



A7

ADMINISTRATIVE REPORT

Report Date: June 22, 2009
Contact: Dane Doleman
Contact No.: 604.871.6930
RTS No.: 08189
VanRIMS No.: 08-2000-20
Meeting Date: July 7, 2009

TO: Vancouver City Council
FROM: General Manager of Engineering Services
SUBJECT: Cambie Bridge Repairs - Seismic Capacity Reinstatement - Piers W7 and E7

RECOMMENDATION

- A. THAT, Council approve a total budget of \$475,000 to support the repairs to Piers E7 and W7 of the Cambie bridge; source of funding to be:
 - \$475,000 to be re-allocated from the approved Expo Deck Repair budget (RTS#07161)
- B. THAT, subject to the conditions as set out in Recommendations D, E and F the existing contract with MMM Group Ltd. be amended to include an additional scope of work to include services during construction at a cost of \$15,000 plus applicable taxes with the source of funding as approved in Recommendation A above.
- C. THAT, subject to the conditions as set out in Recommendations D, E and F the existing contract with Golder Associates Ltd. be amended to include an additional scope of work to include services during construction and environmental monitoring at a cost of \$15,000 plus applicable taxes with the source of funding as approved in Recommendation A above.
- D. THAT the General Manager of Engineering Services be authorised to execute and deliver on behalf of the City all legal documents required to implement Recommendations B and C.
- E. THAT all such legal documents be on terms and conditions satisfactory to the General Manager of Engineering Services.

- F. THAT no legal rights or obligations will be created or arise from Council's adoption of Recommendations B, C and D above unless and until such legal documents are executed and delivered by the General Manager of Engineering Services in the case of Recommendations.
- G. THAT Council waive City procurement policy and authorize the General Manager of Engineering Services to engage in direct negotiations with one or more qualified vendors in order to complete the Cambie Bridge repair work in the required timeframe.

GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services RECOMMENDS approval of A through G.

CITY MANAGER'S COMMENTS

The City Manager RECOMMENDS approval of A through G.

COUNCIL POLICY

Contracts with a value over \$300,000 are referred to Council for approval.

Contracts are to be awarded on the basis of best overall value to the City.

Re-allocation of Capital Funds exceeding \$50,000 requires Council approval.

PURPOSE

This report seeks:

- Council approval of a project budget of \$475,000 to complete repairs on Piers E7 and W7 of the Cambie Bridge and the re-allocation of Capital in support of the project;
- Council approval to amend the existing consultant contracts with MMM Group Ltd. and Golder and Associates Ltd. to expand their scope of work to include services during construction and increase the fees payable as a result of the increase in the scope of work;
- Council authorization to waive City procurement policy and authorization to engage in direct negotiations with one or more qualified vendors who are capable of completing the repair work in the limited timeframe.

BACKGROUND

In June 2008, following an inspection, MMM Group Ltd. (MMM Group) noted that the structural support (rip-rap and quarry tailings) under Piers E7 and W7 of the Cambie Bridge had eroded. The distance between the mud line and the underside of Pier W7 was measured to be in excess of 3m, much greater than what was originally designed. It was reported that in terms of the vertical support of the bridge this level scour does not present any significant concern. However, the lateral load capacity of the pier is significantly reduced, which is of particular concern when considering seismic forces.

In July 2008, the City Manager authorised the award of a sole sourced professional services contract to the MMM Group Ltd. for the detailed investigation and design of the repairs to the Cambie Bridge pier foundations. At the same time, Golder Associates Ltd (Golder) was retained to prepare the Burrard Environmental Review Committee (BERC) permit application. Staff are seeking approval to amend the scope of the City's contracts with MMM Group and Golder to provide consulting services related to the proposed repair work. In each case the value of the increased fees is \$15,000 plus applicable taxes.

On June 4, 2009 a Burrard Environmental Review Committee (BERC) permit (BERC CPR#0904B012) was issued to allow completion of the Cambie bridge pier maintenance works.

DISCUSSION

Cambie Bridge Repairs

Significant scour has occurred to the supporting material (rip-rap and quarry tailings) under Pier W7 and to a lesser degree to Pier E7 of the Cambie bridge (Piers W7 and E7 are located along the south shore of False Creek). The distance between the underside of Pier W7 and the mud line has been measured to be in excess of 3m, much greater than originally designed. While this does not pose a significant structural issue for normal traffic loading on the bridge, the scour is of concern when considering lateral loading, in particular seismic loading. The degree of erosion has compromised the bridge's seismic stability locally and should be remedied to enhance public safety in the event of a seismic event. The supporting material around Pier E7 does not exhibit the same level of erosion as Pier W7, however there is evidence of receding riprap.

Another issue that has developed as a result of the scour is that the eroded material has accumulated in an adjacent side channel, creating a bank of sediment. The bank of sediment has resulted in an alteration to the water movement around the piers and has contributing to the accelerated scour at Pier W7.

The recommended repairs are as follows:

- Replace the supporting fill material and rip-rap around Piers W7 and E7
- Expose the drain ends at Pier E7
- Dredge the silted section of the side channel

The repair design and specifications are now ready and a BERC permit has been issued allowing the City to proceed with the repair work. The out of water repair work (work completed above the tide level) is expected to take one week to complete and requires mid day low tides. The next available mid day low tide window occurs during the week of July 20th to 24th.

There is the opportunity to complete the repair work during the week of July 20th to 24th; however this is not possible if a standard Invitation to Tender (ITT) process is followed. A standard ITT process for this type of work will take at least 6-8 weeks before the contract is ready for Council award. In light of this, staff seek Council authorization to engage in direct negotiations with a select number of contractors that are suitably qualified to complete the repair work. As the value of the construction contract is estimated to be under \$300,000, it falls within the General Manager's and the City Manager's standing authority. After

negotiations are complete all necessary documents and contracts related to the repair work will be prepared and will follow the City's standard purchasing practice.

If this window (July 20th to 24th) is missed the work will need to be deferred until summer 2010 when the next mid day low tides occur for extended periods.

Expo Deck Repairs and Remaining Budget

In September 2008, Council approved a project budget of \$2.5M to support the repairs and the design of the repairs of the Expo Deck wharf structure.

In February 2009 (RTS#07742), Council awarded a construction contract (value \$970,115 plus applicable taxes) to Vancouver Pile Driving Ltd. to complete repairs to the Expo Deck wharf structure.

The Expo Deck repairs are on schedule and on budget. The repair work has progressed with fewer than expected issues in the field. The work that has been completed to date (panel removal and replacement) represents the work with the highest probability of uncovering more structural issues as new vantage points are created with the removal of concrete panels. 50% of the structural repairs are complete. The remaining work involves dredging at the mouth of the Terminal Sewer outfall, concrete patching and repairs to the wooden piles.

Budget projections to the end of the project foresee a positive end of project balance of between \$500,000 to \$600,000. The explanation for the projected balance is the following:

- The repair budget as approved on September 30th, 2008 was prepared in advance of completing the detailed design of the repairs; a healthy design contingency was included.
- Repair estimates were established in a different economic climate, a climate in which 1-2% escalation/month was the norm.
- ITT PSO8178 (Expo Deck Repairs) saw competitive bidding with 5 of the 6 bids within the established project budget.
- Contractor and consultant contracts were awarded for a total of \$1.3M

Staff propose that \$475,000 of the Expo Deck Repairs budget be re-allocated to the Cambie Bridge repairs. The Expo Deck repairs will be completed within the remaining \$2M budget.

ALTERNATIVES/OPTIONS

The repair work occurs in the intertidal zone. As such, it should be completed during mid day low tide windows. These windows typically occur during the summer months for extended durations. The structural repair work is anticipated to take one full week to complete. The next available week long mid day low tide window is set to occur the week of July 20th to July 24th. If this window is missed the repair work cannot be completed efficiently until the next window in the summer of 2010.

FINANCIAL IMPLICATIONS

A total project budget of \$475,000 is required to support the repairs to Piers E7 and W7 of the Cambie Bridge. The proposed funding sources are:

- \$475,000 to be re-allocated from the approved Expo Deck Repair budget (RTS#07161)

The estimated cost of \$300,000 for a construction contract and increases of \$15,000 to each of the existing consultant contracts with MMM Group Ltd. and Golder Associates Ltd., together with permit fees, contingency, overhead, and other project related costs will be funded from this \$475,000 budget (see Table 1 below).

Table 1 - Budget Breakdown

Construction Contract	\$300,000
Consultant Contracts	\$ 30,000
Contingency (20%)	\$ 70,000
Overhead and Other Project Related Costs	\$ 75,000
Total Project Budget	\$475,000

As a result of the re-allocation of \$475,000 from the Expo Deck Repair budget, funding available to the Expo Deck Repair project will be \$2M. Based on a number of factors as described in the Discussion section, staff are confident that the repairs to the Expo Deck wharf structure will be completed within the remaining \$2M budget.

ENVIRONMENTAL IMPLICATIONS

The repairs to the Cambie Bridge are subject to a Burrard Environmental Review Committee permit (BERC CPR#0904B012). All repairs will be completed in strict compliance with all permit and regulatory requirements.

CONCLUSION

The approval of the project budget, amendments to the contracts with MMM Group and Golder, and authorization to engage in direct negotiations with qualified contractors will support completion of the bridge repairs by the end of July 2009 and avoid the deferral of the bridge repairs until summer 2010 when the next set of favourable mid day low tides occur. Furthermore, the erosion of material from under the bridge pier caps is readily visible to members of the public walking along the seawall; a delay to the repair work could lead to negative perceptions of the overall safety of the bridge.

* * * * *