



City of
Peterborough

To: **Members of the General Committee**

From: **W. H. Jackson,
Commissioner of Infrastructure and Planning Services**

Meeting Date: **August 27, 2018**

Subject: **Report IPSEC18-024
BethuneScape Project Update and Increase in Agreement for
Detailed Design and Contract Administration**

Purpose

A report to provide an update on the BethuneScape Project and to amend the agreement for the Detailed Design and Contract Administration of this project.

Recommendations

That Council approve the recommendations outlined in Report IPSEC18-024 dated August 27, 2018, of the Commissioner of Infrastructure and Planning Services, as follows:

- a) That the agreement with AECOM, 300 Water Street, Whitby, Ontario, L1N 9J2, for the Detailed Design and Contract Administration for the BethuneScape Project be increased by \$726,958.00 from \$3,717,173.41 to \$4,444,131.41, plus HST of \$577,737.08 for a total cost of \$5,021,905.95; and
- b) That staff be requested to include in future BethuneScape Project budgets the funds shown in Table 4 of Report IPSEC18-024 for the years 2019 to 2024.

Budget and Financial Implications

The recommended additional funds of \$739,752.46 net of HST payable by the City can be accommodated within the approximately \$23,900,000.00 uncommitted funds currently available in the BethuneScape Project.

Background

Brief Description of the Work

The existing BethuneScape Project has evolved since its inception in 2015.

In response to the Small Communities Fund (SCF) call for applications in 2015, the City applied with a project that would see the road and sanitary sewer along Bethune Street from Dalhousie Street to Dublin Street reconstructed and construction of the Jackson Creek Diversion project. The City was successful in its application and immediately began work on the project. Before the end of 2015, the project was expanded to include the renewal of Charlotte Street from Aylmer Street to Park Street.

In November 2016, Council approved the streetscape and public realm design for Bethune Street as part of the reconstruction project creating the BethuneScape Project. In addition to the streetscaping work, the project was expanded to include cleaning up the old rail bed on Charlotte Street and rehabilitating the George Street bridge over Jackson Creek.

Finally, in May 2018, Council added the Charlotte Street East (Aylmer Street to Water Street including a section of George Street) and the Gateway (Charlotte Street at Park Street) projects to the BethuneScape Project.

Design Amendments/Scope Changes and Increased Consultant Fees

Council, at its meeting of September 28, 2015 in considering Report USEC15-022, awarded the Detailed Design and Contract Administration for the Jackson Creek Flood Diversion Sewer, Sanitary Sewer Upgrade and Townsend Street/Bethune Street Reconstruction to AECOM for \$3,234,360, plus HST.

At its meeting of May 22, 2018, Council, in considering Report PLPD18-010, increased the agreement with AECOM to include the design of the Charlotte Street East Project and the Downtown Gateway Project at the Park Street / Charlotte Street intersection at an additional cost of \$482,813.41, plus HST, resulting in a total contract with AECOM of \$3,717,173.41 plus HST.

Since May 22, 2018, there have been a number of activities undertaken by AECOM that have been outside of the existing Terms of Reference for this project. Appendix 1 lists the various items alongside staff comments. Some of the major changes to AECOM's work program were:

- More than expected stakeholder meetings to deal with many of the approximately 215 identified utility conflicts;
- Updating the design to incorporate undergrounding the existing overhead electrical plant on Charlotte Street;
- Designing the watermain replacement on Charlotte Street West;
- Designing the watermain replacement and possible relocation on Townsend Street and Bethune Street;
- Designing the sanitary sewer replacement along Charlotte Street West;
- Altering the design to incorporate the results of the physical modeling conducted in the laboratory for both the inlet and outlet structures; and
- Incorporating the Rink Street 100 year outlet flows into the Bethune sewer design.

With all of the scope changes taken into account, the proposed increase in the design and construction administration cost for the BethuneScape Project is \$726,958.00.

Project Costs and Construction Cost Estimates – BethuneScape Project

The detailed design for the BethuneScape Project outside of Charlotte Street East is 90% complete. It is anticipated that a tender and contract award will occur prior to February 2019 for the storm outlet at George Street and Townsend Street. It is also anticipated that a tender and contract award for the Townsend Street, Bethune Street and Charlotte Street West work including the inlet at Jackson Creek near Bethune and Murray streets will occur in the first quarter of 2019.

The existing construction cost estimate for the BethuneScape Project is \$40,134,174.00, excluding HST. When all costs incurred to date are included, the total cost for the Bethune Street Project is \$45,923,458.00 as shown in Table 1. The cost shown in Table 1 includes the Charlotte Street West but does **not** include the Charlotte Street East Project or the Gateway Project.

Table 1 – BethuneScape Project Construction Costs (2018 dollars)

No.	Item	Budget
1	Estimated Project Costs based on the Consultants 60% Detailed Design Cost Estimate	\$40,134,174
2	Committed Costs to date (Detailed design, CA fees, utility locations and utility coordination, property acquisition, etc.)	\$ 4,289,284
3	Proposed Extension to AECOM Design and Contract Administration (Contingency added)	\$ 750,000
4	City Project Management Costs	\$ 500,000
5	Material Testing Allowance	\$ 250,000
6	Total Project Costs	\$45,923,458

The difference in the total project costs shown in Table 1 from the \$40,210,000.00 value presented in Report USDIR16-012 dated November 7, 2016, is \$5,713,458.00. Table 2 provides a summary of the cost increases in the project.

Table 2 - Summary of Cost Increases on the BethuneScape Project

No.	Item	Budget
1	Construction Cost Indexing at 4.5% (2016 - 2018)	\$ 3,700,000
2	AECOM Design and Contract Administration Increase (Added Contingency)	\$ 750,000
3	Upsizing of Townsend Street Outlet Storm Sewer for 100 year Rink Street Flows	\$ 400,000
4	Remove and Replace Charlotte Street Sanitary Sewer	\$ 420,000
5	Charlotte Street Electrical Distribution from Overhead to U/G	\$ 850,000
6	Watermain Replacement - Townsend, Bethune and Charlotte Streets	\$ 985,000
7	Total Project Cost Increases	\$7,101,814

Table 2 shows cost increases for the BethuneScape Project that are \$1,388,356.00 more than the updated budget that is shown in Table 1. The reason for this is that with the more advanced design, the cost estimates are better and the estimated cost for the construction of the BethuneScape Project has been reduced from the 2016 estimate. The main area of cost increase is in the construction cost index. Recent years have seen an increase of between 3-6% in construction costs. The original project estimate was done in 2016 and allowances were not made for construction cost indexes.

Upsizing the Townsend Street Outlet Storm Sewer to accommodate the 100 year Rink Street flows will cost an additional \$400,000.00 but will save an estimated \$3.5 million in future costs by not having to construct a separate storm sewer along Rink Street south of the now proposed Townsend Street box culvert. Inasmuch as the watermain along Charlotte Street will now be replaced as part of this project, it is prudent to, at the same time, also replace the existing sanitary sewer.

In considering Report USDIR17-004, dated May 29, 2017, Council decided to underground the overhead hydro on Charlotte Street from Aylmer Street to Park Street. The estimated cost for this change has now been included in the overall project budget.

The construction cost estimate provided above does **not** include costs for either the Charlotte Street East project, between Aylmer Street and Water Street or the Gateway project although both of these have been incorporated into the Bethune Street project (Report PLPD18-010). The construction cost estimate for Charlotte Street East is estimated at \$4,600,000.00. The Gateway Project estimated construction cost is \$500,000.00. The construction of Charlotte Street East and the Gateway will be

budgeted in future years and will be coordinated based on the construction phasing for the Bethune Street Project.

Table 3 is a summary of the funding sources for the BethuneScape Project. A significant portion of the works for this project are covered under existing funding sources such as Development Charges, Flood Reduction and Waste Water Reserves. The City Treasurer has reviewed this table and is in general agreement with the extent of the funding sources noted. No funding is being requested for this project via this report. There are sufficient pre-approved funds in the project for the additional consultant fees requested to cover the various scope changes detailed Appendix 1.

Table 3 - Summary of Funding Sources for the BethuneScape Project

Item	Funding Source	Approved Pre-2019	Proposed Future Funding	Total:
1	Direct Revenue - Ontario Grant (SCF)	\$ 7,970,150		\$ 7,970,150
2	Direct Revenue - Canada Grant (SCF)	\$ 7,970,150		\$ 7,970,150
3	Development Charges	\$ 2,687,000	\$ 1,582,200	\$ 4,269,200
4	Reserves	\$ 9,100,000	\$ 6,651,658	\$15,751,658
5	Capital Levy & Capital Levy Debentures	\$ 1,460,000	\$ 8,502,300	\$ 9,962,300
	Total:	\$29,187,300	\$ 16,736,158	\$45,923,458

Table 4 provides revised proposed timelines for the additional funding requirements showing how these funds will be spread over a number of years. The various funding requests will be as budget requests in the appropriate years for consideration by Council at that time.

**Table 4 –
BethuneScape Project – Timelines for Additional Required Funding (2019 - 2024)*
Project Budget**

No.	Item	2019	2020	2021	2022	2023	2024	Totals
Approved by Council (Report USDIR16-012 dated November 7, 2016)								
1	Additional Costs for Bethune Street and Townsend Street - (Road works, Storm and Sanitary Sewers) Escalation from 2015 to 2016 dollars	\$312,700						\$312,700
2	Additional Streetscape Funding (Low-Impact Development - Rain Gardens/Bio-retention cells)	\$1,530,000	\$2,120,000	\$1,580,000	\$600,000	\$510,000	\$260,000	\$6,600,000
3	George Street Bridge Rehabilitation	\$420,000						\$420,000
4	Charlotte Street (Aylmer to Park) Improvements			\$900,000	\$900,000	\$950,000	\$940,000	\$3,690,000
Approved by Council (Report USDIR17-004 dated May 29, 2017)								
5	Charlotte Street (Aylmer to Park) Underground Electrical Costs		\$850,000					\$850,000
Proposed Additions								
6	Additional Costs for Bethune St. and Townsend Street - (Road works, Storm and Sanitary Sewers) - Escalation from 2016 to 2018 dollars		\$1,060,000	\$998,458				\$2,058,458
7	Increase in design and contract administration fees for consultant	\$620,000	\$130,000					\$750,000
8	Material Testing Allowance	\$50,000	\$100,000	\$100,000				\$250,000
9	Sanitary Sewer for Charlotte Street (Aylmer to Park)			\$420,000				\$420,000
10	City portion of Watermain Costs - Bethune, Townsend and Charlotte Streets	\$200,000	\$385,000	\$400,000				\$985,000
11	Increase Culvert Size on Townsend Street to Accommodate Rink Street Outlet Flows	\$400,000						\$400,000
12	Total	\$3,532,700	\$3,890,000	\$3,748,458	\$1,850,000	\$1,875,000	\$1,840,000	\$16,736,158

* The additional requirement for \$16,736,158.00 plus the approved budget of \$27,087,300.00 and the 2018 budget funding of \$2,100,000.00 results in a total budget of \$45,923,458.

Summary

The amendment to the award for the Detailed Design and Contract Administration for the Jackson Creek Flood Diversion Sewer, Sanitary Sewer Upgrade and Townsend Street / Bethune Street Reconstruction (RFP P-14-15) is in accordance with the City of Peterborough's Purchasing By-law 14-127 and can be awarded within approved budgets as recommended in this report.

Further information has been provided on the extent of the full BethuneScape Project with projected funding requirements that will be considered by future Council's during the various upcoming budget discussions.

Submitted by,

W. H. Jackson, P.Eng.
Commissioner, Infrastructure and Planning Services

Contact Name:
Leslie Whiteman, P.Eng.
Senior Project Manager
Phone 705-742-7777 ext 1881
Toll Free: 1-855-738-3755
Fax 705-876-4621
E-mail address: lwhiteman@peterborough.ca

Attachment:
Appendix 1: AECOM Proposal Regarding Scope Changes to P-14-15 and Staff Recommendations

Appendix 1 - AECOM Proposal to Scope Changes to P-14-15 and Staff Recommendations

Item No.	Description	Amount Proposed by AECOM	Amount Considered for Recommendation
1	Bethunescape Master Plan - Continued consultation and increased effort to come to consensus	\$100,000	\$ 60,000
2	Bethunescape Plan Implementation (New Scope) - Year I to Year 6 Implementation Plan	\$130,000	\$130,000
3	Flood Diversion Sewer, Inlet Structure, Modification/Physical Model Laboratory Rental Extension -- complex flow conditions along Jackson Creek -- \$25,000 for AECOM and \$7,550 for NHC-Lasalle	\$ 32,550	\$ 32,550
4	Flood Diversion Sewer - Outlet Structure Modification - Realignment of Outlet Works	\$ 32,300	\$ 32,300
5a 5b 5c	Flood Diversion Sewer - Hydraulic Modeling/Major Storm Conveyance and Capture on Bethune Street/Water Quality Control - require to do further analysis and modelling of 6-hour design storm (\$45,000); major overland condition required more effort and analysis. (\$28,000) and implementation of Low Impact Development measures (\$7,000)	\$ 80,000	\$ 40,000
6	Flood Diversion Sewer along Townsend Street - Implementation of the Rink Street Diversion Study	\$ 60,200	\$ 60,200
7	Trunk Sanitary Sewer (TSS) on Bethune Street - Crossing of Jackson Creek required route alignment selection of different options/scenarios (\$30,300); need to consider implementation of a siphon (siphon option allows sanitary improvement to be implemented on City lands (\$42,000)	\$ 72,300	\$ 72,300
8	Watermain Replacement - Peterborough Public Utility Services Incorporated -- Townsend Street, Bethune Street and Charlotte Street	\$ 49,800	\$ 49,800
9	Utility Coordination - Townsend/Bethune and Charlotte Streets add another \$7,680 for engagement of additional meetings (\$54,238 + \$7,680)	\$ 61,918	\$ 61,918

10	AODA Intersection Improvements - upgrade three additional intersections	\$ 4,700	Nil
11	Charlotte Street West - aerial hydro conversion to underground ducts	\$ 51,040	\$ 51,040
12	MOECC Permits - additional effort from Hydrogeological staff to respond to MOECC technical review comments	\$ 6,500	\$ 6,500
13	Prepare Additional Tender Packages -- Project requires tendering of three separate packages (originally assumed one tender package required)	\$ 9,600	Nil
14	Road Improvements: -- Additional effort implementing Context-Sensitive Design Approach	\$ 20,160	Nil
15	Remove and Replace Sanitary Sewer on Charlotte Street from Aylmer Street to Park Street	\$ 37,080	\$ 37,080
16	Contract Administration and Inspection Services on Additional Works: <ul style="list-style-type: none"> • Watermain on Townsend, Bethune and Charlotte Streets • Sanitary Sewer on Charlotte Street • Rink Street Storm Sewer Diversion • Bethunescape Implementation Ph. I • Conduits for U/G on Charlotte Street • Townsend Street Outlet Structure 	\$124,500	\$124,500
16	Sub-Total (A)	\$872,648	\$758,188
17	Less (PUC cost-share for Watermain, replacement/relocation, item 8 - 55% of \$49,800)	(\$27,390)	(\$27,390)
18	Less Specification Development for Bell (50% of \$7,680 - line item 9)	(\$3,840)	(\$3,840)
19	Total	\$841,418	\$726,958