

NO: **R038**

COUNCIL DATE: **March 9, 2020**

**REGULAR COUNCIL**

TO: **Mayor & Council**

DATE: **February 28, 2020**

FROM: **General Manager, Engineering**

FILE: **1717-053/11**

SUBJECT: **Award of Contract No. 1717-053-11  
64 Avenue Arterial Widening from 184 Street to Fraser Highway**

**RECOMMENDATIONS**

The Engineering Department recommends that Council:

1. Award Contract No. 1717-053-11 to B&B Contracting (2012) Ltd. in the amount of \$8,494,600.00 (including GST) for roadworks on 64 Avenue from 184 Street to Fraser Highway;
2. Set the expenditure authorization limit for Contract No. 1717-053-11 at \$9,344,060.00 (including GST and contingency); and
3. Authorize the General Manager, Engineering to execute Contract No. 1717-053-11.

**BACKGROUND**

This Contract represents Phase 2 of a multi-phased program of four-lane road widening and providing multi-modal infrastructure on 64 Avenue from 152 Street to 196 Street. After this phase, the next segment to be widened will be from 152 Street to 164 Street, and from 177 Street to 184 Street, and is scheduled for completion by 2029.

**SCOPE OF WORK**

The construction package related to this Contract consists of the widening of 64 Avenue from 184 Street to Fraser Highway from two lanes to four lanes. As well, to improve access and circulation in the neighbourhood, the City is also incorporating new pedestrian signals at the intersections of 186 Street and 190 Street. The work also includes new sidewalks on the east side of 188 Street from 60 Avenue to 64 Avenue. The project locations are listed in the following table, which are also illustrated on the map attached to this report as Appendix "I":

Map Reference Number	Project #	Project Description	Location
1	R-7417 R-14243	Roadworks	64 Avenue: 184 Street to Fraser Highway
2	R-15548	Pedestrian Signal	64 Avenue and 186 Street
3	R-15549	Pedestrian Signal	64 Avenue and 190 Street
4	R-16342	Sidewalk	188 Street: 60 Avenue to 64 Avenue
5	W-17443	Water Main	64 Avenue: 183A Street to 184 Street
6	R-18136	Pedestrian Crossing	188 Street and 61A Avenue

This Contract permits construction from 7:00am to 10:00pm., Monday through Friday, in compliance with the *Surrey Noise Control Bylaw, 1982, No. 7044*. The Contract does not include an option for contractors to work 24 hours a day, seven days a week, as the work is located in a residential area.

The contract work is expected to start in March 2020 and be completed by October 2020.

### **Project Innovation**

At the December 12, 2019 Regular Council, as part of Corporate Report No. R233; 2019 attached to this report as Appendix "II", staff discussed piloting an innovative contracting technique called "A+B Bidding" for this Contract in an effort to reduce the cost and duration of this Contract. A+B Bidding requires contractors to bid on the time and dollar amount to complete the project.

Furthermore, to prevent delays in the project completion, the City has worked with BC Hydro and telecommunication companies to commence relocation of utility poles in advance of the road widening work. The relocation of these utility poles is necessary to accommodate the road widening work.

### **TENDER RESULTS**

Tenders for the subject Contract were opened on February 18, 2020 with the following results:

<i>Contractor</i>	<i>Tendered Amount (incl. GST)</i>	<i>Corrected Amount (incl. GST)</i>
1. B&B Contracting (2012) Ltd.	\$8,494,600.00	No Change
2. Lafarge Canada Ltd.	\$8,796,403.35	No Change
3. Jack Cewe Construction Ltd.	\$9,131,270.40	No Change
4. Tybo Contracting Ltd.	\$9,733,500.00	No Change
5. Eurovia British Columbia Inc.	\$10,227,656.00	\$10,255,777.47

The Engineer's (Aplin & Martin Consultants Ltd.) pre-tender estimate was \$8,800,000, including GST.

### **EVALUATION**

Under the A+B method, each bid submitted consist of two components:

- "A" – Traditional dollar amount for the contract items; and
- "B" – Days bid to complete the work.

The number of "B" days is multiplied by the Road Interference Cost and added to the "A" component to obtain the Tender Evaluation Price = A + (B x Road Interference Cost/Day). The Road Interference Cost is an estimate of the additional costs incurred by motorists as a result of the increased travel time resulting from the construction work.

The City's consultant reviewed the tender submissions for accuracy and completeness. There was one arithmetic error that had no bearing on the outcome of the tender process. All submissions included the required 10% bid bond and were signed on the Tender Form.

Based on the tender evaluation price, B&B Contracting (2012) Ltd. Provides the best value to the City. B&B Contracting (2012) Ltd. has provided a Consent of Surety for a Performance Bond and a Labour & Materials Bond, and agreed to complete the work within 162 working days. B&B Contracting (2012) Ltd.'s past performance on similar work has been satisfactory. They have no outstanding legal claims against the City. It is recommended that B&B Contracting (2012) Ltd. be awarded Contract No. 1717-053-11.

As a result of utilizing this contracting technique, the City realized a 30% reduction in the contract duration from an estimated 12-month contract duration to an eight-month contract duration.

## **SUSTAINABILITY CONSIDERATIONS**

The work of this contract supports the objectives of the City's Sustainable Charter 2.0. In particular, this work relates to the Sustainability Charter 2.0 theme of Infrastructure by implementing street standards that minimize the negative impacts of transportation facilities on communities, while providing appropriate infrastructure in support of the City's transportation needs. Specifically, this Contract supports the following Desired Outcomes:

- All Infrastructure DO1: City facilities and infrastructure systems are well managed, adaptable and long lasting, and are effectively integrated into regional systems; and
- Transportation DO14: Goods movement throughout the city is efficient, and minimizes environmental and community impacts.

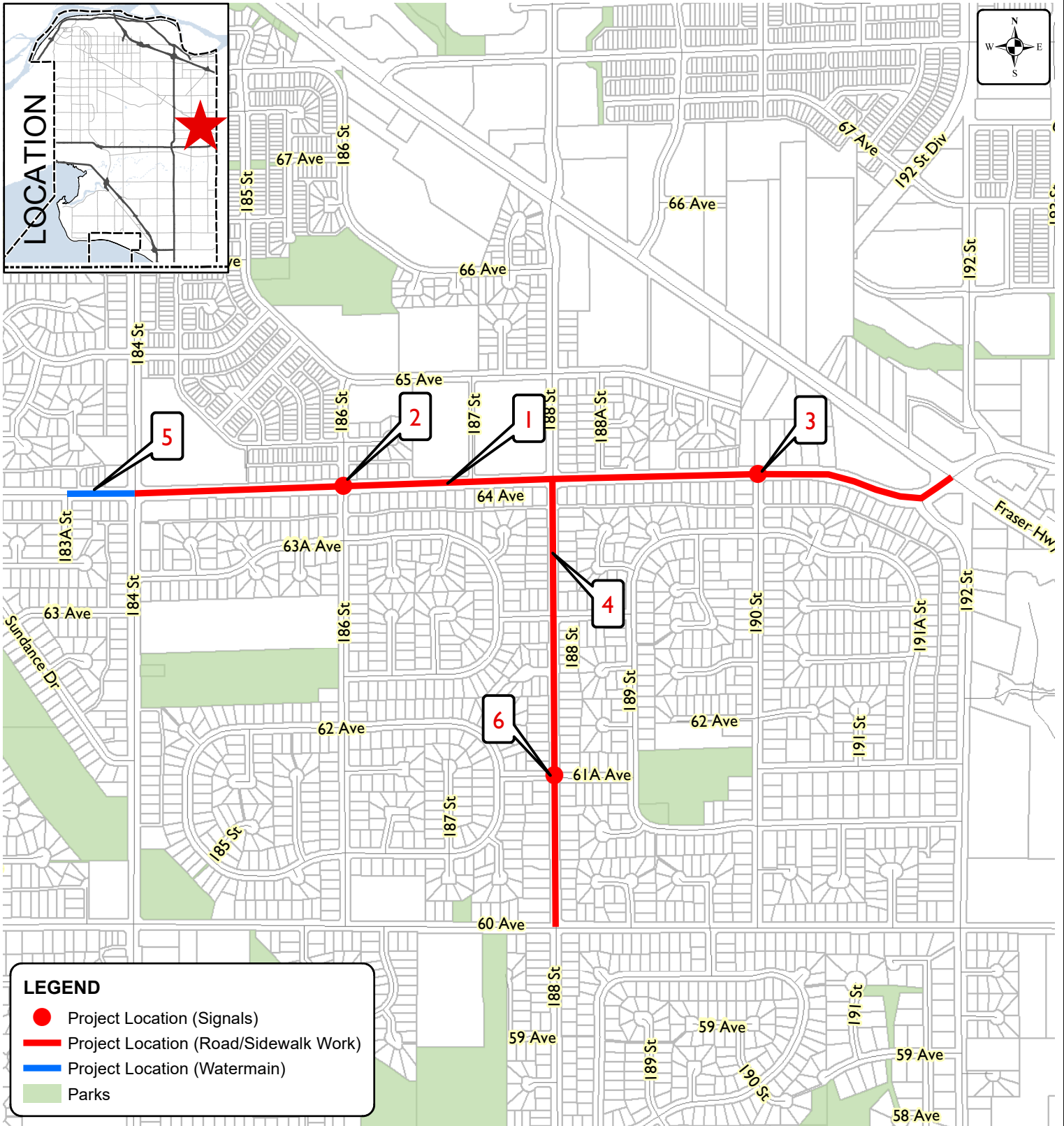
## **FUNDING**

Funding for this Contract is available in the approved 2020 Transportation and Utilities Budget.

Scott Neuman, P.Eng.  
General Manager, Engineering

VJ/HL/cc

Appendix "I" – Map of Locations – Contract No. 1717-053-11  
Appendix "II" – Corporate Report No. R233; 2019



**CONTRACT 1717-053-11  
ARTERIAL WIDENING  
64 Avenue from 184 Street to Fraser Highway**

**ENGINEERING  
DEPARTMENT**

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, Legal descriptions and encumbrances must be confirmed at the Land Title Office.

## CORPORATE REPORT

NO: R233

COUNCIL DATE: December 16, 2019

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### REGULAR COUNCIL

TO: Mayor & Council DATE: December 12, 2019  
FROM: General Manager, Engineering FILE: o620-20 (CPP19)  
SUBJECT: Opportunities to Reduce the Duration and Costs of the Capital Infrastructure Projects

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### RECOMMENDATION

The Engineering Department recommends that Council receive this report for information.

### INTENT

The purpose of this report is to advise Council of the actions taken and those that are planned to reduce the duration and costs of the Engineering Capital Infrastructure Projects.

### BACKGROUND

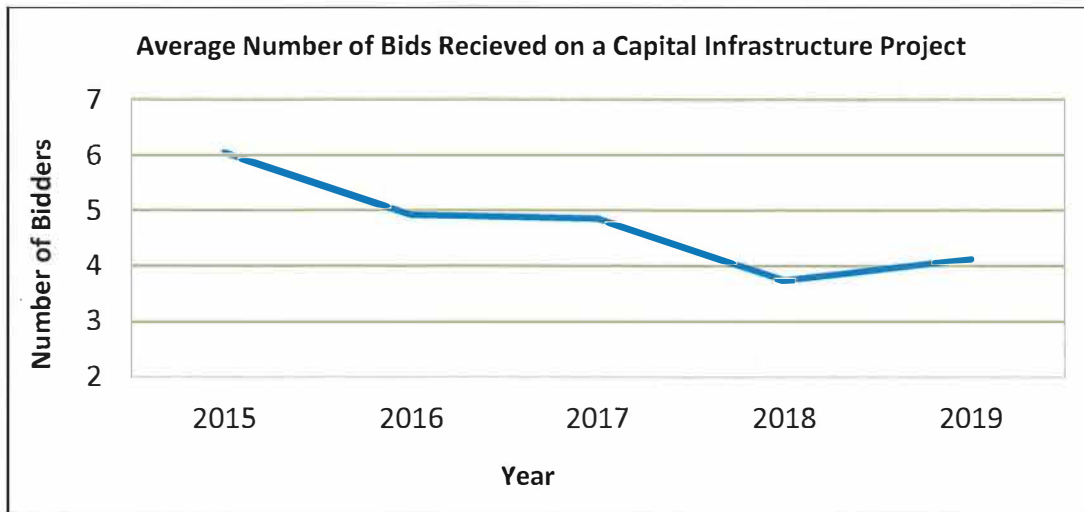
The annual Capital Infrastructure Program (the "Program") delivers projects included in the Engineering Department's 10-Year (2018-2027) Servicing Plan (the "Projects"). Annually, the Program typically has a value of \$75 to \$115 million. Projects planned for construction next year are outlined in the City's 2020 Capital Construction Program, which is scheduled to be published in January 2020.

In addition to projects delivered by the City, there are investments made to City infrastructure through Land Development projects. Furthermore, major infrastructure projects are planned within the City and within the region in the near future, such as the:

- Skytrain extension along Fraser Highway;
- Pattullo Bridge Replacement;
- Metro Vancouver projects;
- Broadway Subway Project; and
- YVR Airport Expansion.

### DISCUSSION

With major regional and municipal capital infrastructure projects planned, the region is competing for resources from the construction industry who have indicated that they are challenged to meet increasing demands for construction services. As a result, the construction industry has increasingly become more selective in the projects pursued and their pricing is reflective of the increase in demand for construction services. As illustrated below, the average number of bidders the City has received on past projects has generally been declining over the past five years.



Although there are other external factors that influence the number of contractors that participate in the City’s construction contract bids, there are opportunities for the City to increase participation and address barriers which may discourage a contractor from participating in a bid for a Project.

### **Delivery of Capital Infrastructure Program**

Traditionally, Projects are delivered in a three-stage process of: design by an engineering consultant; bid through a publicly advertised tendering process; and built by a contractor with the contract awarded to the lowest bid price. Typically, it takes two to four years to deliver a Project from when it is initiated, with the design of a project taking one to three years depending on the complexity, the need to acquire lands to construct the project, and external approvals required for the project.

To reduce the cost and duration of each Project, staff consulted with major stakeholders, such as contractors who commonly work for the City, member municipalities, major material suppliers, engineering consulting firms, and conducted a literature research of best practices.

As a result of these efforts, staff have identified various actions for implementation to reduce construction costs and durations for each Project in the Program. These actions can be summarized as follows:

- Permitting road closures;
- Avoiding relocating third-party utilities (BC Hydro, Telus, FortisBC, etc.);
- Avoiding impacts to watercourses, which requires Provincial environmental approvals;
- Revised contract provisions;
- Innovative contracting techniques;
- Extended hours of work; and
- Other minor contract provisions and optimization changes.

A complete summary of each action is described in Appendix “I”.

## Next Steps

A number of identified actions have been implemented in 2019, and other actions for implementation in 2020 will include:

- Alternative bidding methods, such as A+B Bidding on select projects, to promote innovation, collaboration, and potential to reduce construction costs and durations;
- Disposal of select materials (asphalt and concrete) for certain projects at the City's Stokes Pit site so that the Engineering Operations Division may recycle this material for reuse;
- Modifying project designs to avoid the relocation of utility poles, impacts to watercourses, and land acquisitions on a project case-by-case basis; and
- Optimize the design phase processes by improving the project management process.

To measure the success of these actions, staff have established the following metrics for the Program:

- Number of bidders participating in a capital infrastructure project, with the aim to receive a higher participation for bids in 2020 than in past years;
- Contract durations when measures such as A+B Bidding, road closures, and extended hours of work are implemented, with the aim to reduce the duration of a project;
- Cost associated with third-party utility relocations (i.e., BC Hydro, Telus, FortisBC, etc.) with the aim to reduce the cost of relocations for major road widening projects; and
- Project schedules associated with third-party utility relocations for major road widening projects, with the aim of eliminating project delays associated with said relocations.

## SUSTAINABILITY CONSIDERATIONS

The Engineering Department's actions to reduce the duration and cost of the Program supports the objectives of the City's Sustainability Charter 2.0. In particular, this work relates to Sustainability Charter 2.0 themes of Infrastructure. Specifically, this work supports the following Desired Outcome ("DO") and Strategic Direction ("SD"):

- All Infrastructure DO2: Infrastructure systems provide safe, reliable and affordable services; and
- Materials and Waste SD13: Work with local businesses and organizations to maximize the recovery and reuse of local materials and waste products as part of the circular economy.

## CONCLUSION

The cost and duration of construction projects have been increasing. Following consultation with the construction industry and other stakeholders, several actions have been taken in 2019, and several more are planned 2020, to reduce the cost and duration of the City's Engineering Capital Infrastructure Projects.



Scott Neuman, P.Eng.  
General Manager, Engineering

JA/VJ/cc

Appendix "I" – Opportunities to Reduce Construction Costs