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KING CITY WATER SUPPLY PROJECT UPDATE AND PARTNERSHIP APPROACH TO IMPLEMENT ADDITIONAL LOCAL WORKS

The Environmental Services Committee recommends the adoption of the recommendations contained in the following report dated March 30, 2011 from the Commissioner of Environmental Services.

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council authorize an increase to existing Blanket Purchase Order Number B00012178 issued to North Rock Group Limited from \$10,231,000.00 to \$14,635,138.00, exclusive of taxes for construction of the King City Water Supply (contract T-09-26) to include additional construction works. The work includes replacement of a local distribution watermain, full width road restoration of King Road and installation of two pressure sustaining valve chambers, in the Township of King.
2. Regional Council authorize an increase to existing Blanket Purchase Order B00010769 issued to AECOM Canada Ltd. (formerly KMK Consultants Limited) from \$844,860.38 to \$1,169,023.38, exclusive of taxes. Work will include additional detailed design, contract administration and site inspection for replacement of a local distribution watermain, full width road restoration of King Road and installation of two pressure sustaining valve chambers in the Township of King.
3. The Commissioner of Environmental Services be authorized to adjust the contract administration and site inspection fees using the competitive unit price of \$8,400.00 per week, excluding taxes, to match actual construction duration.
4. The Commissioner of Environmental Services be authorized to execute a funding agreement with the Township of King for design and construction of the local distribution watermain in conjunction with the Region's project.
5. The Regional Clerk circulate this report to the Clerk of the Township of King.

2. PURPOSE

This report seeks Council authorization to increase Blanket Purchase Order Number B00012178 for replacement of local distribution watermain, full width road restoration and installation of two pressure sustaining valve chambers as part of the King City Water Supply works. This report also seeks Council authorization to increase Blanket Purchase Order Number B00010769 for the consulting services related to the detailed design, construction administration and site inspection for the replacement of local distribution watermain, full width road restoration and installation of two pressure sustaining valve chambers as part of the King City Water Supply works. In both cases the increase is beyond the contingency and additional scope allowances provided in the Purchasing By-law. This report also serves as an update to Council on the progress of works for the King City Water Supply project.

3. BACKGROUND

The King City Water Supply system is being expanded to meet the water demand for the 2021 projected population approved in the King City Community Plan. Construction of a new elevated storage tank and installation of approximately four kilometres of feedermain along King Road and Dufferin Street began in Spring 2010 and will bring lake based water supply to King City. These works are anticipated to be completed in Summer of 2011, when additional supply will be required to service new development areas.

Construction through King City since 2004

Construction has occurred along King Road in the King City business area over the last seven years as follows:

- 2004 – 2006 Installation of Regional and local sanitary servicing along King Road
- 2008 – 2010 Local development works including the King Boulevard Pumping Station and drainage area sewers and service connections
- 2010 – 2011 King Road Feedermain installation

The King Road Feedermain installation was completed in March 2011 and restoration of locally disturbed pavement areas along King Road will be completed in Spring 2011. The new lake-based water supply system is scheduled to be operational in Summer 2011. Location plans showing the additional improvements are appended to this report (*see Attachments 1 and 2*).

Township of King includes King Road watermain replacement in proposed water Capital Budget for 2011

The Township of King's Public Works Department advised Region staff in late 2010 of the need to replace an old and deteriorated local distribution main along King Road in the

urban core area. The Township of King subsequently added replacement of the watermain on King Road from Banner Lane to Fisher Street to the Township's Capital Budget for 2011.

2011 road resurfacing for King Road postponed until watermain and sanitary works completed

The Region had initially planned to resurface King Road from Bathurst Street to Keele Street in 2010. Due to ongoing King Road Feedermain construction and development related works west of Dufferin Street, resurfacing of this section from Dufferin Street to Keele Street was postponed pending completion of these works in 2011.

Previous watermain and sanitary sewer projects dating back to 2004 have resulted in a scored and patched road surface where local restorations have been made. The cumulative effect of road cuts associated with each of these projects has resulted in an inconsistent driving surface for motorists.

The King Road watermain replacement project will further extend construction activity in the King City urban core and postpone the final King Road pavement restoration beyond 2011. Furthermore, the introduction of a new contractor to this section of King Road may compromise warranties associated with the current contract.

Valve chambers required for King City water supply project

Commissioning of the feedermain recently installed along King Road and Dufferin Street requires that two pressure sustaining valve chambers be constructed on King-Vaughan Road just east of Dufferin Street and on the Aurora South Reservoir property on Bathurst Street north of Bloomington Sideroad. These Regional valve chambers will become part of the Aurora-Newmarket feedermain system and will efficiently feed potable water to King City, the Aurora South Reservoir and the Jefferson Reservoir.

Although the valve chambers were originally intended to be included in the King Road and Dufferin Street Feedermain Contract, the design could not be completed in time for tendering in 2010. In order to facilitate water supply to King City in 2011, it was determined that the valve chambers would be procured after award of the main contract, either through a Change Order or a separate procurement.

Due to unanticipated property and utility constraints, additional design changes are now required to facilitate construction of the chambers and minimize impacts to adjacent property owners on King-Vaughan Road and to the City of Vaughan's roads operations.

4. ANALYSIS AND OPTIONS

There are clear advantages for the Region and the Township of King to include the King Road local watermain replacement, King Road full width road restoration and the pressure sustaining valve chambers in the existing King Road and Dufferin Street Feedermain Contract.

Minimizing inconvenience to King City's businesses and residents

The Township of King has yet to procure engineering services for design of the proposed watermain replacement on King Road. Allowing reasonable time for the completion of design would result in tendering the work in Fall 2011 or Spring 2012. The Township of King cannot proceed to construction until York Region's contract on King Road is totally performed due to constructor and warranty issues within the limits of York Region's contract. The project will be completed late Spring 2012. York Region Transportation Services Department's current plan is to resurface King Road from Dufferin Street to Keele Street in Fall 2012 or Summer 2013 pending the completion of the King Road Feedermain Contract and the Township of King's watermain replacement project.

Including these works in the current contract will expedite work and shorten the period of construction activity on King Road by 12 to 18 months. In addition, continuity of the same contractor on this section of King Road will mean that only one contractor is accountable for the works on King Road through the construction and warranty period.

King Road restoration will minimize disruptions to King City's urban core

Given the current poor condition of King Road in the King City urban core and the legacy of road repairs left behind from previous growth funded projects, it is reasonable that full width restoration of King Road be funded by growth funding. Therefore, it is recommended that the urbanized section of King Road between Warren Road and Keele Street be included in the current King Road and Dufferin Street Feedermain Contract.

Adding pavement resurfacing and local watermain replacement work to the current contract will minimize disruption to the King City urban core and provide cost efficient construction and engineering services. Cost savings will be realized in contract administration, inspection services and other economies of scale associated with combining three related projects into one larger construction contract. Furthermore, one general contractor will be accountable for pavement deficiencies and warranty issues associated with the current contract.

Timely delivery of valve chambers a key component of King water supply

Procurement of a new contractor for construction of the valve chambers will delay commissioning of the feedermain and subsequent servicing to the new developments in the Township of King by a minimum of seven months.

Implementation of the valve chambers can be expedited by issuing a change order to the current contract. As the contractor responsible for commissioning the watermain will also be installing the valve chambers, this work and the commissioning are easily coordinated within the same contract. It will benefit York Region to have one contractor supply, install and commission both valve chambers since they are identical and require the same materials, equipment, instrumentation and controls. In addition, installation of the valve chambers will require tie-ins to the Aurora-Newmarket feedermain which will require coordination with the Region's Operations Maintenance and Monitoring staff to isolate certain sections. Having one contractor complete this work for the two chambers will reduce the risks associated with this intricate commissioning procedure.

Prices provided by North Rock Group for the supply and installation of the valve chambers at King-Vaughan Road (\$1,645,195) and at Aurora South Reservoir (\$1,304,225) were reviewed by Region staff and the engineering consultant and were found to be within the detailed engineering estimate for this work.

5. FINANCIAL IMPLICATIONS

Construction costs and engineering fees for the Township of King watermain replacement on King Road, the King Road resurfacing from Warren Road to Keele Street and the pressure sustaining valve chambers are summarized in Table 1.

Table 1
Summary of Engineering Fee and Construction Costs

Item	King Road Local Watermain Replacement (\$)	King Road Resurfacing (\$)	Valve Chambers (\$)	Total (\$)
Engineering Fees				
Design	6,805	N/A	37,258	44,063
Construction Administration / Inspection	17,390	35,010	200,700	253,100
Material Testing	2,000	20,000	5,000	27,000
Subtotal Engineering	26,195	55,010	242,958	324,163
Construction costs	*268,800	*1,185,918	2,949,420	4,404,138
Total Engineering and Construction	294,995	1,240,928	3,192,378	4,728,301
Cost Allocation				
York Region		1,240,928	3,192,378	4,433,306
Township of King	294,995			294,995

* costs are estimates based on recently completed similar works

All costs for the King Road local watermain replacement are recoverable from the Township of King and will be subject to execution of a funding agreement for the design and construction of the local watermain with the Region's project. Sufficient funds are identified in the Township of King's 2011 Budget Forecast for this work. Costs for the King Road resurfacing are for administration and site inspection services only as the design is complete. The cost for the valve chambers is already included in the approved 2011 project capital budget.

The weekly site inspection and contract administration fee submitted by AECOM Canada Limited for the additional work is \$8,400. As the majority of underground works have been installed, the remaining scope and corresponding weekly fee is lower than the fee submitted in the original financial proposal. Should the actual duration of construction require adjustment, it is recommended that the Commissioner of Environmental Services be authorized to amend the contract to reflect the actual duration using this competitive fee.

Sufficient funds for the proposed additional engineering and construction work are available in the approved 2011 capital program for this project, which has a Total Project Budget Authority of \$18,277,000. The current project value is \$11,075,860 and the additional engineering and construction costs, result in a new total of \$15,804,161.

As the cost of the above noted scope changes exceeds the remaining scope and contingency allowances provided for in the Region's Purchasing Bylaw, it is recommended that the existing purchase orders with AECOM Canada Limited and North Rock Group Limited be increased to include the additional scope of work and associated costs as detailed in Table 1.

6. LOCAL MUNICIPAL IMPACT

The King City community has patiently endured and accommodated construction activity along King Road in the urban core area since 2004. Combining the local distribution watermain replacement and road resurfacing works with the current regional King Road Feedermain Contract will expedite completion of the work and fully restore King Road through the King City urban core as soon as possible.

7. CONCLUSION

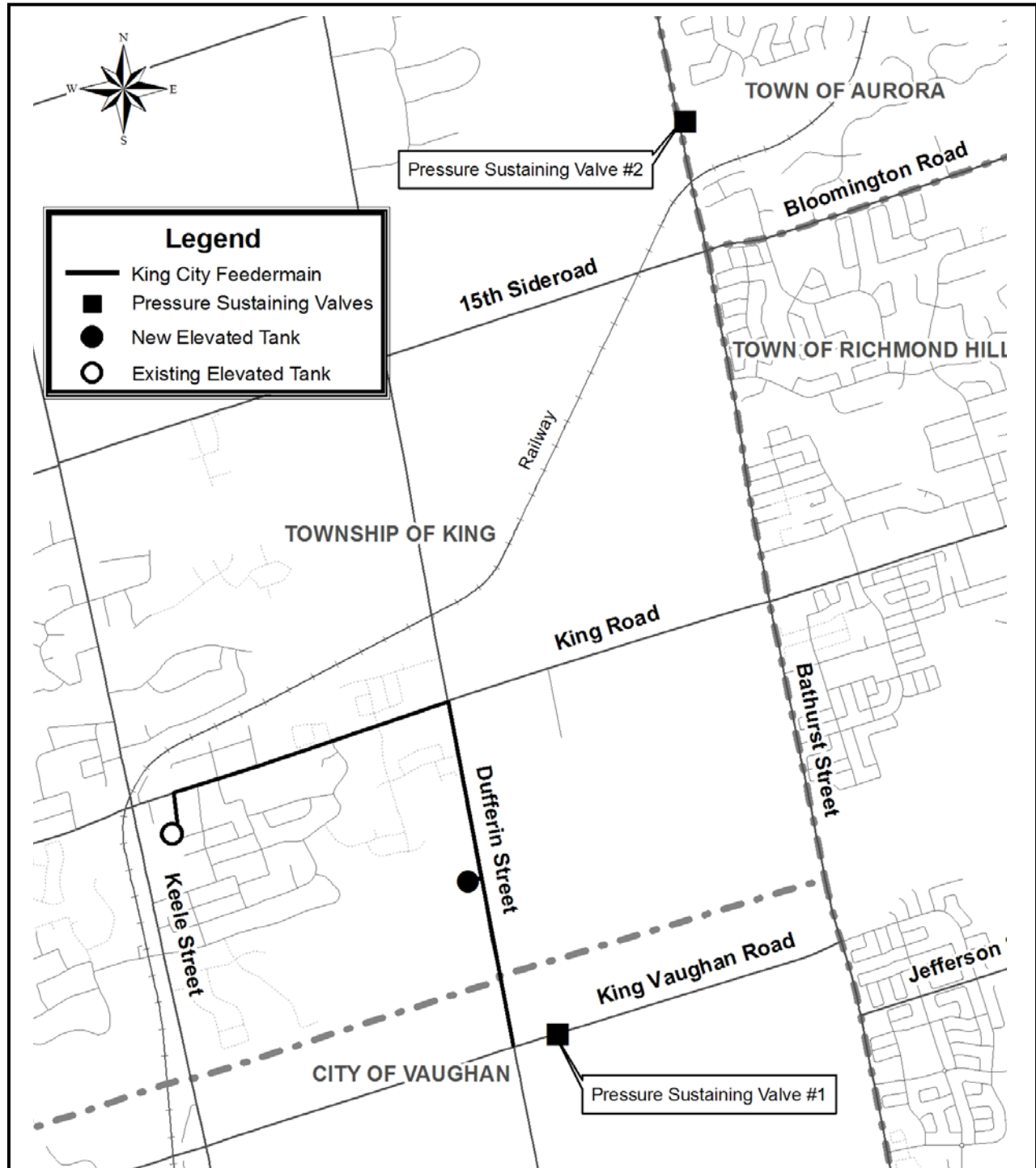
Incorporating the King Road local watermain replacement, the King Road full width pavement restoration, and the pressure sustaining valve chambers into the ongoing King Road Feedermain construction contract will serve to expedite the remaining projects and bring much needed relief to residents and businesses in the urban core of King City.

It is recommended that the original purchase order amounts for AECOM Canada Limited and North Rock Group Limited be increased by an additional \$324,163.00 and \$4,404,138.00 respectively to accommodate these additional works and complete construction activity in the King City urban core in 2011.

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

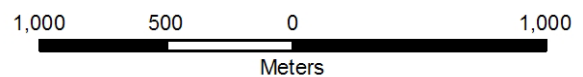
The Senior Management Group has reviewed this report.

(The two attachments referred to in this clause are attached to this report.)



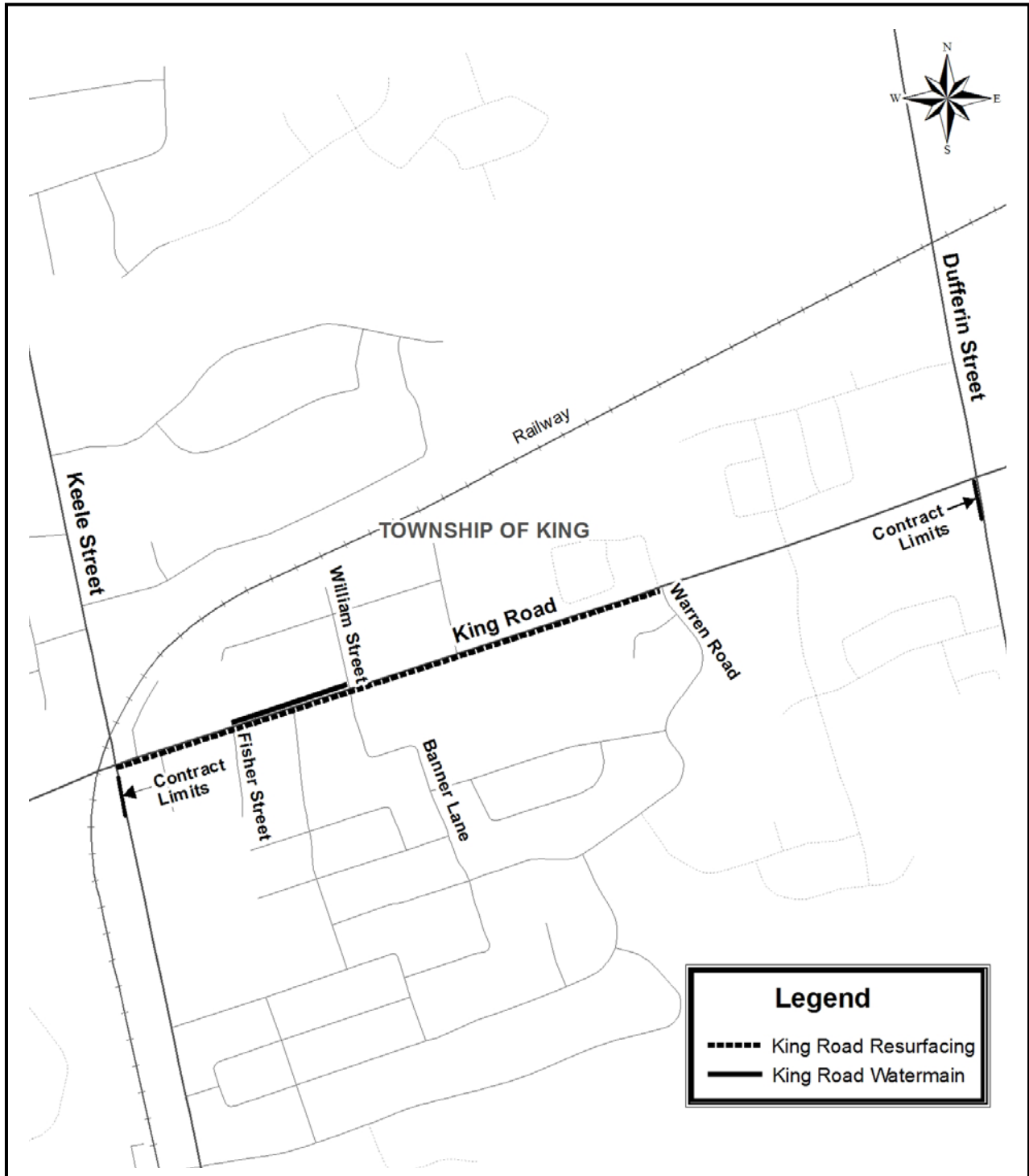
LOCATION PLAN **King City Water Supply Project Update and** **Partnership Approach to Implement** **Additional Local Works**

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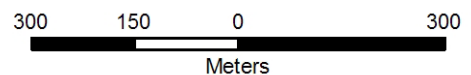


LOCATION PLAN
King City Water Supply Project Update and
Partnership Approach to Implement
Additional Local Works



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