC contracting method can provide for overall project cost and time savings. The following is provided to meet the requirements of the ORS.

One of the key distinctions of the CM/GC method is the early involvement of the contractor on the project; this allows for collaboration and relationships to be built among the project team which directly leads to cost and time savings on the project. An essential part of each construction project is the value engineering evaluation. Value engineering is the means used to determine the best project design that meets the needs and priorities of the City, within the City's budget. Value engineering is done most effectively by a team consisting of the City, consultant, and the contractor. When the contractor participates, the team can render the most comprehensive evaluation of all factors that affect the cost, quality, and schedule of the project. The CM/GC method has the benefit of the ability to set the schedule; the ability to sequence work; and commitment from the contractor to implement the design within the schedule and budget. Through integrated participation, a project's scope and design evolve to bring greater value for the City in a way that is very difficult to achieve by the design-bid-build method.

Additionally, contracts with CM/GC are designed to create a better working relationship with the contractor. Consequently, contractors indicate that overhead and profit fees are slightly lower than what would be anticipated on similar design-bid-build contracts.

This method also results in fewer change orders during construction. As a result, the project is more likely to be completed on time and within budget. Fewer change orders reduce the administrative costs of project management for both the City and the contractor.

In summary, the CM/GC contracting method provided for the successful delivery of the required improvements and is an effective and efficient tool for public agencies to deliver projects. The Geren Island Water Treatment Facility Filter No. 2 Reconstruction project was able to realize the benefits of cost control, better information for decision making, improved teamwork, and less risk for contract disputes. The Construction Manager / General Contractor delivery method proved to be a complete success for this project.