



City of Homer

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Public Works

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Memorandum 21-138

TO: Rob Dumouchel, City Manager
FROM: Janette Keiser, Director of Public Works
DATE: July 27, 2021
SUBJECT: Term Contract to Bristol Engineering, LLC

Issue: The City's 15 year old Water Model needs updating. The Water Model was developed by Bristol Engineering LLC (Bristol), with whom we do not currently have a Term Contract for engineering services. The purpose of this Memorandum is to request approval to (1) issue a contract and (2) assign Task Order #1 to update the Water Model.

Background:

In 2006, as part of the Homer Water & Sewer Master Plan, Homer commissioned Bristol to develop a computer program that modeled the City's water distribution system. The purpose of this model was to compute how water pressure in the City's network of pipelines varied across the City. The City uses this model to demonstrate to the AK Department of Environmental Conservation (ADEC) that the City is providing no less than the minimum required water pressure throughout its system, as the system expanded overtime with new water main extensions.

For example, in order to receive ADEC approval to construct the City's Alder Lane Water Project, we needed to demonstrate that the water main extension serving Alder Lane would not adversely affect our ability to provide the minimum water pressures throughout the system. We used the Water Model to do this and accordingly, the ADEC issued a Certificate of Approval to Construct the Alder Lane Water Project. Without this certificate, we would not have able to build or operate the new water main.

There have been numerous water main extensions, hydrant installations and other appurtenances added to Homer's water system since 2006. But, the Water Model has never been updated, which has recently become problematic. For example, Bishop Engineering submitted a set of plans for a water main extension for a private development to the ADEC for approval. The ADEC asked for documentation that the minimum water pressures could be provided. We ran the Water Model and the results fell short of the minimum requirements. The ADEC refused to grant the developer a Certificate of Approval to Construct. The City's Water/Sewer Crew were able to get a passing grade by running hydrant tests and providing real-time flow data as numerical input to the Water Model. We had to do the same thing to get a passing grade for the Tasmania Court Water Main Extension Project. It is apparent that as Homer's water system expands, we are going to be increasingly challenged unless we update the Water Model by calibrating it to actual field conditions.

Bristol developed the original model and is in the best position to help with this recalibration. We asked them to submit a proposal for the work. (See attached proposal.) They will be collaborating with our Water/Sewer Crew, who will use the City's fire hydrants to manipulate flows throughout the system, while Bristol collects pressure data. Bristol's projected level of effort to perform their part of the work ranges between \$5,862 and \$9,960, depending on how much field testing is required to achieve reliable results.

Each project assigned under a Term Contract has a separate account number/project number associated for engineering/design or other project support. Issuing a Term Contract to Bristol allows us to assign Task Order #1, which will be to update the Water Model. The current round of Term Contracts will expire in 2022.

Funds are available in the Water CARMA, Fund 256-0378, to cover the anticipated expense.

Current Balance		\$2,434,942
Less:		
Encumbrances	\$ 692,138	
Authorized Projects	\$ 478,783	
Available Balance		\$1,264,021

Recommendation:

City Council pass a resolution awarding a Term Contract to Bristol Engineering, LLC and authorizing the City Manager to negotiate and execute the appropriate documents.