



Report to: Development Services Committee

Date Report: December 9, 2014

SUBJECT: Main Street Markham - Highway 407 to Highway 7 - Project Update / Purchase Order Increase Request

PREPARED BY: Dan Foong, Capital Works Engineer Ext 4055
Alain Cachola, Senior Manager, Infrastructure and Capital Works Ext 2711

RECOMMENDATION:

- 1) **THAT** the report entitled “**Main Street Markham - Highway 407 to Highway 7 - Project Update / Purchase Order Increase Request**” be received;
- 2) **AND THAT** the Purchase Order PD 14175 issued to Dagmar Construction be increased in the amount of \$400,000 from \$11,979,719.40 to \$12,379,719.40, inclusive of HST, to cover the additional costs of the project, subject to receipt of the confirmed Memorandum of Understanding (MOU) from the Region of York whereby \$250,000 of this increase is to be funded by the Region;
- 3) **AND THAT** the 2014 Capital Budget 083-5350-14055-005 ‘Main Street Markham Highway 407 to Highway 7’ be increased in the amount of \$400,000, inclusive of HST to be funded from reimbursement from the Region of York for intersection improvements in the amount of \$250,000, inclusive of HST and from the Waterworks Reserve for the Watermain at Highway 7 in the amount of \$150,000, inclusive of HST;
- 4) **AND THAT** the final treatment of the crosswalks at Highway 7, 2 mid-block crosswalks, and James Scott Road/Princess Street as outlined in this report be endorsed;
- 5) **AND THAT** Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to obtain Council approval to:

- Adjust the 2014 Engineering Capital Budget for this project;
- Increase the Purchase Order issued to Dagmar Construction; and
- Obtain Council endorsement of enhanced streetscaping at Highway 7, 2 mid-block pedestrian crossings, and at the James Scott Road/Princess Street intersection.

BACKGROUND:

Council approved Contract Award 066-T-14 (Reconstruction of Main Street Markham from Highway 407 to Highway 7) in May 15, 2014. Dagmar Construction was awarded the project and construction of the project commenced in June 2014.

The project is currently on-track to be opened to two (2) lanes of traffic and sidewalk by December 31, 2014. The contractor is scheduled to return in spring 2015 to complete the remaining works (i.e. landscaping, top asphalt, temporary bridge removals, etc.) while keeping open two (2) lanes of traffic. The project is anticipated to be completed by fall 2015.

OPTIONS/ DISCUSSION:**Intersection Improvements (Region of York)**

As part of the May 15, 2014 award report for the reconstruction of Main Street Markham from Highway 407 to Highway 7, Council requested staff to review the enhanced streetscaping, as requested by the Main Street Markham Committee and Heritage Markham, at the intersections (i.e. Highway 7, pedestrian crossings and James Scott Road). Staff reviewed the proposed enhancements with the Region of York and internal departments. During the review of the proposed intersection design, the Region requested that the City complete a full reconstruction of the Highway 7 and Main Street Markham intersection. The existing infrastructure at the intersection is at the end of its lifecycle and is in need of replacement. The following major items will be replaced as part of this work:

- New traffic signal poles;
- New traffic and pedestrian signal heads;
- New traffic controllers and power supplies; and
- New traffic islands.

The Region has provided a commitment to fund the intersection improvements. The design has now been finalized and is waiting for final approval from the Region of York. The final costs of the intersection improvements will be forwarded to the Region for funding, in accordance with the Memorandum of Understanding (MoU) currently being negotiated.

Staff requests that Council approve the increase in the funding and Purchase Order in the amount of \$250,000, inclusive of HST to cover the requested intersection improvements by the Region of York. These funds will be recovered in pursuant to the above noted agreement with York Region.

In addition to the intersection improvements, staff has reviewed the request for the enhanced level of streetscaping at Hwy 7 and Main Street Markham. As the intersection

is under the jurisdiction of the Region, they have confirmed that the following enhancement requests will be allowed:

- Imprinted asphalt (Traffic Pattern xD) to provide an enhanced crosswalk treatment, per Attachment 'E';
- Black Powder Coating (painting) of standard octagonal steel poles; and
- LED cobrahead streetlights.

Highway 7 Watermain Crossing

The first phase of the Main Street Markham project (Highway 7 to Bullock Drive) included the replacement of the existing watermain. The watermain was to be extended further south from Highway 7 to Highway 407 as it is at the end of its lifecycle.

During the final stages of detailed design, the consultant was directed to include the watermain replacement which included the Highway 7 crossing. However, the final drawings issued for tender omitted this section of the watermain it and was not included in the final tender award.

The existing watermain at Highway 7 is required to be replaced as per Waterworks replacement program. Engineering and Waterworks staff has reviewed the scope of work submitted by Dagmar Construction (Attachment 'B') to complete the work and confirm that the prices are reasonable. The additional costs will be \$150,000.00, inclusive of HST.

Staff requests that Council approve the increase in the funding and Purchase Order in the amount of \$150,000.00, inclusive of HST to cover the watermain works at Highway 7 to be funded from the Waterworks Reserve Account.

Streetscaping at Pedestrian Crossings

In addition to the crosswalks at Highway 7, there are three (3) crosswalks which will have an enhanced level of streetscaping. Staff recommends using the following treatment, similar to the Highway 7 and Main Street Markham intersection treatments:

- Imprinted asphalt (Traffic Pattern xD);
- Decorative Round Black Poles (similar to streetlighting); and
- LED Lantern Style Streetlights.

Staff does not recommend the use of brick paver for the following reasons:

- Safety concern - Due to slope of Main Street South, staff recommend not using the brick pavers due to the risk of vehicles sliding during wet weather;
- Resident Access - To install brick pavers, a concrete subbase must first be laid and allowed to set (minimum 12-hours). Once set, the pavers themselves would

require 4-5 hours to install (including fine grading with high-performance bedding). Therefore, installation would require approximately two (2) days per direction of travel (total of eight (8) days; east, west, north, south). This option would also dramatically reduce or eliminate access to resident's homes over an eight (8) day period.

Staff has met with the Main Street Markham Committee and Heritage Markham and has received their support in using the above noted enhancements at the pedestrian crossing and intersections. The funding for these enhancements was included in the original award report approved by Council on May 15, 2014.

FINANCIAL CONSIDERATIONS AND TEMPLATE:

Staff recommends that the purchase order PD-14175 for Dagmar Construction be increased by \$400,000 from 11,979,719.40 to \$12,379,719.40, inclusive of HST, to cover the additional costs of the project.

The increase to the existing 2014 capital project 083-5350-14055-005 'Main Street Markham, Highway 407 to Highway 7' will be funded from the Waterworks Reserve in the amount of \$150,000 and from the Region of York in the amount of \$250,000. The funding from the Region is subject to completion of an MOU between the City and the Region.

Table 1 – Main Street Markham, Highway 407 to Highway 7– Additional Funding Summary

Item	Amount (Inclusive of HST)	Comments
Account 083-5350-14055-005 (Main Street Markham, Highway 407 to Highway 7)	\$14,933,912.34	
Intersection Improvements at Highway 7	\$ 250,000.00	Funded by the Region of York
Watermain at Highway 7	\$ 150,000.00	To be funded from Waterworks reserve
Total:	\$ 15,333,912.34	

Table 2 – Main Street Markham, Highway 407 to Highway 7– Purchase Order Increase Summary

Item	Amount (Inclusive of HST)	Comment
Dagmar Construction Contingency PO (PD 14175)	\$ 11,979,719.40	As per May 15, 2014 Council Report (066-T-14)
Purchase Order Increase	\$ 400,000.00	To be funded from account 083-5350-14055-005
Total:	\$ 12,379,719.40	

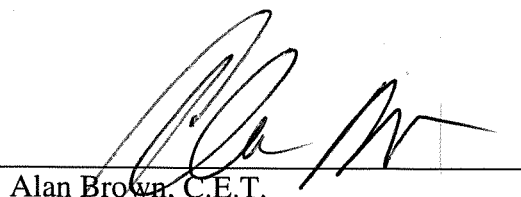

ALIGNMENT WITH STRATEGIC PRIORITIES:

The reconstruction of Main Street Markham from Highway 407 to Highway 7 has long been contemplated as a strategic priority. The project provides the necessary upgrades to the existing infrastructure, and the opportunity to enhance the existing streetscape, to promote pedestrian traffic and showcase this heritage area.

This project is in line with the City of Markham's strategic focus relating to Growth Management, Transportation/Transit, Safety, the Environment and Municipal Services.

BUSINESS UNITS CONSULTED AND AFFECTED:

Environmental Services and Finance have been consulted and their comments have been incorporated.

RECOMMENDED BY:
Alan Brown, C.E.T.
Director of Engineering
Jim Baird, M.C.I.P., R.P.P.
Commissioner, Development Services**ATTACHMENTS:**

Attachment 'A' – Highway 7 Intersection Layout
Attachment 'B' – Highway 7 Watermain Crossing
Attachment 'C' – Pedestrian Crossing
Attachment 'D' – James Scott Road/Princess Street Intersection Layout
Attachment 'E' – Traffic Patterns xD Information Brochure.



REPLACE EXISTING TEE
OUTSIDE CHAMBER WITH
16" x 16" x 12" TEE

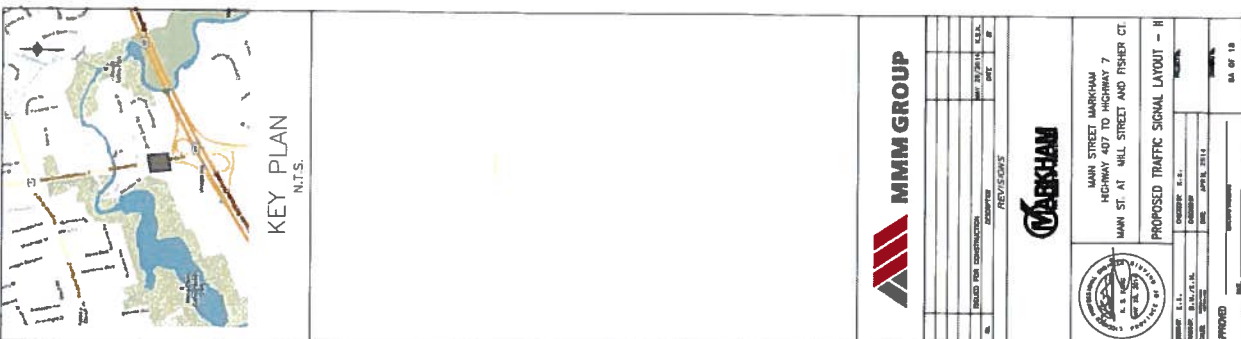
CAP AND
ABANDON
EX. WM

ABANDON
EX. VC

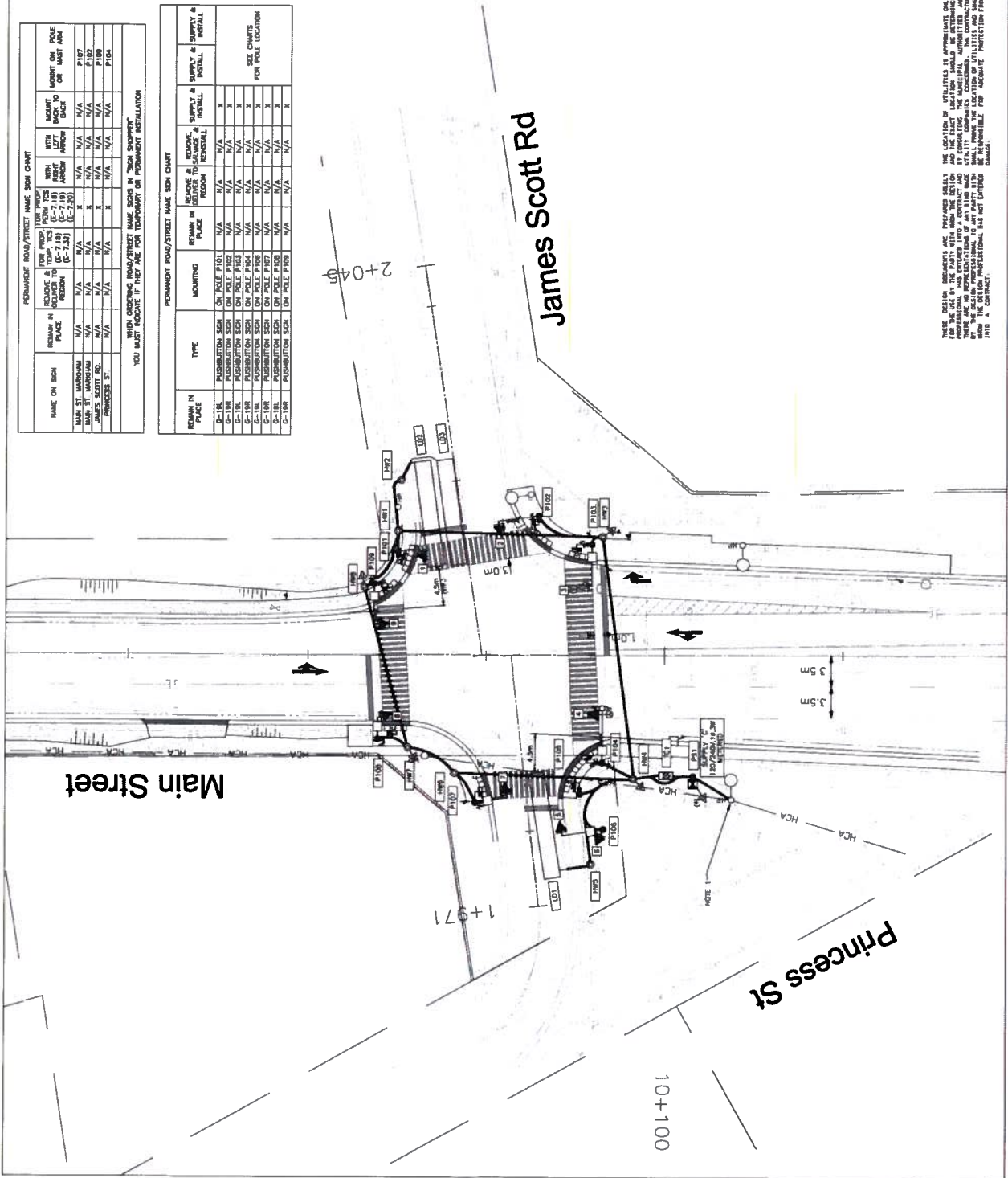
400x300 REDUCER

400Ø PVC WM

REMOVE EXISTING CHAMBER AND
INSTALL DIRECT BURY 200Ø GATE
VALVE



ATTACHMENT 'C'



PERMANENT ROAD/STREET NAME SIGN CHART									
NAME ON SIGN	REMAIN IN PLACE	REMOVE & REPAIR REASON	FOR PREP (E-7-7.33)		DATE PREP (E-7-7.33)	WITH APPROV. AGENCY	MOUNT ON POLE OR SIGN BACK	MOUNT ON POLE OR SIGN BACK	MOUNT ON POLE OR SIGN BACK
			REMOVE & REPAIR REASON	DATE PREP (E-7-7.33)					
MARK ST. WASHINGTON	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	P107
MARK ST. WASHINGTON	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	P102
JAMES S. BOTT RD.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	P109
POWERS ST.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	P108

WITH ORDERING ROAD/STREET NAME SIGNS IN "SIGN SHOPPING"
 YOU MUST INDICATE IF THEY ARE FOR TEMPORARY OR PERMANENT INSTALLATION

PERMANENT ROAD/STREET NAME		30M CHOT		REMOVE & REINSTALL		REMOVE & REINSTALL		REMOVE & REINSTALL		SUPPLY & INSTALL		SUPPLY & INSTALL	
REMAIN IN PLACE	TYPE	WORKING	REMAIN IN PLACE	REMOVE & REINSTALL	REMOVE & REINSTALL	REMAIN IN PLACE	REMOVE & REINSTALL	REMOVE & REINSTALL	REMOVE & REINSTALL	SUPPLY & INSTALL	SUPPLY & INSTALL	SEE CHARTS FOR POLE LOCATION	SEE CHARTS FOR POLE LOCATION
G-1R	PUB-UTLITION SDN	ON POLE P101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P103	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P104	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P108	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		
G-1R	PUB-UTLITION SDN	ON POLE P109	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X	X		



KEY PLAN
N.T.S.

NOTES:

[illegible]

BUCH STREET MARKHAM
HIGHWAY 407 TO HIGHWAY

MAIN ST. AT JAMES SCOTT RD./PRINCESS ST.

PROPOSED TRAFFIC SIGNAL LAYOUT - 1

Subordinate of a

-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

DATE APR 11 2014

01 20 10

Impressed Preformed Thermoplastic Crosswalks and Traffic Calming Surfaces for Asphalt

TrafficPatternsXD™ is an extremely durable preformed thermoplastic material that incorporates a unique aggregate-reinforced formula with unprecedented wear resistance. The result is a traffic-tough crosswalk that provides traditional brick-like aesthetics built to last.

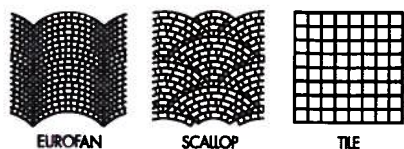
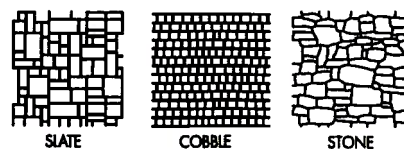
PERFORMANCE-BASED FEATURES AND BENEFITS

- Designed for extreme use and wear in high-traffic crosswalks and traffic calming surfaces.
- 150-mil thickness engineered for a robust application system and enhanced durability
- Enhanced performance in all climates
- Applied to high-quality, stable asphalt, with minimal substrate impact
- Fast installation; minimal traffic downtime
- High skid/slip resistant for safety. As material wears, new anti-skid elements are exposed.
- ADA compliant - Pedestrian and wheelchair friendly surface
- Eliminates the maintenance and safety concerns of loose pavers
- All preformed thermoplastic materials are made at Ennis-Flint's manufacturing facility which is ISO 9001:2008 certified for design, development and manufacturing of preformed thermoplastic. Quality, value and long-term performance are built into the marking. Anti-skid elements are added at time of manufacturing for optimized application at the jobsite.

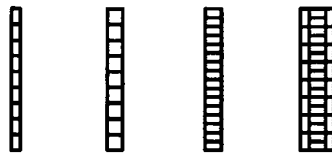
TrafficPatternsXD™ is installed by a network of Certified Applicators so you can be confident that your design intentions will translate to fully-met expectations on the job site. The 2 ft. x 2 ft. sheets of material are positioned on the non-stamped, prepared asphalt surface. The material is heated to allow proper embedment of the anti-skid elements. A specialized grid gently stamps a pattern into the material and just into the top layer of the asphalt.



STANDARD PATTERNS



STANDARD BORDERS



STANDARD COLORS

