TORONTO

REPORT FOR ACTION

Amendment to Purchase Order No. 6044203 for Total Design and Construction Support Services for the Construction of a New City of Toronto Marine Services Passenger and Vehicle Vessel

Date: February 19, 2019
To: General Government and Licensing Committee
From: General Manager, Parks Forestry and Recreation and Chief Purchasing Officer
Wards: Ward 10 - Spadina -Fort York

SUMMARY

The purpose of this report is to request authority to amend Purchase Order No. 6044203, issued to Concept Naval Experts Maritimes Inc. ("Concept Naval"), to provide additional design and construction support services for the delivery of a new Toronto ferry or ferries, as part of the City's ferry replacement project. The value of the amendment is $767,364 ($780,870 net of HST recoveries), for a total potential contract including all options of $2,041,720.

RECOMMENDATIONS

The General Manager, Parks Forestry and Recreation and the Chief Purchasing Officer, recommend that:

1. The General Government and Licensing Committee, in accordance with Section 71-11.1C of the City of Toronto Municipal Code Chapter 71 (Financial Control By-law) grant authority to amend Purchase Order No. 6044203 with Concept Naval Experts Maritimes Inc., to provide additional design and construction support services for the delivery of a new Toronto ferry or ferries, in the amount of $767,364 ($780,870 net of HST recoveries), revising the Purchase Order Value from $1,274,356 to $2,041,720 ($2,077,654 net of HST recoveries) and extend the agreement term to expire December 31, 2022 on terms and conditions satisfactory to the General Manager of Parks, Forestry and Recreation, and in a form satisfactory to the City Solicitor.

FINANCIAL IMPACT

The amendment of Purchase Order No. 6044203 for additional amount of $767,364 ($780,870 net of HST recoveries), will increase the value from $1,274,356 to $2,041,720 ($2,077,654 net of HST recoveries).

Funding for this amendment is included in the Interim Parks, Forestry and Recreation 2019-2027 - Capital Budget and Plan and summarized in the table below.

Table 1: Projected Cash Flow for Amendment to Purchase Order No. 6044202

WBS Element	Project Description	Date of Award to December 31, 2019	January 1, 2020 to December 31, 2020	January 1, 2021 to December 31, 2021	January 1, 2022 to December 31, 2022	Total (Net of HST Recoveries)
CPR126-45-08	Ferry Boat Replacement #1	$755,430	$4,625	$13,876	$6,939	$780,870

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting of August 3, 2016, Bid Committee granted authority to award Request for Proposal No. 9117-15-0142 for the total design and construction support services for the construction of a new City of Toronto Marine Services passenger and vehicle vessel, for the period from the date of award until the expected completion of the 1st Vessel on May 31, 2019, or such later date as may be agreed to by the General Manager of Parks, Forestry and Recreation (the "General Manager"), with the option to retain the construction support and post construction services during the construction and delivery of a second Vessel at the sole discretion of the General Manager and subject to budget approval(s), for completion on a date to be determined by the General Manager, at a cost of $1,083,792 for one ferry and an additional $190,564 for the optional second ferry, for a total potential contract award, including all options, of $1,274,356 net of all applicable taxes and charges ($1,296,785 net of HST recoveries) to Concept Naval Experts Maritimes Inc., set out in the report (July 21, 2016) from the Director, Purchasing and Materials Management. A copy of the Bid Committee Decision Document can be found at:
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.BD94.11

City Council, at its meeting of March 10 and 11, 2015, adopted Parks, Forestry and Recreation's 2015 Capital Budget through item EX3.4 (23a.i.) and $11,000,000 for the Replacement of Ferry Boat #1.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX3.4

At its meeting of February 12, 2018, City Council approved the 2018 Capital Budget for Parks, Forestry and Recreation through item EX31.2 (20a.i.) and additional funds of $1,500,000 for Replacement of Ferry Boat #1.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX31.2

COMMENTS

Background

The City maintains a ferry fleet of four primary vessels (the Ongiara, the William Inglis, the Sam McBride, and the Thomas Rennie) and one heritage vessel (the Trillium). Together, this fleet transports approximately 1.4 million passengers and over 5000 vehicles annually. While ferry service is maintained year round, more than 80% of passenger volume takes place from May-September. In recent years, growing passenger numbers and pressure on Toronto Island Park has stretched the fleet to its operating limits.

While all the vessels are well maintained, they are significantly beyond the 20-year industry average lifespan for similar fresh water ferries (Toronto ferries are between 50 and 100 years old).

As vessels age, both reliability and safety naturally decrease and can increase the risk of unexpected failure and substantial and unexpected repair costs. Additionally, while the marine industry has made significant advancements in areas such as accessibility and energy efficiency, the age of the vessels has limited the City's ability to benefit.

Increasing the capacity and reliability of the fleet over the long-term is key to improving customer experience and outcomes. The City plans to replace the four primary vessels over a 15-year period. The Trillium will continue to be operated as a heritage vessel when possible.

In December 2015, the City ran a competitive procurement process to solicit total design and construction support services for the new vessels. The contract for a new passenger and vehicle vessel was awarded and signed by Concept Naval out of Quebec City. The contract also included optional pricing for the delivery of a second vessel.

The envisioned replacement strategy was to advance a single design for a passenger and vehicle capable diesel-powered vessel. This single design would be used for all four replacement vessels over 15 years, with the first vessel coming into operation in 2019.

In May 2017, during the course of design, refinement, and stakeholder consultation, staff deemed it prudent to conduct additional ferry fleet replacement analysis prior to finalizing the design and moving forward with construction of any vessel. Concept Naval's design work was put on a temporary hold to complete the third-party due diligence review.

In July 2017, an RFP was issued for professional consulting services for ferry replacement analysis. The contract was awarded to KPMG working with global marine consulting firm BMT Group and its naval architecture subsidiary BMT Nigel Gee. The analysis was to inform ferry replacement decisions by developing a robust, evidence based business case for the single design fleet mix or another more optimal fleet mix.

KPMG Ferry Fleet Replacement Analysis

KPMG's review focused on validating and strengthening the existing case for replacement through extensive stakeholder engagement coupled with robust qualitative and quantitative analysis. Three key directions resulted from the analysis relevant to Purchase Order No. 6044203.

1) The City should modify the existing replacement strategy to incorporate a passenger-only vessel design in addition to the passenger and vehicle capable design.

The need for four passenger and vehicle capable vessels was not supported by the qualitative or quantitative evidence, nor stakeholder feedback. The analysis indicated that the City should proceed with a "dual design" fleet replacement option. This fleet replacement option requires that a passenger-only design be created off of the finalized passenger and vehicle capable design being developed by Concept Naval. This replacement option is supported by an analysis of the historic operating profile of the ferry service, stakeholder feedback, and a 20-year financial modeling of different fleet replacement options.

In this scenario, the City will procure three passenger-only vessels and one passenger and vehicle capable vessel over the replacement period. The first vessel to be brought into operations would be a passenger-only vessel. As a result, the City would save significant capital construction costs (estimated 15-20% capital savings for the passenger-only version of the vessels), improve 20-year net cash flow, increase future procurement flexibility, and deliver an improved service offering, more tailored to the unique profile of Toronto's ferry service.

2) The City should look to modify the propulsion of the replacement vessels from diesel-only to a hybrid diesel-electric propulsion.

BMT completed a high-level options analysis comparing the originally envisioned diesel propulsion to hybrid diesel-electric propulsion and electric propulsion options. Given the City's ferry operating profile, shore side infrastructure, capital budget realities, and financial modeling of the options, it was determined that the hybrid diesel-electric propulsion option is the most suitable.

Compared to a diesel-only fleet, incorporating the hybrid diesel-electric propulsion option will lower greenhouse gas emissions, decrease fuel consumption, decrease ongoing maintenance costs, and improve the waiting/docking environment for passengers (as vessels would be noise and emissions free at the dock).

Full electrification of the vessels would be ideal from an emissions stand point, but the significant capital infrastructure costs and challenges make this option infeasible at this time. The City will continue to explore electric propulsion in the future as costs decrease and as the Jack Layton Ferry Terminal is updated. As such, vessels will be designed in a manner to allow for future electrification if and when possible.

3) The City should make a number of smaller design changes to improve and optimize the layout and structure of the new vessels.

Based on considerable stakeholder outreach and qualitative analysis, a number of smaller design changes are required to the layout of the new vessel(s). Improvements will optimize space, improve customer experience and accessibility, reduce capital costs, and remedy or mitigate concerns raised by stakeholders. Some examples include adding lower deck enclosed seating for 300 persons in a simple enclosed heated lounge; adding accessible washrooms along port and starboard sides of lower deck; improving accommodation for mobility devices; and removing ice capability from passenger-only design. These alterations will help ensure a more reliable, comfortable, and enjoyable trip for people of all ages.

Amendment to Purchase Order No 6042538 for Total Design and Construction Support Services for the Construction of a Toronto Marine Services Vessel or Vessels

The original scope of work covered by Purchase Order No. 6044203 only included design and construction support services costs for a single diesel powered passenger and vehicle vessel design. Additional design work is required to advance the recommendations of the third party due diligence review, and to deliver a modern ferry replacement to serve the long term needs of a growing Toronto. Importantly, the additional design services and change in replacement strategy will deliver improved value for money to the City, as well as improved customer outcomes.

Given that the recommended additional design and construction support services work is built off of the design work completed to date, expanding the existing contract with Concept Naval is the cost-effective, timely, and logical procurement option for the additional work.

Concept Naval are capable of completing the work required and have submitted detailed quotes to the City's satisfaction totalling $767,364. This amount is in line with staff expectations for this scope of work, and is considered to be fair, reasonable and consistent with the terms and conditions of RFP No. 9117-15-0142.

An amendment to Purchase Order No. 6044203 in the amount of $767,364 is therefore requested, revising the Purchase Order Value from $1,274,356, for a total potential contract value including all options of $2,041,720 ($2,077,654 net of HST recoveries).

Upon approval, it is anticipated that design work will resume by Concept Naval in April 2019, with the intention to issue an RFP in late 2019 or early 2020 to select an appropriate builder for the vessel(s). The planned delivery date for the first vessel is the fourth quarter of 2021.

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SIGNATURE

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