

1

YORK-PEEL WATER SUPPLY PROJECT UPDATE PROJECT 77300

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report, November 9, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk forward 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 to the completion of 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 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 preferred strategy for long-term water supply, and is being implemented in co-operation with The Regional Municipality of Peel.

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

The project was initiated in March 2002 with the Class Environmental Assessment for the York-Peel Feeder main. In June 2002, the process consultant to oversee the design-build contract was selected. In June 2003, a single contract encompassing the design and construction of feeder mains on the York side of the boundary, as well as related roadworks, was awarded following a competitive proposal process.

The water supply works have been completed and are now in operation. The roadworks included in the original scope of the contract are scheduled to be completed by the end of the year, with the exception of some surface course paving and additional work that have been deferred to spring 2006 at the Region's request.

3.2 York and Peel Contracts

The central component of the project is an 1800 mm diameter feedermain that begins at the east side of Highway 50 (the Peel-York Boundary), extends eastward along Rutherford Road to connect with the previously constructed feedermain segment, and then continues 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 extends eastward across Highway 400 along Teston Road, ultimately connecting to the existing Maple Reservoir in the City of Vaughan.

York Region has assumed primary management responsibility for the above-noted works, while the Region of Peel 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 \$67,662,541 excluding GST for feedermain installation and road reconstruction to Dufferin Construction. The value of the Contract has since increased to \$74,261,749.68 to cover various additions to the scope of work. Some of the increased scope has been funded by developers of adjacent properties.

The Peel portion of the work, which has been sub-divided into several design-build and conventional contracts, includes a 2100 mm diameter feedermain that begins at the existing Beckett-Sproule Reservoir, Brampton, and runs northward and eastward to the intersection of West Drive and Queen Street, extends eastward along Queen Street to Airport Road, and then continues 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 has been installed along the future Humber West Parkway, then eastward along Castlemore Road, to connect the ARRPS with the York feedermain at the York-Peel Regional boundary.

On July 10, 2003, Peel's Regional Council authorized the award of design-build Contract Number 2004-109P for the Airport Road/Castlemore Road feedermain to Dufferin Construction. That contract was substantially performed on August 4, 2005.

4. ANALYSIS AND OPTIONS

4.1 Progress Summary

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

- Completing the communications system at the Maple Reservoir to facilitate monitoring and control of flow in the feedermain.
- End-to-end commissioning of the York-Peel Water System, inclusive of all 1800 mm diameter feeder mains installed in York Region under this contract.
- Roadworks on Rutherford and Teston Roads.
- Finishing work at Elder Mills and Robinson Creek Bridges.
- Construction of four concrete culverts on Rutherford Road and Teston Road.
- Clean-up and restoration.

The ARRPS was substantially complete in April, 2005, with the exception of the pump system to service York Region. The commissioning of the York Region system was completed in October 2005, in conjunction with the overall water system commissioning.

4.2 Construction Schedule Overview

Table 1 provides milestone dates for key activities.

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 concrete pressure pipe (CPP) delivery in York and Peel	May 2004
Commence CPP installation along Weston Road	May 2004
Commence CPP installation through Block 33	August 2004
Complete pressure testing of Weston Road/Block 33 feeder mains	April 2005
Commence CPP installation along Rutherford Road	November 2004
Complete pressure testing of Rutherford Road feeder mains	July 2005
Commence CPP installation along Teston Road/Keele Street	December 2004
Complete pressure testing of Teston Road/Keele Street feeder mains	July 2005
Complete essential ancillary facilities (e.g., metering chamber equipment) to undertake commissioning	October 2005
Complete Airport Road Reservoir and Pumping Station (exclusive of final commissioning for York pumps and controls)	April 2005

Task	Schedule Date
Complete Feedermain Work in Peel Region up to the ARRPS	April 2005
Complete overall water supply system commissioning	October 2005
Construction (inclusive of road works) substantially performed	December 2005
Final Surface Course Paving (Selected Locations) and Jane Street Extension	Spring 2006

4.3 Forecast Activities to Completion of the Project

Feedermain installation and commissioning within York Region was originally scheduled for completion by the end of October 2004, but the feedermain was not ready for service until mid-October 2005.

Based on careful analysis of applications for time extensions submitted by the design-builder in relation to the provisions of the contract, the required in-service date for the feedermain was subsequently extended to May 2, 2005 on account of changes to the contract scope and the conditions under which some of the work had to be performed.

Even as it was agreeing to expedite its work to meet the initial extension date of March 31, 2005, Dufferin was experiencing additional delays in completing feedermain installation, inclusive of joint welding and grouting, along Rutherford and Teston Roads. These two sections of feedermain were not ready for pressure testing until the final week of June 2005. Late completion of feedermain installation pushed pressure testing into the months of June and July, a period of water use restrictions resulting in additional delay to the testing operation. As such, the commissioning of the pipe had to be postponed to October.

The contract with the design-builder includes provision for retaining liquidated damages, in the amount of \$17,000 per calendar day, which were intended to cover the Region's costs. The Region is entitled to assess liquidated damages if the required completion date for the pipeline work was not met. The delays which prevented pressure testing, disinfection and commissioning from being completed prior to the period of high summer water demand were the responsibility of the contractor. As such liquidated damages will be assessed for the period as appropriate. Liquidated damage assessments will be suspended for those days when the Region was unable to supply water or make available facilities for testing/commissioning.

With respect to the road works, during August 2005, an ossuary containing human remains estimated to be over 500 years old was uncovered within the Regional right-of-way (ROW), under existing pavement, during road reconstruction operations on Teston Road near Jane Street. The Region engaged Archaeological Services Inc. (ASI) to carry out a comprehensive investigation of the ossuary site and to submit a report to the Registrar of Cemeteries. ASI's fieldwork was aided by labour and equipment supplied by Dufferin.

The Region has also initiated discussions with representatives of three First Nations groups in order to determine a course of action with respect to the remains. Some preliminary engineering has been completed to support assessment of possible options, including a minor re-alignment of the road. Staff are working to reach an agreement with the First Nations and finalize any necessary design changes.

The Design-Builder is currently forecasting completion of the road works along Rutherford and Weston Roads by mid- to late November 2005. Teston Road is scheduled for completion by early December 2005, inclusive of outstanding culvert construction and final surface course paving, from Keele Street to Cranston Park Drive. The remainder of Teston Road, which incorporates the two new culverts and the ossuary site, will not receive surface course paving until Spring 2006, pending the outcome of the above negotiations with the First Nations representatives.

A Change Order has been issued to Dufferin to reconstruct additional sections of roadway on Jane Street South from Teston Road. Design will be completed over the winter months with construction scheduled for spring 2006.

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, are now complete or very near completion. York Region's 10 year Capital Plan includes sufficient funds to cover committed engineering, construction, project management, land acquisition, and miscellaneous costs associated with the feedermain and road works.

The current financial status of Contract 03-04 is summarized in Table 2. All tabulated figures are exclusive of GST.

Table 2
Contract P-03-04 Financial Status as of October 31, 2005

	Amount
Original Value of Contract 03-04	\$67,662,541.00
Value of Change Orders	\$6,599,208.68
Approximate Total Committed Cost	\$74,261,749.68

Liquidated damages in the amount of \$1,156,000 have been retained by the Region from payments due to the design-builder.

Major items of additional or changed work giving rise to the Change Orders include:

- Additional turning lanes in various locations.
- Extension of the contract limits to include widening a section of Jane Street.
- Upgraded sidewalks, pavements and median extensions.
- Significantly increased culvert sizes (to meet current TRCA requirements).
- Providing connections to future distribution mains.
- Additional utility relocation fees.
- Poor soil conditions.

The Region can expect to incur additional delays and costs stemming from the ossuary find within the Teston Road ROW.

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. Some of the additional work has been requested by developers of adjacent properties and will therefore be funded by developers.

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 impacts normally associated with large projects of this nature.

7. CONCLUSION

The York-Peel Feedermain installation and road reconstruction project (Contract P-03-04) is nearing completion. The York-Peel Feedermain was placed into service in October, and the majority of roadworks are scheduled for completion by the end of 2005.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause was included in the Agenda for the November 30, 2005 Committee meeting.)