



Report to: Development Services Committee

Date Report: December 11, 2012

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**SUBJECT:** Main Street Markham - Streetscape Improvements from Highway 7 to Bullock Drive

**PREPARED BY:** Alain Cachola, Manager, Infrastructure and Capital Works ext. 2711  
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**RECOMMENDATION:**

- 1) That the staff report entitled "Main Street Markham – Streetscape Improvements from Highway 7 to Bullock Drive" dated December 11, 2012 be received;
- 2) That the streetscape improvements concept for Main Street Markham from Highway 7 to Bullock Drive as outlined in this report be endorsed;
- 3) That Engineering staff be authorized to schedule a public information meeting to present the endorsed streetscape improvements;
- 4) That the Director of Engineering and the Director of Planning and Urban Design be authorized to finalize any future revisions to the streetscape improvements plans in consultation with the local Ward Councillors, Operations and Asset Management Departments;
- 5) That staff report back with a traffic management and communication plan for the proposed road works and streetscaping which will take place from Spring 2013 to Fall 2013;
- 6) 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:

- Update Council on the status of the streetscape improvements plan for Main Street Markham from Highway 7 to Bullock Drive reconstruction project.
- To seek endorsement for the streetscape improvements plan.
- To seek authorization to schedule a public information meeting to allow the local business owners and residents in Markham the opportunity to review the streetscape improvements plans.
- To seek authorization for the Director of Engineering and the Director of Planning and Urban Design to finalize any future revisions to the streetscape plans in consultation with the local Ward Councillors, Operations and Asset Management Departments;

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**BACKGROUND:**

The underground servicing work (i.e. watermain and storm sewers) for Main Street Markham from Highway 7 to Bullock Drive commenced in July 2012 and was completed with the road open to traffic on November 12, 2012. The next stage of construction is the road reconstruction and streetscaping scheduled to commence in the spring of 2013, subject to budget approval and endorsement of the streetscape plan.

**OPTIONS/ DISCUSSION:****Streetscape Design**

The approved Class Environmental Assessment Study Report was the main document used as a basis for the streetscape plans. However, staff also examined the existing site conditions as well as the following documents to provide design guidance and direction on the streetscape design approach:

- Markham Village Heritage Conservation District Plan (1989)
- Main Street Markham Vision Document (2000)
- Main Street Markham Streetscape Guidelines (2001)
- Main Street Markham Streetscape and Traffic Management Study (2003).

There were seven (7) meetings with the Project Liaison Committee (PLC) to review and finalize the following design items:

- Locations of parking lay-bys and associated bump-outs / extended boulevard;
- Tree locations, planting options and species;
- Street Furniture style, including fire hydrant, bench, waste receptacle, bike rack;
- Street lighting - pole and luminary type;
- Electrical outlets;
- Hanging basket and banner bracket style and locations;
- Road surface treatment, including in intersections and bus bays;
- Sidewalk and boulevard treatment.

**Parking Lay-Bys and Bump-Outs**

As a result of reducing the road cross section to two-lanes there is an ability to use the redundant travel lanes to create sections of wider boulevard or bump-outs, which act as 'bookends' that define the limits of parking lay-bys. In designing this component of the streetscape, efforts have been made to maintain as much on-street parking as possible to provide a convenient short stay parking option for customers in support of the commercial function of the street. This parking area also meets the needs of people with disabilities for whom using one of the parking lots located at the rear of many premises might be unviable due to the distance between parking lots and main entrances along the street front. Three designated on-street parking spaces are proposed for those with accessibility issues and best efforts will be used to meet the requirements of the Accessibility Design Guidelines, including barrier-free access to the sidewalk and signage. The surface of the accessible parking spaces will be marked with the International Symbol of Accessibility.

The location of parking lay-bys has also been balanced with the need to maintain unobstructed vehicular access to the many private driveways along the street together with the need to create a wider boulevard within which to accommodate convenient and well spaced street furniture, to allow for potential outdoor patios in the future and to accommodate replacement street trees.

### **Tree Locations, Planting Options and Species**

#### **Tree Locations**

The extended boulevards or bump-outs provide an opportunity to plant trees along the street. In proposing tree locations, consideration has been given to soil volume available to support good tree growth, opportunities to provide some shade cover in proximity to bench seating or future potential outdoor patio areas, visibility to store fronts and business signage and allowing for a mature tree canopy to develop at key nodes along the street.

#### **Planting Options**

Achieving sufficient soil volume to allow trees to establish successfully and mature has been a particular challenge. Experience on other capital projects with similar soil volume constraints has led staff to develop a tree planter, which the Landscape Consultant for this project has adapted to the Main Street context. The detail comprises a planting trench below grade between the back of the curb and the sidewalk. A metal grate supported by a concrete ledge supports pavers, which are installed on top of the grate flush with the abutting sidewalk. This method avoids the obstruction / trip hazard of a raised planter with curb edges and allows for seating or patio furniture to be placed right up to the base of the tree. It also allows for infiltration of rainwater and allows the tree to grow without concerns of roots lifting the pavers.

Staff continues to develop the finer details relating to irrigation in consultation with Operations and a system of underground reservoirs is currently being investigated. This type of planter allows for the space around the trunk to be increased as the tree matures and allows the underground planting trench to extend between trees and under the bump-outs to maximise the amount of soil that can be provided. Where adjacent private front yards have soft landscape treatments, then a series of roots channels will be provided beneath the sidewalk to allow smaller feeder roots to spread out to increase moisture and nutrient take-up.

#### **Tree Species**

In terms of species selection, the proposed trees, which are on the recommended list of street trees in the Trees for Tomorrow Streetscape Manual (June 2009), include Ivory Silk Lilac and Ornamental Pear where lower volumes of soil are available and larger species, such as Maples (Autumn Blaze and Red), Bur Oak, Linden and Honeylocust in larger tree pits.

Details of the proposed planter and tree types are shown in Attachment B1 and B2.

### **Street Furniture**

A range of different street furniture has been used along Main Street over the years. There are currently six different styles of waste bins and three different styles of bench seats. The intent is to select a standardized style of street furniture to use consistently along the street.

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**Benches**

The preferred black metal heritage style, which has been recommended by Heritage Planning staff and agreed to by the Project Liaison Committee, is shown at Attachment B3. Furniture will be distributed along the street and located at logical intervals where users can find shade, be within close proximity to a bus stop, and sit facing in a group or individually.

**Recycling and Waste**

Regarding recycling and waste receptacles, the City's Heritage style Big Belly solar recycling units will be used in addition to a simple black receptacle for general waste and Waste Management will be consulted on appropriate placement.

**Street Lighting, Electrical Outlets and Hanging Basket/Banner Brackets****Street Lights**

While several styles of luminaries suitable for a heritage main street setting have been considered, the consensus is that the light poles and luminaries should be black. The style options include a traditional square lantern, a drop / downward dome style and an early 20<sup>th</sup> century inspired acorn style, which was similar to that present in Markham Village during the 1930's and 1950's. The PLC generally agreed that the square lantern style on an extended arm or bracket would be appropriate; however, staff is still researching whether this style of luminary can be found in a dark sky and LED format.

In the event that a dark sky compliant, square LED lantern cannot be found, then staff would report back to Committee to seek support to install a non-dark sky compliant lantern along Main Street given that the square lantern is considered the most appropriate style for the Heritage Conservation District. Otherwise, staff would refer back to the PLC to explore the viability of using one of the alternative lantern styles mentioned above that maintains the heritage character of the street, as well as achieves dark sky compliance using LED technology.

The poles for signal lights at intersections would be black in keeping with the style and colour treatment of the street lighting poles.

Details of the considered and proposed luminaries are shown in the Attachment C1 and C2

**Light Source**

The type of light source was also reviewed and due to the advancement in LED technology, its longevity and the quality of light it provides, staff and PLC members support the use of LED lighting. The intent is to find a lighting supplier that can deliver an LED, dark sky compliant square lantern following which a photometric plan will be prepared to establish appropriate spacing of the new lights. A preliminary lighting plan suggests light pole spacing of around 20m, which when coupled with the use of an LED light source means that the sidewalk will also be well-lit thereby eliminating the need for additional pedestrian lighting.

**Electrical Outlets**

Each light pole would have an additional electrical outlet located approximately 16 feet high (5m) for Christmas lights. A further power outlet is proposed at every other pole for use during special events. Restrictions / protocols relating to the use of these outlets during events will be at

the discretion of Asset Management, as there have been issues in the past with fuses being blown. Separate electrical circuits, metering and cut-off switches are being considered to address past operational concerns. The final details will be reviewed with the Markham BIA and Main Street Markham Committee to ensure that the interests of the various Main Street groups are met while addressing the operational concerns.

### **Banners and Baskets**

The light poles would also be used for the display of banners and hanging baskets mounted on brackets. The spacing of the new light poles is likely to mean that the current wooden posts that support some hanging baskets and flags can be removed thereby reducing clutter along the street, creating a more consistent look and generally improving the visual appearance and function of the pedestrian realm. In order that each pole is not over-loaded with brackets and accessories, which adds to the required gauge of each pole and associated cost, banners and baskets would be provided on alternate poles.

In the event that the spacing of light poles and the subsequent placement of banners and baskets does not achieve the desired level of coverage along the street then intermittent poles will be installed, the style of which will match the light poles, whilst the height would be lower than the light poles.

Due to timing of the streetscape reconstruction, the floral baskets & barrels programme delivered by Operations will be suspended for 2013. The details of future baskets and barrels for 2014 will be reviewed by Operations in discussion with the stakeholders.

### **Surface Treatment**

There are several surfaces within the proposed right of way that require different treatments, including the road and parking lay-bys, the sidewalk, the extended boulevards / bump-outs, pedestrian crossings and key intersections.

### **Road and Parking Lay-by Areas**

The road and parking lay-bys would be laid as asphalt. The use of a contrasting material in the parking lay-bys was reviewed; however, it was considered not to be the best use of resources, as a decorative treatment would be more costly, but would not be visible due to parked cars for the majority of the day.

### **Sidewalk and Accessibility**

A two metre wide concrete sidewalk is the preferred option for ensuring a continuous level pedestrian surface. The concrete sidewalk would be continuous through driveways, intersections and other pedestrian crossings to ensure a visible and seamless pedestrian route.

During discussions on the streetscape design, staff presented to the PLC different approaches to surface treatment, including the concept of urban braille. Urban braille is essentially a surface treatment design that creates contrasts in colour and texture enabling people with disabilities, including the visually impaired, to identify when they are approaching a store front, the edge of the sidewalk or a hazard, such as an intersection or a crossing point. This approach was agreed to by the PLC and is shown as Attachment B5.

The contrast in texture approaching a pedestrian crossing or an intersection would be created by grooves cut into the concrete sidewalk, which is typical. An additional colour and texture contrast would be created through the use of unit pavers laid in soldier course between the sidewalk and store fronts and around the curve radius at driveways and intersections. The paver colour would be darker than the concrete sidewalk resulting in a colour contrast whilst the texture of small pavers installed in soldier course provides the textural contrast.

Another application of urban braille is imprinting the name of an approaching cross street into the concrete sidewalk. This is a simple and effective design measure that has been supported by staff and the PLC.

### **Extended and Regular Boulevards**

Unit pavers are currently in place along Main Street in the boulevard and these would be replaced with new unit pavers, which continue to be the preferred surface treatment within the extended boulevards / bump-outs in the commercial area; and a sample is shown as Attachment B5. The recommended pavers comprise a blend of three different shades of deep reddish brick colour. The darker paver within the blend would be used as the soldier course noted above for the urban braille treatment. The boulevard area between the sidewalk and curb north of the commercial area would also have the paver treatment. Where private driveways cross the boulevard, the paver treatment would be continuous through the driveways.

### **Special Intersection Treatment (Main and Robinson)**

In order to establish a focal point along Main Street for special events and recognising the weekly farmer's market location, decorative paving has been proposed for the road surface from a point just north of Robinson Street to just north of Dublin Street. Decorative treatments reviewed included Streetprint, Duratherm and unit pavers. The first two treatments are becoming increasingly popular in parking lots and pedestrian plazas and consist of coloured and imprinted asphalt (Duratherm has a colour set into the lines of the imprint / pattern); however, longevity of both systems in areas of high traffic volume is weak and the pattern, colour and definition can fade within five years. Therefore, unit pavers laid on a concrete-type sub-base are proposed and the detailed design of this paving installation is being finalized in consultation with Operations. During the stakeholder group meetings and PLC, this area of Main Street has been termed "Festival Square". The pavers proposed are deemed appropriate for such an important community focal point in Markham Village.

### **Bus Parking Bays**

Unit pavers are also considered a viable option for demarking the bus bays, as these areas warrant delineation. Simple hatched line painting was considered unacceptable given the heritage context.

### **Feedback From PLC Meeting # 7 Held on November 22, 2012**

PLC meeting #7 provided the stakeholders with a summary of the selected streetscape components and the streetscape plan that have resulted from discussions from previous PLC meetings. The final PLC comments to be addressed are summarized as follows:

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- Parking lay-bys and bump outs – additional bump outs and some relocation of bump outs at certain locations will be accommodated where practical and where no conflicts exist with utilities, driveways or traffic safety;
  - Tree planting – redistribution of street trees, of which there are more on the west side of the street than on the east and generally fewer between Robinson Street and Bullock Drive. Staff will explore opportunities to redress the imbalance where feasible, recognizing that, north of Robinson Street, the character of the streetscape does change with the occurrence of more residential properties with deeper front yards, existing soft landscaping and mature front yard trees.
  - Electrical outlets – City staff, including Asset Management, will meet with the BIA to review the use of electrical outlets during special events and the associated costs and maintenance.
  - Surface treatment – further discussions required between staff and property owners to address making-good or restoring the interface at the private property line between the new sidewalk and commercial building face. Council approval will be required for any works on private property.
  - Gateway Arch – request by BIA for a decorative archway across the street at the southern end of Main Street requires further investigation; however, staff has expressed initial concern that such a feature would be out of keeping in the Markham Village Conservation District and that there is no historical precedent for such a feature. There is currently no budget available for this item, although provisions have been made for the existing banners that are displayed to advertise events.
  - Boulevard patios – while the design of the bump could potentially allow for the placement of tables and chairs in connection with coffee shops and restaurants, the City does not currently permit private patios to encroach on the public right of way. This matter will be brought forward for separate consideration by Committee of Council in the spring of 2013. Until such time as a boulevard patio by-law is in place, no further changes to the streetscape plan are proposed that specifically create patio areas in the public right of way.
  - Support in principle – the PLC generally supports the final draft streetscape plan subject to the above comments being addressed. In particular the PLC commended the tree planter detail, street furniture selection, the paver selection and the application of the principles of urban Braille.

### **Outstanding Issues**

#### **Design:**

- In order to finalize the design details, staff has been working diligently with the BIA and PLC members to ensure that the proposed improvements within the Main Street Markham area are in accordance with the heritage and urban design requirements for this community.
- The streetscape design principles outlined above will be refined to ensure that all components meet the intent of the guiding documents cited on page 2 of the report and the expectations of the stakeholder groups, as well as being practical in terms of the day-to-day maintenance and durability. In addition, the initial capital, and capital replacement, costs will be considered in finalizing the streetscape options.

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**Construction:**

Staff recently completed the construction of the underground servicing (i.e. watermain replacement and new storm sewer installation) for this section of Main Street Markham. The following items will be required to be completed prior to start of construction of the proposed streetscape improvements:

- The traffic management plan and staging plan for the road restrictions / closures will have to be finalized with the PLC and BIA prior to award of the tender
- The community engagement process will have to be finalized by Engineering, Corporate Communication, BIA and local councillors to ensure that notification to the community is conveyed prior to and during the construction of Main Street
- In order to identify existing conditions of the buildings within Main Street Markham, staff will complete condition surveys (i.e. internal and external) of all properties within this project prior to the start and at the end of construction. These surveys are required to identify any existing damages to the properties prior to start of construction.
- Affected departments (i.e. Fire, Operations, Waste Management, By-laws, etc.) to review proposed work as well as coordinate the parking, garbage collection and proposed road closures.
- The existing Region of York watermain trunk on Wilson Street and Main Street is required to be upgraded. Staff to coordinate with the Region of York to finalize the details and schedule.

**Project Schedule:**

In order to ensure that the proposed work does not conflict with the two (2) major festivals held on Main Street Markham (i.e. Music Festival on June 15<sup>th</sup> and 16<sup>th</sup>, and the Santa Clause Parade on November 23<sup>rd</sup>). The following is the proposed schedule for the project:

- Project Liaison Committee endorsement – November 22, 2012
- Council endorsement of streetscaping plan – December 11, 2012
- Budget approved for streetscaping – January 2013
- Public Consultation – early 2013
- Consultant to submit finalized design and tender documents – Early January 2013
- Purchasing to issue tender to market in mid-January 2013
- Tender closing late February 2013
- Contract award March 2013
- Construction commences July 2013
- Construction complete November 2013

**Traffic Management and Communication Plan**

A traffic management plan similar to the plan which was used during the first phase of the construction works (underground services) will be obtained in early 2013 from the contractor who will construct the road and streetscaping. It is anticipated that the construction will be possible with two lanes of traffic (one northbound and one southbound) being maintained. However, there will be occasions which will require one of the open lanes to be closed while the



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surface work is completed (curb placement, asphalt placement etc). As a minimum, one lane southbound will remain open at all times. It is anticipated that providing only one lane southbound will be required for 4 to 6 weeks.

As a part of the overall communications plan, City staff and the contractor will arrange for advertisements, notices, signage and flyers prior to and during construction. Town staff has created a website for the project that can be used by residents who have questions relating to the project. Staff members from Engineering and Corporate Communications Department will continue to provide communications to the residents and business owners.

Staff will review with the BIA and local councillors the opportunity for special marketing for Main Street businesses during construction and financial assistance by the City. Staff will report back to Council on this at the tender award stage.

### **Public Information Meeting**

The streetscape plans have been reviewed by the Project Liaison Committee which includes members of the Business Improvement Association (BIA) as well as the Markham Main Street Committee, the Community Advisory Group, Heritage Markham and other residents and businesses in the area.

On November 14, 2012 the Heritage Markham Committee endorsed, in principle, the Main Street streetscape improvements currently under consideration.

On November 21, 2012 the Main Street Markham Committee indicated its support of the current proposals.

Staff recommends that a Public Information Meeting be held in early 2013 to allow business owners and residents in the area the opportunity to review the streetscape improvement design (Attachments A1 to A3).

### **FINANCIAL CONSIDERATIONS:**

A funding request of \$1.3 million for the streetscape portion of Main Street Markham, Highway 7 to Bullock Drive is included in the 2013 capital budget request. If the tender amount for the streetscaping exceeds \$1.3 million, staff will review reduction of streetscaping standards to stay within the budget.

The existing capital account for the Main Street Markham reconstruction project (11079 and 12048) currently has \$1.13 million remaining to cover the proposed road reconstruction work.

Financial impacts relating to the back end operations and maintenance of the streetscape improvements based on the final design including Life Cycle considerations will be brought forward during the 2014 budget deliberations for inclusion in both the Capital and Operating Budgets of Asset Management and Operations Departments.

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**ALIGNMENT WITH STRATEGIC PRIORITIES:**

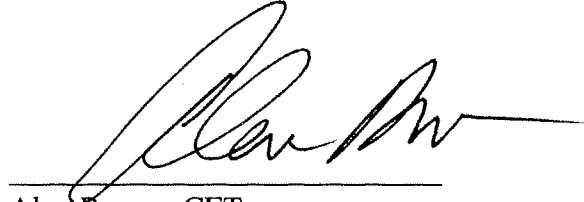
The reconstruction of Main Street Markham from Highway 7 to Bullock Drive has long been contemplated as a strategic priority. This project provides the necessary upgrades to the existing infrastructure, and with the enhancement of the existing streetscape, pedestrian traffic will increase as well as the attractiveness and profile of the heritage area.

The project supports the Town's strategic priorities including Growth Management, Transportation/Transit, and Environmental Sustainability.

**BUSINESS UNITS CONSULTED AND AFFECTED:**

The Operations Department as well as the Heritage Section have all reviewed and commented on this report. The Accessibility Officer has reviewed the streetscape plan.

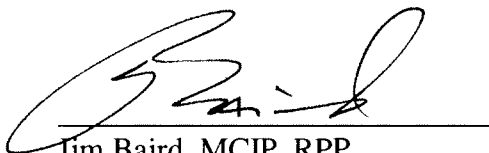
**RECOMMENDED BY:**



Alan Brown, CET  
Director of Engineering



Rino Mostacci, MCIP, RPP  
Director of Planning & Urban Design



Jim Baird, MCIP, RPP  
Commissioner of Development Services

**ATTACHMENTS:**

Attachment A1 to A3 – Streetscape Design

Attachment B1 and B2 – Tree Planter & Species Details

Attachment B3 – Street Furniture

Attachment B5 – Paver Sample and Urban Braille Illustration

Attachment C1 and C2 – Streetlight Details