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### **CONSULTING SERVICES FEE FOR ADDITIONAL SCOPE REQUIRED FOR QUEENSVILLE ELEVATED TANK NO. 1 TOWNS OF EAST GWILLIMBURY – PROJECT 71180**

**The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report dated June 4, 2009, from the Commissioner of Environmental Services.**

#### **1. RECOMMENDATION**

It is recommended that:

1. Blanket Purchase Order Number B00009379 issued to MMM Group Limited for the Class Environmental Assessment and detailed design of Queensville Elevated Tank No. 1 be increased from \$115,400 to \$184,100, excluding GST, for additional engineering services related to modifying the design of the elevated tank from floating storage operation to flow-through storage operation.

#### **2. PURPOSE**

This report is to obtain Council authorization to increase Blanket Purchase Order number B00009379 for consulting engineering services for the Queensville Elevated Tank No. 1 project beyond the contingency and additional scope allowances in the Purchasing By-law.

#### **3. BACKGROUND**

##### **Class Environmental Assessment and detailed design assignment awarded to MMM Group Limited for \$99,800**

In April 2006, MMM Group Limited (MMM) was retained to provide engineering services for the Class Environmental Assessment (Class EA) and detailed design of Queensville Elevated Tank No. 1. Accordingly, Purchase Order (PO) number B00009379 was issued to MMM Group Limited for the assignment at an upset fee limit of \$99,800, plus GST.

##### **Extensive discussions with the Ministry of Transportation exhausted the contingency allowance**

The Class EA study completed by MMM determined that the preferred site for the elevated tank was on the north side of Queensville Sideroad adjacent to the proposed

alignment of the Highway 404 extension. Design of the proposed Highway 404 extension by the Ministry of Transportation (MTO) includes a full interchange at Queensville Sideroad. As such, the MTO was very concerned that the elevated tank's operational and maintenance requirements may interfere with operation of the proposed interchange, and in particular the planned commuter parking facility. To address these concerns, MMM was required to conduct numerous additional meetings with the MTO and make adjustments to the detailed design to ensure that the elevated tank's watermain connection and access road to Queensville Sideroad fully met the future operational needs of both parties.

To compensate MMM for their additional efforts in this regard, a fee extension was approved in the amount of \$15,600 which exhausted the contingency allowance provided for in the Purchasing By-law and brought the total upset limit of the contract up to \$115,400, exclusive of GST.

#### **4. ANALYSIS AND OPTIONS**

##### **MMM's workplan for modifying elevated tank design from floating storage operation to flow-through storage operation equals \$37,700**

The Region's standards for elevated tanks provides for their operation as a floating storage facility. This type of operation requires only one watermain connection from the elevated tank to the source watermain, which for this project is on Queensville Sideroad. Water would then move back and forth between the elevated tank and the source watermain through this single watermain connection based on water demand within the overall system at any given time.

During the Region's design review process, Operation's staff was concerned that this proposed facility would not be used to its full capacity for an extended period until such time as development in the local area progresses. This would necessitate interim additional operational efforts to ensure that water in the elevated tank is adequately circulated through the system.

To address this out-of-scope request, MMM prepared a workplan to modify the existing design of the elevated tank to a flow-through storage operation facility. This type of operation requires two watermain connections from the elevated tank to the source watermain on Queensville Sideroad. Water enters the elevated tank through one connection and exits through the other. This ensures that water in the tank is continually circulated through the system, with no additional effort by Operations, during low demand periods at the early stages of residential development in the local area. MMM's fee for these design modifications is \$37,700.

**MMM Group Limited's quote for the design of two "cast-in-place" watermain chambers equals \$31,000**

The original scope of work for this project included design of a single watermain connection from the proposed elevated tank to the source watermain. Given the relatively small size of this proposed watermain connection, it was reasonable for MMM to assume at the time of bidding that any required watermain chambers would be a "pre-cast" type. "Pre-cast" type chambers require minimal design effort, since they are manufactured by others in a casting facility, and then delivered to the construction site ready for installation.

As outlined above, modification of the elevated tank design from floating to flow-through storage operation requires two separate watermain connections between the elevated tank and the source watermain on Queensville Sideroad, which will be installed side by side in one trench. Given that pre-cast type chambers are not manufactured in a large enough size to accommodate two watermains side by side, the required chambers need to be designed by MMM for construction on site. MMM's quote for the design of the two required "cast-in-place" type valve chambers is \$31,000.

## **5. FINANCIAL IMPLICATIONS**

The total requested additional fee for the design services summarized above is \$68,700, excluding GST. The fees for this additional work are in excess of the remaining scope allowance provided for in the Purchasing By-law.

The primary business case driver for this additional capital expenditure relates to the risk of possible adverse water quality events associated to inadequate circulation of water in the tank. Any such event will not only reflect negatively on the Region, but may also result in penalties and fines by the Ministry of the Environment.

The requested fee increase will result in an updated contract value of \$184,100. There are sufficient funds in the approved 2009 Capital Budget for this project to cover this fee increase.

All outstanding expenditures on this project will be funded 93% from development charges and 7% from water rate reserve.

The latest engineer's estimate of construction for the Queensville elevated tank is approximately \$5 million. This budget increase will result in the final fees for MMM's Class EA and detailed design services noted above equalling approximately 3.7% of the value of construction, which is well within general industry standards for these types of engineering services for water storage projects.

It should be noted that since 2002, a little over 700 purchase orders with a total value of approximately \$1.3 billion have been issued to secure engineering, consulting and construction services on water and wastewater projects. Of these, approximately 70 or 10% of the purchase orders have required increases beyond the increases allowed in the Regional Purchasing By-law. The total value of such increases is approximately \$41 million or 3% of the total original value of the purchase orders.

## **6. LOCAL MUNICIPAL IMPACT**

Queensville Elevated Tank No. 1 will provide the first phase of water storage needs to accommodate approved growth in East Gwillimbury.

This approved growth will also require sanitary servicing via the planned extension of York Durham Sewer System (YDSS) into East Gwillimbury, scheduled for tendering later this year. Queensville Elevated Tank No. 1 will also be tendered later this year to ensure that it is commissioned prior to the YDSS extension.

Additionally, once Queensville Elevated Tank No. 1 is commissioned, the Region may proceed with the planned decommissioning of the Sharon elevated tank.

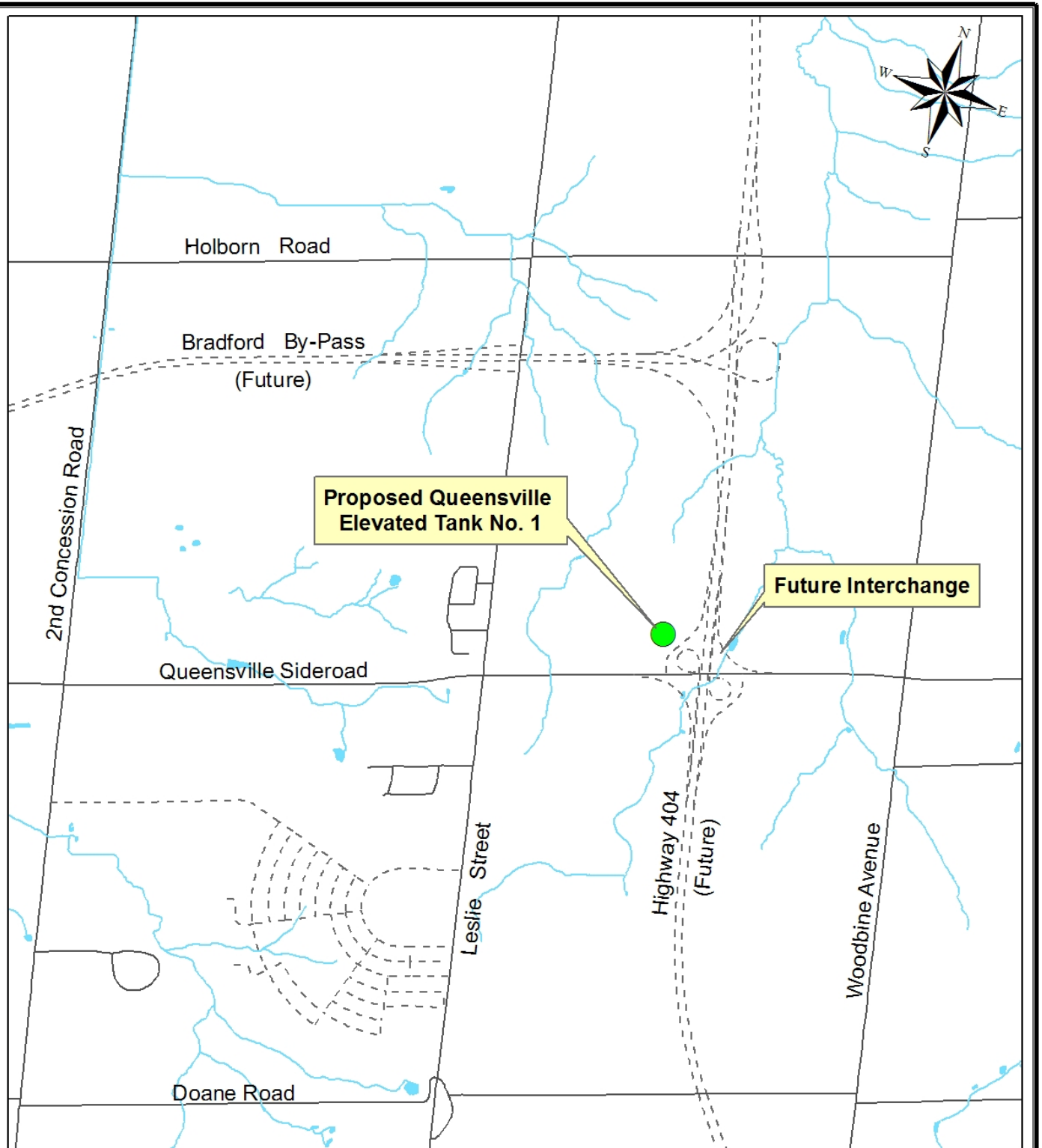
## **7. CONCLUSION**

MMM Group Limited has provided detailed workplans and associated fees for additional engineering services required on the Class Environmental Assessment and detailed design assignment for the Queensville Elevated Tank No. 1 project. Fees for these services are in excess of the contingency and additional scope allowances provided for in the Purchasing By-law. Accordingly, it is recommended that their Purchase Order for this assignment be increased from \$115,400 to \$184,100, excluding GST, such that their quotes can be approved and these necessary additional services undertaken.

For more information on this report, please contact Daniel Kostopoulos, Director, Capital Planning and Delivery, Environmental Services at extension 5070.

The Senior Management Group has reviewed this report.

*(The attachment referred to in this clause is attached to this report.)*



## LOCATION PLAN

Proposed Queensville Elevated Tank No. 1

Project 71180

Town of East Gwillimbury



ENVIRONMENTAL SERVICES