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YORK-PEEL WATER SUPPLY PROJECT UPDATE PROJECT 77300

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, October 26, 2004, from the Commissioner of Transportation and Works:

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk forward copies of this report to the Clerks of the City of Vaughan, and the Towns of Markham, Richmond Hill, Aurora, and Newmarket.

2. PURPOSE

The purpose of this report is to update Committee and Regional Council on the progress achieved to date as well as forecast activities over the next few months on the York-Peel Water Partnership (YPWP) project.

3. BACKGROUND

3.1 York-Peel Water Partnership (YPWP) Project

The primary objective of the YPWP project is to design, construct, and put into service a major east-west supply system to convey up to 388 ML/d (85 MIGD) of treated water from The Regional Municipality of Peel (Peel Region) to York Region's Maple Reservoir. The project consists of 30 km of large-diameter feeder mains through the Cities of Brampton and Vaughan, as well as a new reservoir and pumping station facility located in Brampton. The project is a major component of the Region's strategy for long-term water supply, and is being implemented in co-operation with Peel Region.

The various contract packages constituting the YPWP project are shown in the key plan provided (*see Attachment 1*).

3.2 York and Peel Contracts

A single design-build contract, valued at about \$72 million, encompasses all works to be constructed as part of the YPWP within the boundaries of York Region. The primary component of the project is an 1800 mm diameter feeder main that will begin at the east side of Highway 50 (the York-Peel boundary), extend eastward along Rutherford Road to connect with the previously constructed feeder main segment, and then continue northward from Rutherford Road along Weston Road to the proposed Block 33 residential subdivision north of Major Mackenzie Drive. After traversing the subdivision

lands, the feedermain will be extended eastward across Highway 400 along Teston Road and will ultimately connect to the existing Maple Reservoir in the City of Vaughan.

York Region has assumed primary management responsibility for the above-noted works, while Peel Region has retained primary management responsibility for project components within its geographical boundaries.

On June 26, 2003, York Region Council authorized the award of design-build Contract No. 03-04 in the amount of \$72,310,643.87 including GST for the feedermain installation and road reconstruction to Dufferin Construction (Dufferin).

Peel Region's portion of the work which has been sub-divided into several design-build and conventional contracts, includes a 2100 mm diameter feedermain that will begin at the existing Beckett-Sproule Reservoir, in the City of Brampton, and will run northward and eastward to the intersection of West Drive and Queen Street, extend eastward along Queen Street to Airport Road, and then continue northward to enter an easement along the Canadian National Railway (CNR), below Castlemore Road, terminating at a new 35 ML reservoir and associated pumping station (the "Airport Road Reservoir and Pumping Station" -- ARRPS). An outgoing 1800 mm feedermain will be installed along the future Humber West Parkway and will continue eastward along Castlemore Road, connecting the ARRPS with the York feedermain at the York-Peel boundary.

On July 10, 2003, Peel's Regional Council authorized the award of design-build Contract 2004-109P for the Airport Road/Castlemore Road feedermain to Dufferin Construction.

4. ANALYSIS AND OPTIONS

4.1 Progress Summary

Since the last report to Council, the project team has focussed on the following activities:

- Monitoring material procurement status and confirming options to expedite the project.
- Administering construction of the following:
 - Feedermain installation along Rutherford and Weston Roads, as well as through Block 33.
 - Road reconstruction works on Weston Road, including associated illumination and signalization.
 - Continuation of Elder Mills Bridge construction.
 - Robinson Creek Bridge deck.

According to the design-build contractor's original schedule, feedermain installation within York Region was due to be completed by late September 2004, with commissioning of the system due to commence on September 30, 2004. This target milestone has not been met, due to pipe supply difficulties. The project team is continuously monitoring pipe deliveries and comparing the quantities delivered to those required to maintain the revised completion dates. The pipe supply issue is discussed in further detail in Section 4.3 of this report.

Feedermain installation was about 50% complete in York Region and 60% complete on the remaining Peel Region (design-build) contract as of October 15, 2004. The latest schedule updates submitted by Dufferin Construction forecast substantial completion of the feedermain work in York Region and in Peel Region by March 14, 2005 and January 27, 2005, respectively. On the York contract this represents approximately a five month delay.

Construction of the Airport Road Reservoir and Pumping Station in Peel Region is currently on schedule to meet the required completion date of November 30, 2004. This facility will feed water into the York Water System.

Construction of all three conventional feedermain contracts within Peel Region is nearing completion. The project team is currently addressing contract deficiencies.

4.2 Property Acquisition Status

All property required to allow both feedermain installation and road improvements to proceed is now in place, including properties that had to be acquired by expropriation.

4.3 Pipe Supply

The design-builder, Dufferin Construction contracted with Munro Concrete Products (Munro), an existing concrete pipe manufacturer located in Barrie, Ontario, to supply Concrete Pressure Pipe (CPP) to the entire York-Peel Feedermain project. This includes approximately 2.7 km of 2100 mm diameter pipe and approximately 7.5 km of 1800 mm diameter pipe within Peel Region. York Region's portion of the pipe delivery from Munro consists of approximately 13 km of 1800 mm diameter pipe. These quantities equate to over 3,650 individual pieces of large-diameter pipe – approximately 2,200 pieces to be delivered to York Region, with the remainder earmarked for the Peel Region contract.

The Munro facility was originally operating well below expected production rates. These rates have increased over the last four months, however this has resulted in delays to the original schedule. The original October 2004 completion date is now forecast to March 2005, by the design-build contractor.

The project management team has been working with the design-builder to expedite key components of the work to enable partial commissioning of the system earlier than March, 2005.

Under this scenario, the design-build team will concentrate on the pipeline sections within Peel Region as well as the Rutherford Road pipeline (from the Regional boundary eastward to Napa Valley Avenue). The feedermain along Teston Road would be deferred until after these priority sections have been completed. This will satisfy the primary project objective of initiating water deliveries into York Region, where it will be possible to temporarily pump the water through local connections while the connection into the Maple Reservoir is being completed. Under the best case scenario, and assuming

continued steady production at the average rates achieved to date, the design-build team's schedule forecasts that all pipe required for the priority areas could be delivered by late January 2005, for installation by the end of January 2005. This section of the pipe would then be commissioned over an estimated four week period.

In order to lessen the impact of delays, the project team continues to explore means to both expedite the project and mitigate additional costs that would be incurred. The project team is working with Corporate Legal Services to assess the applicable costs and damages due to the delays on this contract. The contract with Dufferin stipulates that liquidated damages would be imposed if the project is not complete in accordance with the contract schedule. The liquidated damages on this project amount to \$17,000 per day and are intended to cover costs and damages that the Region would incur in the event of delays to contract completion.

4.4 Construction Schedule Overview

Table 1 provides milestone dates for key activities, as set out in the latest updates submitted by the respective design-build contractors. There have been no significant changes to these dates since the last status report in September 2004.

Table 1
Key Project Milestones

Task	Schedule Date
Construction start on Rutherford Road – CPR to Napa Valley Avenue	September 2003
Start of Elder Mills and Robinson Creek – Bridge reconstruction	December 2003
Construction start on Weston Road – Rutherford Road to Major Mackenzie Drive	September 2003
Construction start on Teston Road – Keele Street to Jane Street	September 2003
Commence highway and water crossings	February 2004
Commence concrete pressure pipe (CPP) delivery in York and Peel	May 2004
Commence CPP installation along Weston Road	May 2004
Complete CPP installation along Weston Road	September 2004
Commence CPP installation through Block 33	August 2004
Complete CPP installation through Block 33	October 2004
Commence CPP installation along Rutherford Road	August 2004
Complete CPP installation along Rutherford Road	January 2005
Commence CPP installation along Teston Road/Keele Street	September 2004
Complete CPP installation along Teston Road/Keele Street	February 2005
Complete Airport Road Reservoir and Pumping Station	November 2004

Complete Feedermain Work in Peel Region	January 2005
Complete Feedermain Work to Weston Road/Rutherford Road	February 2005
Complete overall water supply system commissioning	March 2005
Construction (inclusive of road works) substantially performed	May 2006

4.5 Forecast Activities for the Next Two Months

The following are key events scheduled over the next two months:

- Continue feedermain installation on Rutherford Road, from the Humber River eastward to Napa Valley Avenue and start installation westward to Highway 50.
- Continue roadwork on Rutherford Road (between Highway 50 and Napa Valley Avenue, and Teston Road (between Block 33 and Keele Street).
- Construct foundations and substructure for the north side of the Elder Mills Bridge.
- Continue the Robinson Creek Bridge widening (deck construction).
- Replace concrete culverts on Rutherford Road and Teston Road.
- Continue feedermain construction in Peel Region along both Airport Road and Castlemore Road.
- Continue work on the pumping station portion of the Airport Road Reservoir and Pumping Station.

5. FINANCIAL IMPLICATIONS

All major contracts relating to this project, including those being managed on the Region's behalf by The Regional Municipality of Peel, have been tendered and awarded. Several are now complete or nearing completion. York Region's 2004 10 year Capital Plan includes sufficient funds to cover engineering, construction, project management, land acquisition, and miscellaneous costs associated with the feedermain and road works.

Financial responsibility for the pipeline works in Peel Region is subject to the terms of the York-Peel Water Supply Agreement. Each municipality is arranging its own funding for ancillary road and other infrastructure work.

6. LOCAL MUNICIPAL IMPACT

The York-Peel Feedermain project is required to accommodate future growth within York Region including the City of Vaughan and to supplement the existing water supply from the City of Toronto.

There is no reason to expect adverse impacts on local municipalities other than construction impacts normally associated with large projects of this nature.

7. CONCLUSION

The York-Peel Feedermain installation and road reconstruction project being undertaken in York Region is progressing five months behind the original schedule required by the relevant contracts. The feedermain portion of the work is scheduled for commissioning by the end of March 2005, based on the current schedules provided by the design-build team.

The project team has expedited key components of the work to enable partial commissioning of the system earlier than March 2005.

The Senior Management Group has reviewed this report.

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