



AGENCY: City Council
MEETING DATE: June 10, 2024
DEPARTMENT: Public Works
PRESENTED BY: John Smith
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AGENDA ITEM SUMMARY

TITLE:

Receive Report and Consider Adoption of City Council Resolution Approving Purchase Agreement with Oneka Technologies, Inc. for the Installation and Maintenance of a Wave Powered Desalination Pilot Project City Project No. WTR-00025, and Authorizing City Manager to Execute Agreement (Amount Not To Exceed \$1,490,000)

BACKGROUND:

The City of Fort Bragg (City) relies on three surface water sources, the Noyo River, Waterfall Gulch, and Newman Gulch, to provide safe, reliable water to residents year-round. During the winter months flows are high and water is abundant. In the summer and fall, flows are reduced, and during periods of drought, low flow conditions and the occurrence of high tides greatly reduces the City's ability to provide an adequate supply. As the water levels in the Noyo River drop and the high tide levels rise, increased salinity levels in the Noyo River impact the City's ability to pump from this water source. City water usage typically peaks July through September. Over the past ten years of reduced rainfall, our spring fed sources have steadily declined. Both Newman Gulch and Waterfall Gulch have decrease in flow. Preparation for these cyclical weather patterns is essential for the safety of our customers and economic resilience.

ANALYSIS:

The City's water supply system relies solely on three surface water sources: Waterfall Gulch (tributary to Hare Creek), Newman Gulch (tributary to Noyo River), and the Noyo River (diversion at Madsen Hole). In 2015, the City's water supply system could only store small amounts of water that provided enough to maintain proper water system pressure and to provide a safety margin for fire-fighting flows. Six years later, the City made progress with water storage with the addition of a 1.5 million gallon finished water storage tank and the Summers Lane Reservoir with a raw water capacity of 14.7 million gallons. This brought our total water storage capacity to 22.6 million gallons, which is approximately 30 days of storage with average daily use, including water loss during production of 750k gallons.

During the winter and spring, pumping of the Noyo River is used only to supplement the Waterfall Gulch and Newman Gulch sources. The two tributary sources generally provide a higher quality of raw water and gravity-feed to the water treatment plant, whereas water from the City's Noyo River diversion must be pumped. As summer progresses and the flows in the tributary streams diminish, the Noyo River diversion is used more frequently and in greater quantities. In July, Waterfall Gulch and Newman Gulch provide approximately 40% of the City's water needs and 60% of summer water supply comes from the Noyo River. As the water levels in the Noyo River drop and the high tide levels rise, increased salinity levels in the Noyo River impact the City's ability to pump from this water source.

During the last drought, the worst water drought on record for the City of Fort Bragg, the City began an in depth review of water source options throughout the City and neighboring County. This included additional surface water sources, over 1000 wells, storage options, rain capture, and solar water supply etc. The City has been focused on improving our water position for the past ten years. We have made great progress in identifying potential water sources to increase water supply with minimal impact to the waters of the state. Most recently, the City has added these future options include:

- Brackish desalination (existing)
- Recycled water
- Three reservoirs - 135 Acre Feet
- Desalination Buoy - (Oneka)
- Ranney system - Noyo River subsurface
- Water Meter replacement - Water savings
- Water Distribution System Master Plan

The most plentiful option is our Pacific Ocean. Oneka has found a way to extract a product from the water with very little impact to the ecosystem and doing so without greenhouse gas emissions.

RECOMMENDED ACTION:

Public works staff recommend adopting the resolution awarding the contract.

ALTERNATIVE ACTION(S):

Cancel project.

FISCAL IMPACT:

The source of funding for the construction of the project is the California Department of Water Resources. The City was awarded \$1,490,000 in grant funds for execution of this project. This contract will be funded by the grant.

CONSISTENCY:

Water security

IMPLEMENTATION/TIMEFRAMES:

Installation

ATTACHMENTS:

1. Resolution
2. Staff Report
3. Purchase Agreement