

June 4, 2018

CITY COUNCIL AGENDA MEMORANDUM

SUBJECT

Resolution authorizing execution of a professional service agreement with OptiRTC, Inc. in the amount of \$110,250, plus all applicable taxes, for the Automation of Stormwater Detention Ponds Using Smart Technology.

FISCAL IMPACT

This contract obligates the City to an amount up to \$110,250, plus all applicable taxes. This work is included in the 2017-2023 Utility CIP Plan. Sufficient budget exists within the Minor (Small) Storm Capital Improvement Projects budget (CIP Plan No. D-59), to fully fund this contract.

STAFF CONTACTS

Nav Otal, Director, 452-2041

Andrew Lee, Deputy Director, 452-4675

Utilities Department

POLICY CONSIDERATION

Utilities Department policies:

- The Storm and Surface Water System Plan, approved by the City Council under Resolution No. 9021 (December 2015), includes Strategic Initiative 3: Improve Water Quality. This initiative includes applying selective retrofit best management practices in areas lacking water quality treatment.

City policies:

- In June 2017, the Bellevue City Council was briefed on Bellevue Smart: Planning for a Smarter City, a cross-disciplinary strategy to integrate technology, data analytics, and innovation into delivery of City services. The Smart Cities strategy includes implementation of a pilot project involving the City's stormwater system. The 2017-2018 City Council budget priorities included Smart Cities project implementation under the High Quality Built and Natural Environment Strategic Target Area.

City contracting policies:

- Bellevue City Code section 4.28.030: The City's procurement policy supports open, fair, and transparent procurement of services in accordance with the City Code and state law. Because of the amount of this contract, Council approval is required.
- Since this is a single-source procurement, per the City's procurement policies, a Notice of Intent (NOI) to contract without a competitive process was published in the Seattle Times and the Daily Journal of Commerce on April 3 and April 10. The NOI closed on April 17 with no objections to this decision.

BACKGROUND

The City owns eight regional stormwater detention ponds that currently provide little or no intentional water quality treatment. These regional ponds were installed in the early 1980s primarily for flood control purposes. Two of these regional ponds (164 North & South) are located at, and just downstream of, the confluence of West Tributary and Goff Creeks. The absence of water quality treatment at these ponds has the effect of allowing peak flow surges and contaminants in stormwater runoff to negatively impact the aquatic environment in the City's creeks through channel incision, bank instability, habitat loss, pollutant transport, and stream bed disruption.

In recent years, the water industry has seen the introduction of new smart technologies that leverage the Internet of Things (IoT) to modify and optimize the operation of stormwater ponds such that they provide some water quality treatment as well as flow attenuation during smaller storm events. These smart technologies provide automated operation of infrastructure through a computerized intelligent network of electronic and mechanical devices designed to monitor and control a facility. Specifically, for this project, smart controls are proposed to convert the two existing regional detention ponds, that currently primarily provide flood control, to multiuse facilities that provide flood control, flow attenuation for smaller events, and water quality treatment.

OptiRTC has developed a continuous monitoring and adaptive control (CMAC) system that manages the outflow from ponds based on weather forecasts and pond water levels. This project will involve retrofitting existing hardware and installing specialized software in the ponds. The CMAC system will consist of the following components:

- ▶ Controller to operate existing gate motors and associated electrical connections.
- ▶ Water level sensor to "inform" controller of pond depth.
- ▶ Connection to vendor's cloud network that includes monitoring of local weather forecasts.

The system will be monitored via PC-based dashboard with manual overrides, as needed. This system will allow stormwater runoff from smaller storms to be stored longer at the regional ponds, instead of passing through the facility. The longer storage times in these regional ponds will provide a degree of water quality treatment by settling out and facilitating the biodegradation of pollutants and will simultaneously attenuate the peak flow surges observed during rainfall events. This will have the beneficial effect of improving the water quality and overall health of Bellevue's creeks.

EFFECTIVE DATE

If approved, this Resolution becomes effective immediately upon Council adoption.

OPTIONS

1. Adopt the Resolution authorizing execution of a professional service agreement with OptiRTC, Inc. in the amount of \$110,250, plus all applicable taxes, for the Automation of Stormwater Detention Ponds Using Smart Technology.
2. Do not adopt the Resolution and provide alternative direction to staff.

RECOMMENDATION

Option 1

MOTION

Move to adopt Resolution No. 9417 authorizing execution of a professional service agreement with OptiRTC, Inc. in the amount of \$110,250, plus all applicable taxes, for the Automation of Stormwater Detention Ponds Using Smart Technology.

ATTACHMENTS

A. CIP Project Description
Proposed Resolution No. 9417

AVAILABLE IN COUNCIL DOCUMENT LIBRARY

Professional Services Contract