

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY:

Original Signed by 

Jacques Dubé, Chief Administrative Officer

DATE: November 16, 2022

SUBJECT: **Broad Street North Roundabout – Construction Alternatives**

SUPPLEMENTARY REPORT

ORIGIN

On October 18, 2022, Halifax Regional Council passed the following motion regarding item 15.2.2:

THAT item 15.2.2 Budget Increase – 22-1024, Alternative Procurement – Broad Street (North) Roundabout, be deferred to a future meeting of Regional Council pending the receipt of a supplemental staff report providing the cost of moving this project to night work against the proposed 3-month road closure.

LEGISLATIVE AUTHORITY

The Halifax Regional Municipality Charter, S.N.S. 2008, c. 39 subsections 79A, and 120(4) provide:

79A(1) Subject to subsections (2) to (4), the Municipality may only spend money for municipal purposes if (a) the expenditure is included in the Municipality's operating budget or capital budget or is otherwise authorized by the Municipality;

79A(4) The Municipality may authorize capital expenditures that are not provided for in its capital budget if the total of such expenditures does not exceed the greater of ... (c) the amount withdrawn from a capital reserve fund under subsection 120(4).

120(4) A withdrawal from the capital reserve fund shall be authorized by the Council, by resolution, and may only be used for (a) capital expenditures for which the Municipality may borrow; ...

The Audit and Finance Standing Committee Terms of Reference, in Schedule 2 of Administrative Order 1, the Procedure of the Council Administrative Order, section 8 provides:

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8. The Audit and Finance Standing Committee shall review and make recommendations on proposals coming to the Council outside of the annual budget or tender process including: ... (g) the creation or modification of reserves and withdrawals not approved in the approved budget.

The Financial Reserves Administrative Order 2014-015-ADM, section 5 provides:

5. The Audit and Finance Standing Committee shall review and recommend to the Council for its consideration all impacts to the Reserves.

The recommended contract award complies with all the pre-requisites for awarding contracts as set out in section 26 of Administrative Order 2020-004-ADM, the *Procurement Administrative Order*.

Section 16 (2) of the *Procurement Administrative Order* states:

“For procurement opportunities that exceed thresholds set out in applicable trade agreements, Alternative Procurement may be used, provided that it is not done for the purpose of avoiding competition among suppliers or in a manner that discriminates against suppliers of any jurisdiction covered by an applicable trade agreement, in the following circumstances: ...

(b) if the Goods, Services or Construction can be supplied only by a particular supplier and no reasonable alternative or substitute Goods, Services or Construction exist for any of the following reasons: ...

(iii) due to an absence of competition for technical reasons”

Section 28 of the *Procurement Administrative Order* provides that Halifax Regional Council may approve contract awards of any amount.

RECOMMENDATION

It is recommended that Halifax Regional Council:

- 1) Approve a budget transfer of \$2,465,715 from Capital Account CT190003 – Downtown Dartmouth Infrastructure Renewal to Capital Account CTU01006 – Bedford West Road Oversizing;
- 2) Increase the amount of the March 1,2022 Award of Alternative Procurement 22-1024 for the design and construction of a roundabout at the intersection of Larry Uteck Boulevard and Broad Street (North) to West Bedford Holdings Limited from a maximum value of \$3,250,000 to a maximum value of \$6,204,287 (net HST included) as outlined in the Financial Implications section of this report.

BACKGROUND

The Broad Street (North) roundabout is part of the multi-modal infrastructure masterplan for West Bedford adopted by Regional Council in June 2020. As per the masterplan, the roundabout is cost-shared between the Municipality and the developer and was the subject of a report to the Audit and Finance Standing Committee dated February 18,2022 concerning alternative procurement for its construction. A copy of the report is available [online](#).

Tendering

Following the completion of the design of the roundabout, the developer (West Bedford Holdings Limited – WBHL) proceeded to tender the award of the construction of the intersection on HRM’s behalf. To ensure good value and a competitive process, four contractors were invited to bid on the construction of

the intersection. Two valid bids were received from the four invitees with the following values (inclusive of net HST at 4.286%):

- Bidder A: \$7,036,176
- Bidder B: \$8,134,308

Project Phases

As originally tendered in September 2022, the project would be executed in two phases:

- Phase 1 (fall 2022) – Earthworks: This phase will involve rock blasting and breaking and large earth movement to clear and shape the site.
- Phase 2 (spring 2023) – Flatworks: This phase involves all of the remainder of the work including utilities, paving, pouring, grading, striping, signage, and landscaping.

The above remains the approach that will be taken. However, given the time of year, if Council awards the Alternative Procurement Contract, Phase 1 work will be completed as weather allows over the course of the winter. So long as the Phase 1 work can be completed by April, there will be no impact to the scheduled completion. If all Phase 1 work is shifted to spring 2023, there will be significant pressure on the schedule to complete the work prior to the currently planned September 2023 opening of the new schools in the northern corner of the intersection.

Value Engineering

As both of the received bids significantly exceeded the available budget, WBHL engaged with the low bidder on HRM's behalf to execute a value engineering process to examine alternative and innovative approaches to reduce overall project costs while maintaining the quality of the deliverable. The outcome of that process included potential savings to several elements of the project, as follows:

- Traffic Management Plan - \$250,000
- Rock Slopes - \$302,700 (potentially up to \$590,000 dependent on slope stability investigations and required mitigation measures)
- Paving / Pouring Schedule - \$300,000
- Bond Elimination - \$30,000

A subsequent report was prepared for the Audit and Finance committee to request additional funds to execute the project, given the application of the savings from the value engineering exercise to the low bid. The committee approved the staff recommendation, which was subsequently discussed at the October 18th meeting of Regional Council. A copy of the report is available [online](#).

Traffic Management Plan

One significant source of potential savings identified by the value engineering exercise was a modification to the traffic control plan, which would involve the full closure of the intersection of Larry Uteck Boulevard and Broad Street (North) for the duration of Phase 2 of the project in spring 2023. The full closure would save \$250,000 and reduce the duration of the project by two to four weeks, as it allows for more efficient phasing of the work and reduces daily effort in modifying the work site.

Discussions with local councillors and feedback from residents in the area have indicated a desire to examine alternate approaches to the construction of the roundabout that avoid full closure of the intersection and a willingness to forego the savings in time and money presented by the full closure approach.

DISCUSSION

There are four potential approaches to the completion of the construction that could be considered with different impacts to cost, time, local access, noise/light disturbance, and through traffic. Outside of the traffic control, the remainder of the value engineering items are included in all four approaches.

Standard – The typical approach to completion of major road construction projects on an arterial roadway

is to work during the daylight hours. During peak commuting hours, the full capacity of the roadway is maintained in both directions. While the construction site is active during the day outside of the peak commuting hours, there is typically alternating one-way flow along the arterial as needed and as managed by manual flagging operators. *This was the approach originally proposed by the low bidder.*

Full Closure – This approach would close the intersection of Larry Uteck Boulevard and Broad Street (North) for the duration of Phase 2 – approximately 3 months. This would allow the project to be executed more efficiently - saving \$260,715 (incl. Net HST) and two to four weeks. *This is the least cost approach and was the staff recommendation on the October 18 Council Report.*

Night Work – This approach shifts as much work as possible to the evening and overnight hours. There are limitations to some elements of the work (e.g., rock blasting and breaking) due to Municipal by-laws and other considerations that would still require work during daylight hours. Outside of these tasks, movement along Larry Uteck Boulevard and through the subject intersection would be unrestricted during daylight hours. *This approach provides the least disruption for through traffic.*

24/7 – This approach would see construction crews working around the clock on the project – both day and night. Traffic control would be similar to the Standard and Night Work approaches, where full capacity is maintained during peak commuting hours, but alternating flow would be applied during the off-peak periods as necessary to complete the work. This approach would save four to six weeks. *This approach completes the project in the shortest time with the highest cost.*

The following table summarizes the cost, completion time, and headlines for each option and is ordered according to overall cost:

Approach	Cost (incl. Net HST)	Increase (incl. Net HST)	Completion	Headlines
Full Closure	\$5,943,572	--	Mid July	Least Cost Shorter Duration Through and local access impacts
Standard	\$6,204,287	+\$260,715	End of July	Local access maintained Open during peaks
Night Work	\$6,337,773	+\$394,201	End of July	Local access maintained Less daytime disruption Overnight light and noise
24/7	\$6,480,645	+\$537,073	End of June	Highest cost Shortest duration Overnight light and noise Local Access Maintained Open During Peaks

As can be seen in the table, there are trade-offs between the four approaches with variations to the cost, completion date, and impacts to commuters, residents, and local businesses.

Some items to note prior to discussing the various approaches:

- Major construction on an arterial roadway will have significant impacts on residents who live in or travel through the area and local businesses no matter the selected approach.
- Regardless of the approach, there will be a need to intermittently close Larry Uteck Boulevard to safely perform rock blasting operations.
- Rock Excavation must occur during daylight hours, so all approaches will involve some work during daytime hours.
- Given the need to consult with Council to acquire additional funds, the start of the project has been delayed. This places some risk on the project schedule, as the Phase 1 earthworks will be required to proceed through the winter as weather allows. As discussed in prior reports, there will be significant safety and convenience benefits to completing the construction of the roundabout prior to the opening of the two schools in the northern corner of the intersection, which is currently scheduled for September 2023. There will be no impact to the completion dates if the Phase 1 work can be complete by April 2023. This will be monitored and revised as necessary as the work proceeds.

The recommendation in the previous report to Council (the Full Closure approach) was focused on a desire to reduce the cost of construction while maintaining the quality of the final deliverable, as the tendered bids all significantly exceeded the budget for the project. This approach also had the additional benefit of shortening the length of construction to minimize the amount of time that residents who live in the area and travel through the area would be disturbed. Discussions in the meantime with local councillors and feedback from residents in the vicinity of the project have shown that there is a significant desire to keep Larry Uteck Boulevard open during construction despite the increased cost and longer construction time – approximately \$260,000 to \$540,000 and two to six weeks respectively, depending on the approach taken to construction.

The 24/7 approach is not recommended, as the significant cost increase does not provide commensurate value to the Municipality related to the completion of the project before the opening of the new schools. As above, recent discussions with the developer indicate that all construction approaches will allow for completion of the project ahead of September 2023, so the shortened completion time provided by this approach is not critical. It would result in the shortest overall project duration, but this benefit would be offset by the related overnight light and noise disturbance for residents in the area.

Given the feedback from residents and councillors, the recommendation has been modified from the prior report to the Standard approach described above. This was the approach proposed by the contractor in the original tender submission. This provides full capacity for peak hour commuting and maintains local access for residents and local businesses that would be limited with the Full Closure approach but adds approximately \$260,000 to the project cost and two to four weeks to the schedule. This approach is recommended over the Night Work approach, as it provides the desired access while not adding overnight light and noise disturbance for residents in the area for the duration of the project. This strikes the middle ground between the Full Closure and Night Work options.

The Night Work approach would also remove the need for alternating flow during off-peak daylight hours. Alternating flow can occasionally produce significant congestion despite the lower overall demand for travel, as observed during the construction of the Broad Street (South) roundabout in 2021 and early 2022.

However, the most significant consideration in choosing the Standard approach over Night Work comes down to 'choice'. Many drivers travelling to or through the area can generally choose to minimize their inconvenience through selection of different routes, modes, or times of day to travel or to not travel at all (e.g., work from home) for the construction period. Those who live in the vicinity would have no choice but to live with the overnight light and noise disturbance for several months.

Comparing Night Work to the Standard approach, there are four significant points of comparison:

- Night Work adds approximately \$133,500 to the cost over the Standard approach
- The project duration is identical between the two approaches
- Night Work adds overnight noise and light disturbance to residents

- Night Work reduces the potential for congestion during off-peak daytime hours

As described in the Budget Implications section of this report, \$2.465M would be used from the Downtown Dartmouth Infrastructure renewal Project to complete the Broad Street North Roundabout. Next year, 2023/24, staff propose to replace these funds from Account CT200002 Major Strategic Multi Modal Corridor: Bayers Road. This project will not be carried out in 2023/24 because not all land needed to complete the corridor project will be acquired. These funds will then need to be replaced in 2024/25. Other than the budget recommendation, which is the subject of this report, all future budget allocations are subject to approval by Council.

FINANCIAL IMPLICATIONS

Given the above value-engineered cost savings and the recommended approach to construction, the total project cost will be \$6,204,287 (inclusive of net HST). The values below are amended from the report tabled at council on Oct 18, 2022 (item 15.2.2). The amounts now include \$260,715 (net HST included) for the standard traffic management approach discussed in the body of the report.

As Council had previously approved an award of \$3,250,000, an additional \$2,465,715 is required to complete the project as shown in the budget summary below.

Budget Summary:

Capital Account No. CTU01006 – Bedford West Road Oversizing

Cumulative Uncommitted Budget Available	\$ 488,896
Add: Original requisition for Project	\$ 3,250,000
Add: Budget transfer from Capital Account CT190003	\$ 2,465,715
Less: Alternative Procurement	\$ 6,204,287
Balance	\$ 324

Capital Account No. CT190003 – Downtown Dartmouth Infrastructure Renewal

Cumulative Uncommitted Budget Available	\$ 9,365,848
Less: Budget transfer from Capital Account	\$ 2,465,715
Balance	\$ 6,900,133

This project was originally estimated at \$3.25M in the proposed 2022/23 Capital Budget to begin in Year 2 (Fiscal 2023/24).

RISK CONSIDERATION

Budget Exceedance

There is a risk that the project will exceed the cost determined through the value engineering process due to unforeseen circumstances that will require additional effort to complete the project. The risk is considered *moderate*. This risk is mitigated through the approach that WBHL will be taking in its contractual relationship with the successful bidder, where the bidder will be entering into a lump sum arrangement with WBHL to complete the work. This provides HRM with additional assurance that the project will remain on budget.

Schedule Delay

There is a risk that the project will not be complete before the opening of the new schools related to the additional time related to acquire additional funds and the potential for unforeseen circumstances during construction. This risk is considered *moderate*. Recent discussions with the developer and low bidder indicate that the likelihood of the project being delayed into September is low. In the unlikely event that the work will not be complete prior to the opening of the new schools, modifications to the traffic control plan and construction approach will be adopted to minimize safety risks.

Risk	Likelihood (1-5)	Impact (1-5)	Risk Level (L/M/H/VH)	Mitigation
Budget Exceedance	2	3	M	The recommended approach mitigates this risk through a lump sum contract between WBHL and the successful bidder.
Schedule Delay	2	3	M	The recommended approach minimizes this risk through completion of work during fall 2022.

There are no other significant risks associated with the recommendation in this report. To reach this conclusion, consideration was given to financial, legal and compliance, and service delivery risks.

COMMUNITY ENGAGEMENT

In response to an item in a councillor newsletter describing the previous recommendation, over 200 responses were collected from residents in opposition to the full closure of the intersection for the three month period of the Phase 2 work.

ENVIRONMENTAL IMPLICATIONS

This project supports the Regional Plan settlement pattern of transit friendly, multi-modal communities, and is consistent with the assumptions for GHG reduction in HalifACT.

ALTERNATIVES

Regional Council could choose to proceed with the Night Work approach. This is not recommended for the reasons discussed above. The alternative motion is as follows:

It is recommended that Halifax Regional Council:

- 1) Approve a budget transfer of \$2,599,201 from Capital Account CT190003 – Downtown Dartmouth Infrastructure Renewal to Capital Account CTU01006 – Bedford West Road Oversizing;
- 2) Increase the amount of the March 1, 2022 Award of Alternative Procurement 22-1024 for the design and construction of a roundabout at the intersection of Larry Uteck Boulevard and Broad Street (North) to West Bedford Holdings Limited from a maximum value of \$3,250,000 to a maximum value of \$6,337,773 (net HST included) as outlined in the Financial Implications section of this report.

ATTACHMENTS

None

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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