

COMMITTEE OF THE WHOLE - JUNE 21, 2004

FINAL ENGINEERING COST REPORT BOWES ROAD LOCAL IMPROVEMENT

Recommendation

The Commissioner of Engineering and Public works recommends:

- 1) That the Final Engineering Cost Report dated May 31, 2004, (included as Attachment 1) for the installation of concrete curb and gutter, sidewalk, storm sewers and appurtenances as a local improvement on Bowes Road, be adopted; and
- 2) That the City Clerk be authorized to schedule the Court of Revision.

Purpose

To adopt the Final Engineering Cost Report for the installation of concrete curb and gutter, sidewalk, storm sewers and appurtenances as a local improvement on Bowes Road and to authorize the City Clerk to schedule the Court of Revision.

Background - Analysis and Options

The work covered by this tender (T01-155, Capital Project No. 1350-0-01) called for the reconstruction of Bowes Road – from Keele Street to Regional Road No. 7 (approximately 2 km) as a Local Improvement. A location plan is included as Attachment 2. Included in this project are the following works:

- Full road reconstruction, pavement structure only (full length – 100% City cost), funded from Long Term Debt
- Curb and gutter, sidewalk and storm sewers/swales (full length – 100% Local Improvement cost)
- Cast iron watermain and water service connections replacement (full length, 100% City cost), funded from Water Reserves, and
- Sanitary sewer replacement (partial length, 100% City cost), funded from Sanitary Sewer Reserves.

On April 2, 2001, Council adopted the Preliminary Engineering Report regarding the estimated cost of the project, including the estimated share to be paid by the City and the estimated per metre frontage cost to be paid by the Owners of the lands abutting directly on the work (Item 4, Report No. 22 of the Committee of the Whole).

The project was substantially completed on January 6, 2003, and the final project cost has been tabulated. The local improvement portion of the project amounts to \$2,263,006.52 (includes G.S.T.). The total value of the project is \$5,339,651.46 (including G.S.T.).

A formal cost report has been prepared to determine the cost to be assessed to the benefiting property owners as outlined in the Final Engineering Report comprising Attachment No. 1.

In accordance with Section 28 of the Local Improvement Act, reductions and exceptions may be made in computing the frontage of corner lots, triangularly or irregularly shaped lots and lots that abut on the work on two limits.

The following is a comparison between the advertised and final cost:

<u>Item</u>	<u>Engineering Consultant Estimated Cost</u>	<u>Final Engineering Cost</u>
Concrete curb and gutter and sidewalk	\$185.75 per metre	\$205.33
Storm sewer and appurtenances	\$253.22 per metre	\$316.88

The concrete curb and gutter and sidewalk frontage rate has increased by 10.54 per cent and the storm sewer and appurtenances frontage rate has increased by 25.14 per cent. The increase in cost can be attributed to several factors encountered after tender close and during construction:

- utility conflicts (Bell and Gas) with the proposed storm sewer that were unforeseen at the design stage.
- the removal of silt from existing storm sewer required in order to tie into with the new storm system
- a high water table requiring additional dewatering of trenches.

It is important to note that in comparison to the base line estimate provided by the Engineering Consultant, the local improvement portion of the tender awarded by Council was approximately 7.7 percent higher in cost. The final local improvement section cost is 18.96% higher than the base line estimate which is largely due to extra work orders related to unforeseen works. (See Attachment No. 3).

The total extra work order cost for the project including the local improvement section, the roadworks section, the watermain section and the sanitary sewer section amounts to \$860,718.29 (includes G.S.T). The majority of this cost (\$671,360.) will be paid for by the City while the remainder – approximately 22% (\$213,997.) is attributable to the local improvement and payment will be shared by the Land Owners and the City as indicated in Attachment No. 3)

Following Council's endorsement of this Final Engineering Cost Report, the City Clerk will mail out assessments to each property owner and schedule a Court of Revision.

Relationship to Vaughan Vision 2007

Not applicable.

Conclusion

It is necessary for Council to adopt the Final Engineering Cost Report prior to the City Clerk notifying the property owners of the costs and scheduling the Court of Revision.

Attachments

1. Final Engineering Report
2. Location Map
3. Cost Apportionment

Report prepared by:

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Tom Ungar, P. Eng. – Design Engineer

Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works

Gary P. Carroll, P. Eng.
Director of Engineering Services

JCZ:mc

ATTACHMENT 1

May 31, 2004

FINAL ENGINEERING REPORT

RE: LOCAL IMPROVEMENT FOR THE INSTALLATION OF CONCRETE CURB AND GUTTER, SIDEWALK, STORM SEWERS AND APPURTENANCES

The following is the Final Engineering Report as required under the Local Improvement Act for the installation of concrete curb and gutter, sidewalk, storm sewers and appurtenances to service the following street:

Bowes Road – from Highway No. 7 to Keele Street.

The estimated life expectancy of the proposed work is twenty (20) years.

FINAL COSTS

- 1) To construct 2,030m of asphalt road with concrete curb and gutter.

<u>Construction Cost</u>			\$715,519.67
<u>Sundry Expenses:</u>			
Consultant's fee	\$31,768.51		
City of Vaughan forces	\$ 213.81		
Miscellaneous	<u>\$ 7,096.34</u>		<u>\$ 39,078.66</u>
		Sub-Total	\$754,598.33
Administration (3% of \$754,598.33)	\$22,637.95		
Supervision (5% of \$715,519.67)	\$35,775.98		
Engineering (3% of \$754,598.33)	\$22,637.95		
Interim Financing	<u>\$46,039.62</u>		<u>\$127,091.50</u>
		Total Direct Cost	\$881,689.83
Debenture (1% of <u>\$881,689.83</u> x 3,994.22m)			
4,333.52m			<u>\$ 8,126.56</u>
		Cost of Roadwork	\$889,816.39

- 2) To construct 1,725m of storm sewer and appurtenances.

<u>Construction Cost</u>			\$1,104,215.00
<u>Sundry Expenses:</u>			
Consultant's fee	\$49,021.96		
City of Vaughan forces	\$ 329.92		
Miscellaneous	<u>\$ 10,950.35</u>		<u>\$ 60,302.23</u>
		Sub-Total	\$1,164,517.23
Administration (3% of \$1,164,517.23)	\$34,935.52		
Supervision (5% of \$1,104,215.00)	\$55,210.75		
Engineering (3% of \$1,164,517.23)	\$34,935.52		
Interim Financing	<u>\$71,049.96</u>		<u>\$ 196,131.75</u>
		Total Direct Cost	\$1,360,648.98

Debenture (1% of $\frac{\$1,360,648.98}{4,333.52m} \times 3,994.22m$)	<u>\$ 12,541.15</u>
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Cost of Storm Sewer Work	\$1,373,190.13
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FRONTAGE RATE OF ASPHALT ROAD WITH CONCRETE CURB AND GUTTER

Total cost to be assessed against frontage	\$ 889,816.39
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Total assessable frontage 4,333.52 metres

Cost per metre frontage $\frac{\$889,816.39}{4,333.52}$	\$205.33
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FRONTAGE RATE OF STORM SEWER AND APPURTENANCES

Total cost to be assessed against frontage	\$1,373,190.13
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Total assessable frontage 4,333.52 metres

Cost per metre frontage $\frac{\$1,373,190.13}{4,333.52}$	\$316.88
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COST APPORTIONMENT

Corporation's Share

Corporation's share of frontage for asphalt road = 339.3 metres

Corporation's share of frontage for storm sewer = 339.3 metres

Corporation's share of cost for asphalt road, Concrete curb and gutter (339.3 x 205.33)	\$ 69,669.62
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Corporation's share of cost for storm sewer and Appurtenances (339.3m x 316.88)	<u>\$ 107,516.16</u>
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TOTAL CORPORATION'S SHARE	\$ 177,185.78
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The Corporation's share will be paid out of general taxation.

Owner's Share

Owner's share of frontage for asphalt road 3,994.22 metres

Owner's share of frontage for storm sewer 3,994.22 metres

Owner's share of cost for asphalt road, Concrete curb and gutter (3,994.22 x 205.33)	\$ 820,146.77
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Owner's share of cost for storm sewer and Appurtenances (3,994.22 x 316.88)	<u>\$1,265,673.97</u>
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TOTAL OWNER'S SHARE	\$2,085,820.74
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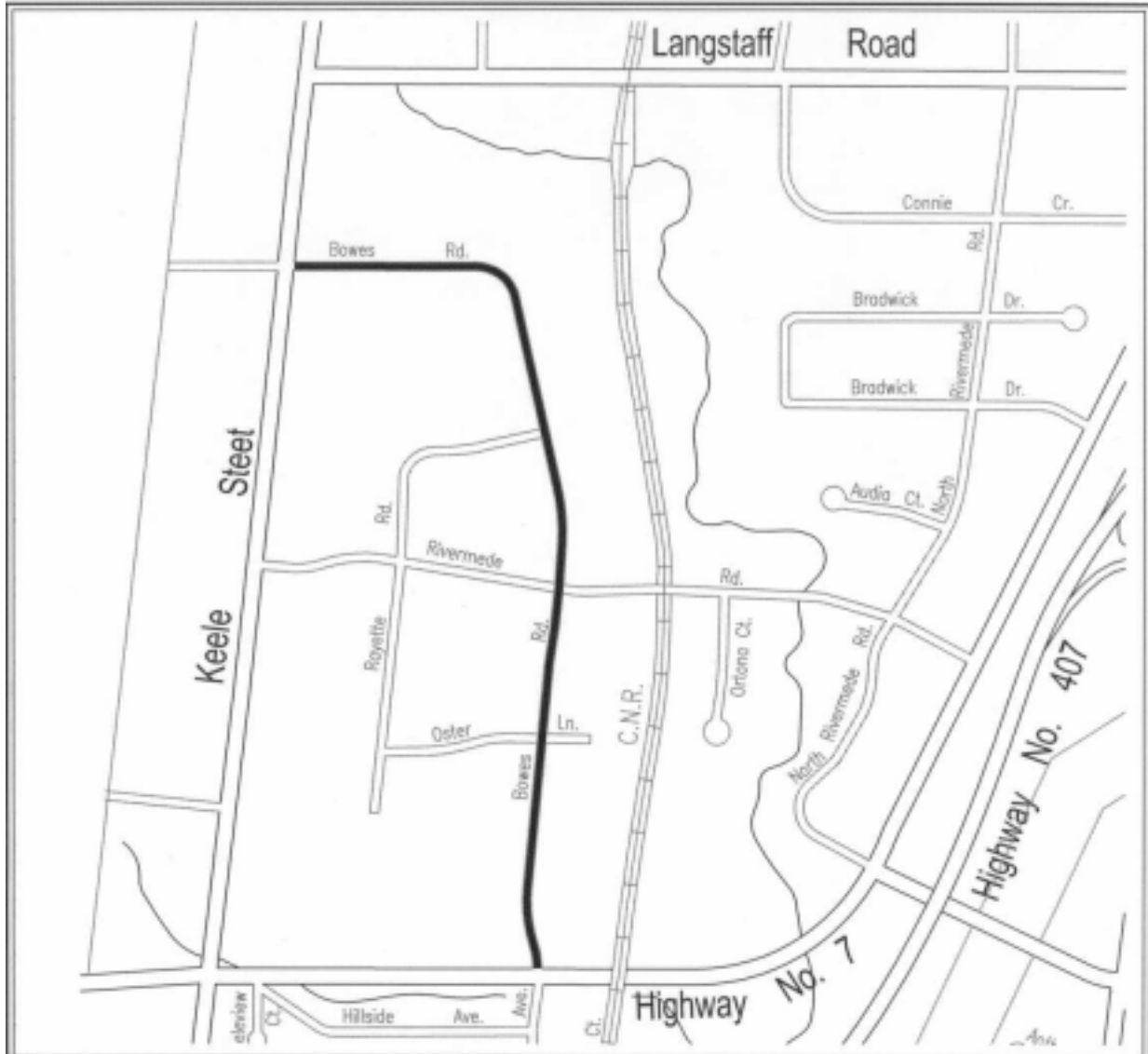
The special assessment may be paid as a lump sum or in ten (10) annual installments.

TOTAL COST OF URBANIZATION

\$2,263,006.52

Gary P. Carroll, P. Eng.
Director of Engineering Services

ATTACHMENT No. 2



BOWES ROAD URBANIZATION LOCAL IMPROVEMENT

LOCATION : Lots 6,7,8,9,10,
Concession 3
Reg. Plan R.P. 7925

LEGEND



SUBJECT LANDS



NOT TO SCALE

Drawing name: R:\ENGINEERING\ENGINEERING\ATTACH\BOWES Road Urbanization - Local Improvement.dwg

Attachment No. 3

**Bowes Road T01-155
Local Improvement Section ONLY
Review of Cost Apportionment**

	Original Estimate Engineer's Report Mar-01	Tender T01-155 Contract Items Only (excludes E.W.O.'s)	Tender T01-155 Extra Work Orders (includes sundry exp. + eng. Supervision, Admin & Financing)	Tender T01-155 Final Total Cost (includes E.W.O.'s)
Corporation's Share		(7.7% increase over original estimate)		(18.9% increase over original estimate)
Roadwork	\$63,023.82	\$67,664.57	\$2,005.05	\$69,669.62
Storm Sewer	\$85,919.15	\$92,765.90	\$14,750.26	\$107,516.16
Total	\$148,942.97	\$160,430.47	\$16,755.31	\$177,185.78
Owner's Share				
Roadwork	\$741,912.74	\$796,543.40	\$23,603.37	\$820,146.77
Storm Sewer	\$1,011,435.32	\$1,092,034.80	\$173,639.17	\$1,265,673.97
Total	\$1,753,348.06	\$1,888,578.20	\$197,242.54	\$2,085,820.74