



INFORMATION REPORT

TO: Mayor and Members General Issues Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: October 3, 2012	
SUBJECT/REPORT NO: Traffic Islands Requiring Beautification Allocation of Capital Budget Enhancements for Roads and Sidewalks Floral Traffic Islands (PW12076) - (City Wide) - (Outstanding Business List)	
SUBMITTED BY: Gerry Davis, CMA General Manager Public Works Department	PREPARED BY: Gerry Davis (905) 546-2313
SIGNATURES:	

Council Direction:

Subsequent to questions raised at General Issues Committee budget meetings in March, the attached documents were provided to Council.

Also, as discussed at that time, costing and specifics for the potential reinstatement of traffic islands previously altered to gravel or paving will be presented to Council as part of the 2013 budget deliberations.

To ensure all outstanding questions have been answered, we are supplying the details on traffic islands requiring beautification, allocation of capital budget enhancements for roads and sidewalks, and floral traffic islands to formally remove these matters from the General Issues Committee Outstanding Business List.

Information:

Refer to copies of e-mails dated March 5 and 26, 2012, attached to Report PW12076.

Clark, Nancy

From: Davis, Gerry

Sent: March 5, 2012 8:12 AM

To: DL - Council & Support Staff

Cc: Mater, John; Goodger, Beth; Shynal, Bryan; Murdoch, Craig; Clark, Nancy; Apkarian, Anna; Rossini, Rob

Subject: Public Works Follow Up | March 2 GIC Budget Meeting

Mayor Bratina and Members of Council,

In response to direction from GIC at Friday's budget meeting, we provide the following feedback regarding the roads and sidewalk and storm water infrastructure program enhancement as well as details on roundabouts.

2012 Roads & Sidewalks and Storm Water Infrastructure

The following information is provided respecting a 50% funding scenario for the program enhancements. The enhancements, as submitted, are summarized as follows:

Program	Component	Funding Request	Planned Accomplishment
Storm Water			
	Catch Basin Cleaning	\$300,000	Combined with existing funding of \$150,000 to clean 20,000 units / year
	Catch Basin Repair	\$150,000	Combined with existing funding of \$420,000 to respond to demand for repair
	SWMP Rehab	\$650,000	To rehabilitate 5 of 149 SWMP features in 2012
	Culverts Outfalls & structures	\$270,000	To fund priority works based on ongoing inspections
	Subtotal	\$1,370,000	
Roadway & Sidewalk Safety			
	Roadway Surface Defect Repairs	\$500,000	Combined with existing funding of \$4,680,000 to respond to annual demand
	Sidewalk Safety Defect Repairs	\$600,000	Combined with existing funding of \$1,960,000 to respond to annual demand (unit cost \$51/Bay)
	Subtotal	\$1,100,000	
	Total	\$2,470,000	

Staff recommendations, based on a 50% funding scenario, are summarized as follows:

Program	Component	Funding Request	Planned Accomplishment
Storm Water			
	Catch Basin Cleaning	\$0	Using existing funding of \$150,000 to clean approximately 5,000 units / year
	Catch Basin Repair	\$150,000	Combined with existing funding of \$420,000 to respond to demand for repair
	SWMP Rehab	\$650,000	To rehabilitate 5 of 149 SWMP features in 2012
	Culverts Outfalls & structures	\$180,000	To fund priority works based on ongoing inspections
	Subtotal	\$980,000	
Roadway & Sidewalk Safety			
	Roadway Surface Defect Repairs	\$0	Combined with existing funding of \$4,680,000 to respond to annual demand
	Sidewalk Safety Defect Repairs	\$370,000	Combined with existing funding of \$1,960,000 to attempt to respond to annual demand (unit cost \$51/Bay)
	Subtotal	\$370,000	
	Total	\$1,350,000	

The recommendations prioritize programs with minimal or no current funding to address escalating needs with associated risk to public safety and protection of property and existing municipal infrastructure.

For additional information please contact Bryan Shynal, Director of Operations, at Extension 4622.

Roundabouts

In response to questions raised by members of Council, we advise:

- Have we considered alternative materials like the AstroTurf on Upper James for the roundabouts?

No. Design and construction is done by others and turned over to Operations & Waste Management for maintenance. For traffic safety requirements trees and shrubs are added to restrict visibility of cars and headlights when approaching from opposite directions so AstroTurf is not an option.

There are two types of Roundabouts:

1) Roundabouts which are the large roundabouts typically located at major intersections such as Wilson and Shaver Road. These are usually designed and constructed by Public Works. Replacing the shrub beds and trees with artificial grass (Astroturf) is not an option because traffic safety requirements require that a combination of trees and shrubs be planted to restrict the visibility of cars and their headlights to oncoming traffic when approaching from opposite directions.

2) Traffic circles which are roundabouts typically found in subdivisions are smaller in size although not as critical also require trees and shrubs to restrict the visibility of oncoming traffic to each other as above. These traffic circles are typically installed by developers when the subdivision is built.

- If we put Astroturf in versus planting what is operational costs?

We have no maintenance cost data for artificial grass but the maintenance is minimal requiring if needed flushing with a hose and/or sweeping once to twice a year. Estimated costs would be approximately \$2-\$3/m²/year and would depend on the location whether it was a high traffic area or not.

- What would the cost be to remove and replace existing roundabouts with alternative materials?

We maintain approximately 6,786 m² of roundabouts/traffic circles. This does not include any new roundabouts or traffic circles that may be coming online in 2012.

The estimated cost to remove and replace with

1. Asphalt - \$105/m² - \$712,530
2. Concrete - \$120/m² - \$814,320
3. Artificial Grass - \$150/m² - \$1,017,900

- What is the unit cost for the roundabout maintenance?

The unit cost to maintain roundabouts/traffic circles in 2011 was about \$8.91/m² but note that we were only able to maintain the roundabouts/traffic circles at approximately 50 - 60 % of what we should be doing due to the increase in inventory and not having a corresponding increase in the operating funds and staff over the years. Actual unit cost would be in the \$17 - \$20/m² range. Also as the City expands further out to areas such as Binbrook and Waterdown the cost of travel to these areas could impact our per unit costs.

Roundabout/Traffic Circle maintenance includes weeding the beds, pruning the shrubs, replacing shrubs as required, irrigation repairs if applicable and installing mulch.

For additional information please contact Craig Murdoch, Director of Environmental Services at 4490

Thank you.

Gerry Davis, CMA
General Manager

Public Works Department, City of Hamilton
320 - 77 James Street North Hamilton ON L8R 2K3
905.546.2313 (Telephone) 905.546.4481 (Facsimile)

Hamilton Public Works ~ Providing services that bring our City to life !

Clark, Nancy

From: Wunderlich, Nancy on behalf of Goodger, Beth
Sent: March 26, 2012 12:34 PM
To: DL - Council & Support Staff
Cc: Rossini, Rob; Davis, Gerry; Clark, Nancy; Jarvie, Catriona; Murdoch, Craig; McNamara, Mike; Apkarian, Anna; Albers, Kathy
Subject: 2012 Budget – March 22 GIC Follow Up (Roundabouts & Traffic Islands)

Mayor Bratina and Members of Council,

At the March 22nd, 2012 GIC staff was directed to provide an update on any outstanding traffic islands in the City that require beautification, so that potential locations could be reviewed together with the Enhancement Request for Roundabout maintenance. The Roundabout Enhancement request is to maintain plantings in the 21 additional roundabouts that have been added to the inventory since 2009.

Currently there are no outstanding Floral Traffic Islands (FTI's) that require beautification. The reinstatement of Floral Traffic Islands (FTIs) was approved as a program enhancement as part of the 2007 budget process, as outlined in Report PW07027. A copy is attached as reference. The FTI enhancement approved the reinstatement of 47 FTI's that were deleted from the program in 2003 as a budget reduction. In 2003 the Floral Traffic features that were removed included 92 Floral Beds of which 70 were in Traffic islands and replaced with alternate surface material such as blast rock.

Of the locations identified in Report PW07027, 23 Floral Traffic Islands could not be reinstated for sites specific limitations such as the islands were too narrow or too shallow to support plantings, over bridge decks, and/or limited sponsorship potential. Another 22 floral beds that were located behind sidewalks were removed and replaced with sod. A list of the locations of the FTI's that were reinstated and the ones that were not reinstated is attached.

Below is a chart showing the current distribution of Street Floral Traffic Beds by Ward. Also attached is a spreadsheet showing the locations of Street Floral Beds in each Ward.

Street Floral Traffic Beds by Ward

Ward	Number
1	40
2	108
3	12
4	16
5	7
6	19
7	9
8	24
9	5
10	2
11	0
12	13
13	9
14	0
15	0

Below is a chart showing the current distribution of Roundabouts by Ward. Also attached is a spreadsheet showing the locations of the Roundabouts in Ward.

Roundabouts by Ward*

Ward	Number
1	0
2	0

3	0
4	0
5	0
6	0
7	1
8	1
9	7
10	11
11	19
12	23
13	0
14	0
15	4

* Does not include medians

Since 2009, the number of Roundabouts has increased by 21 representing a 31.8 % increase in the number of Roundabouts requiring maintenance that no operating funding has been received. All the locations have plant materials, shrubs or trees that require maintenance.

Since 2009 the number of Floral Traffic beds has also increased by 44 representing a 17% increase in the number of Floral beds requiring maintenance. In that time only one project received operating funding. That was the 2011 York Boulevard reconstruction project which received \$11,000.00 and 0.33 FTE's

If you require any additional information, please contact Mike McNamara, Manager of Forestry & Horticulture at 3919.



PW07027.pdf (648 KB)



2007 FTI
ancement Conversi



Street Floral



Roundabouts
Traffic Circles.pd...

*E. (Beth) Goodger
Senior Director, Operations & Waste Management Division
Public Works Department
City of Hamilton
77 James Street North, Suite 400
Hamilton, ON L8R 2K3*

*Phone: 905.546.2424, Ext. 4409
Fax: 905.546.3972
Beth.Goodger@hamilton.ca*

life ! *Hamilton Public Works ~ Providing services that bring our City to*

CITY WIDE
IMPLICATIONS

CITY OF HAMILTON

5.2.4(a)(i)

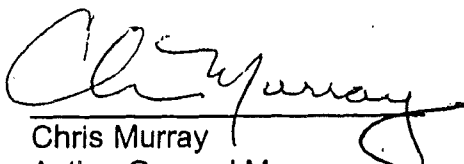
PUBLIC WORKS DEPARTMENT
Operations & Maintenance Division

Report to: Mayor and Members Committee of the Whole	Submitted by: Chris Murray Acting General Manager Public Works Department
Date: February 21, 2007	Prepared by: Mike McNamara Extension 3919

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide)**

RECOMMENDATION:

- (a) That the program enhancement request addressing the reinstatement of the "Floral Traffic Island Program", which results in an increase of 4.98 FTE and an annual operating cost of \$285,000, plus one-time 2007 Capital costs of \$368,000 as outlined in Report PW07027, be received for consideration;
- (b) That the "Service Standard" for the provision of "Floral Traffic Islands" outlined in Report PW07027 as Appendix "A" be endorsed;
- (c) That staff shall be directed to identify opportunities for the creation of new floral traffic island features within all future road construction and reconstruction projects in an effort to achieve a more equitable distribution of floral traffic island features within urban areas.


Chris Murray
Acting General Manager
Public Works

EXECUTIVE SUMMARY:

As directed by the Public Works, Infrastructure & Environment Committee on June 5, 2006, and approved by Council on June 14, 2006, a Program Enhancement has been included in the 2007 Budget submission (Operations & Maintenance Division) confirming an operating budget estimate to fund the reinstatement of the Floral Traffic Island Program at selected traffic islands. This report provides background information to the program enhancement and alternative approaches for consideration. In addition,

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide) - Page 2 of 7**

this report also responds to concerns raised by several Councillors, respecting the current inequitable distribution of floral traffic islands across the City.

BACKGROUND:

The information/recommendations contained within this report have City wide implications.

During the 2003 Budget process a reduction to the traffic island program service level was approved in order to match available budget resources decreasing the number of Traffic floral features from 247 to 155. Of the 92 former floral traffic planting features affected, 70 were located in traffic islands and have been converted to alternate surface treatments such as pea gravel or blast rock. The remaining 22 floral traffic planting features that were removed were located in non-traffic island locations such as behind sidewalks at intersections and have been sodded. They are not being considered for conversion because of limited aesthetic effect and sponsorship potential.

At the June 5, 2006 Public Works, Infrastructure & Environment Committee meeting and approved by Council on June 14, 2006, staff was directed to prepare cost estimates for the full reinstatement of the Floral Traffic Island Program (addressing all existing non-floral, irrigated traffic island features) through a program enhancement request to the 2007 budget process (Report 06-010). Accordingly, staff have reviewed the inventory of traffic islands and have identified that only 47 (3100 m²) of the 70 former floral traffic islands are actually feasible for reinstatement into the Floral Traffic Island Program due to site specific physical constraints. The 47 islands identified for reinstatement include 10 which require the installation of automated irrigation systems which have been included in the cost estimate for the program enhancement. The program enhancement as presented reflects a status quo position for the remaining 23 islands considered to be impractical to accommodate flowering annual plant materials. These islands are either too narrow or shallow to support healthy plant material or are located on elevated structures such as bridge decks or overpasses where traffic control set-ups are often difficult to see to approaching motorists.

Respecting the inequitable distribution of floral traffic islands (FTI) across Hamilton's urban areas, staff propose that this matter be addressed through the creation of a FTI feature service standard to be applied within all future road construction and reconstruction programs to identify opportunities for the creation of new floral traffic island features for inclusion in project plans. The *Service Standard for the Provision of Floral Traffic Islands* is provided in Report PW07027 as Appendix "A", and in the medium to long-term will facilitate a more equitable distribution of features across the urban areas of the City.

ANALYSIS/RATIONALE:

Staff recommends converting 47 traffic islands back to floral features as outlined in Report PW07027 as Appendix "B". The remaining 23 traffic islands, which were previously converted to non-floral, will remain status quo as they are either too narrow or shallow to hold sufficient soil volumes to retain moisture and promote healthy flower growth, or pose traffic or safety concerns for maintenance staff in these areas as outlined in Report PW07027 as Appendix C. The enhancement improves the

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide) - Page 3 of 7**

distribution of Floral Traffic Islands across the urban areas of the city, as will be illustrated by a staff presentation accompanying this report.

ALTERNATIVES FOR CONSIDERATION:

FTI Program Enhancement

Respecting the recommendation for the reinstatement of the Floral Traffic Island program, the following four alternatives to the staff recommendation are identified for consideration:

(1) Reduced FTI Program Service Level

As an alternative to the recommendation Council may consider a lower program service level wherein all floral annual plantings in traffic islands are replaced by perennials, native grasses, or woody plant materials.

The advantages of this alternative approach include:

- Decreased annual program operating costs in the amount of \$40,500.00 for the current program if existing floral traffic islands were to be converted to perennials, grasses, or woody plants, with an associated savings of \$30,000 in program operating costs of the proposed enhanced program if existing alternate surface treatment islands were converted to perennials, grasses, or woody plants rather than to floral. This would result in a savings of \$70,500 in operating costs for a fully reinstated FTI program.

The disadvantages of this alternative approach include:

- There are few perennial species possessing a prolonged colour show suitable for traffic island displays;
- There are very few species which are suitable for the harsh growing conditions of a roadway traffic island (i.e. frost heaving causes crown and root damage, salt damage from road salting operations, heat reflection, pollution, snow plowing operation damage, etc.);
- Wider array of pest problems; and
- Over wintering plant species would act as litter collectors, creating a visually unappealing streetscape.
- Capital cost to convert existing and enhanced Traffic islands to perennials, native grasses or woody plants (plant material and irrigation upgrades) is \$437,680.

This alternative is not recommended as it represents a significantly lower aesthetic quality in comparison to the mass planting of flowering annual plants and a range of significant negative associated impacts as noted above.

(2) Termination of the FTI Program

As a second alternative to the recommendation, Council may consider the permanent removal of all traffic island planting bed features including the decommissioning of existing irrigation systems and the installation of permanent hard surface material (i.e. concrete or asphalt).

The advantages of this alternative approach include:

- Annual operating budget savings of \$215,000 (current maintenance cost of existing FTI's minus cost of hard surface maintenance (sweeping, flushing, pavement weed control) of all FTI's).

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide) - Page 4 of 7**

The disadvantages of this alternative approach include:

- Reduced level of streetscape aesthetics
- Decreased resident satisfaction with municipal service programs
- Diminished city image and associated negative impacts to community health and economic development (marketability)
- Loss of Floral Traffic Island Program sponsorship revenues
- Loss of community development opportunity through Floral Traffic Island Program sponsorship and recognition opportunities
- Minor impact on urban micro-climate modification
- Redundancy of the Gage Park greenhouse production facility requiring:
 - possible closure of the tropical house
 - termination of the Mumz and Crafts Show
 - staff complement reductions (FT & PT and possible lay-offs)
 - loss of staff horticultural expertise and skills impacting the delivery and perhaps the quality of other horticultural programs
 - Loss of work accommodation opportunities for the Return to Work Program initiatives
 - Significant one-time capital costs to decommission and demolish the greenhouses and to perform site restoration and rehabilitation works
- One time capital costs for permanent conversion of floral traffic island features, both existing and converted, to concrete are estimated at \$1,120,000. This includes the conversion of all 130 existing Floral and non-Floral Traffic Islands
- High cost to reinstate this program in the future

This alternative is not recommended for the range of significant negative associated impacts as noted above.

(3) Artificial Grass Installation

As a third alternative to the recommendation, Council may consider the conversion of alternative surface (stone/pea gravel) traffic islands to artificial grass, while maintaining existing FTI's.

The advantages of this alternative approach include:

- Aesthetically more pleasing traffic islands than existing stone surfaces
- Lower annual operating cost (which includes periodic sweeping and flushing) than for floral maintenance

The disadvantages of this alternative approach include:

- Less aesthetically pleasing than floral island features
- Higher conversion costs versus floral (\$80 - \$100 / m² versus \$38.72 / m²)
- Unproven product for roadside applications

This alternative is not recommended as this is an unproven product in roadside applications and the long-term durability of the product has not yet been established. Council may choose to direct staff to set up artificial grass test areas to determine the durability of this product under our roadside conditions.

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide) - Page 5 of 7**

(4) Selected Floral Traffic Island Locations

As a fourth alternative to the recommendation, Council may consider planting in selected locations such as entranceways (Gateways) to the City or Downtown areas.

The advantages of this alternative approach include:

- Lower program operating costs

The disadvantages of this alternative approach include:

- Reduced level of streetscape aesthetics, including removal of existing floral traffic islands
- Decreased resident satisfaction with municipal service programs
- Diminished City image
- Loss of Floral Traffic Island Program sponsorship revenues
- Minor impact on urban micro-climate modification
- Redundancy of the Gage Park greenhouse production facility requiring:
 - possible closure of the tropical house
 - termination of the Mumz and Crafts Show
 - staff complement reductions (FT & PT and possible lay-offs)
 - loss of staff horticultural expertise and skills impacting the delivery and perhaps the quality of other horticultural programs
 - Loss of work accommodation opportunities for the Return to Work Program initiatives

This alternative is not recommended as it represents a significantly lower aesthetic quality in comparison to the mass planting of flowering annual plants and a range of significant negative associated impacts as noted above.

FINANCIAL/STAFFING/LEGAL IMPLICATIONS:

Floral Traffic Island Feature Program Budget Summary

2007 Program Maintenance Budget	
Operating Expenditures	\$330,000
Revenues	
Ancaster Special Levies	\$ 16,438
<u>Keep Hamilton Blooming Program</u>	<u>\$ 38,000</u>
Sub Total Program Revenues	\$ 54,438
Sub total Operating Budget	\$384,438
Capital Expenditures	\$ Nil
2007 Program Enhancement Request	
Operating Expenditures	\$285,000
Revenues	\$ N/A
Sub total Operating Budget	\$285,000
Total (Adjusted) Annual Operating Budget	\$669,438
Capital Expenditures	\$368,000

This report is provided as requested for consideration during 2007 budget deliberations and as such does not assume approval relative to the "Ancaster Special Levies". If the

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide) - Page 6 of 7**

program enhancement is approved in its entirety, then the enhancement's budget estimate should be increased to include the value of the Ancaster Special Levy (\$27,600). This adjustment will enable the elimination of this component of the Ancaster Special Levy to ensure equitable funding of the Floral Traffic Island program.

The Floral Traffic Island Enhancement Program, if approved, will be completed by Q2/08 and will involve the conversion of 47 (3100 m²) traffic islands and their yearly maintenance outlined in Report PW07027 as Appendix B. The one time cost for the conversion of the recommended islands is \$100,000 for those that are irrigated and \$118,000 for non-irrigated islands (includes the \$100,000 cost to install irrigation). Conversion costs cover the removal of existing materials (i.e. pea gravel or blast rock) and replacement with topsoil. The additional annual program maintenance costs including staffing, material, and operational costs will be \$285,000. As noted in the budget summary the current FTI program budget includes planned revenues from the Keep Hamilton Blooming sponsorship program at \$38,000 (2006 Experience).

Staffing Implications: Additional Staff Complement: 4.98 FTE

The enhancement to the Floral Traffic Island Program will be administered, coordinated, and maintained by staff requiring the addition of 4.98 FTE's, 3.72 FTE's to the Forestry and Horticulture Section's complement including 3 x 0.58 FTE (Gardener II's - seasonal) from April to November and 6 x 0.33 FTE (students) for 17 weeks and the addition of 1.26 FTE's to the Road Operations and Maintenance Section for Winter Operations from November to April and will be funded from the existing Winter Control Program casual labour budget (Winter Operator - seasonal).

The hiring of 3 FTE's in the dual position of Gardner II/Winter Operator will eliminate the requirement to hire seasonal workers in the Forestry and Horticulture and Road Operation and Maintenance sections. Seasonal workers tend to be transient and often have to be replaced each year which requires extensive training every time a new employee is hired. Hiring an employee in the dual position of Gardner II/Winter Operator will allow the City to train and retain qualified personnel.

POLICIES AFFECTING PROPOSAL:

There are no policies in existence affected by this enhancement.

RELEVANT CONSULTATION:

The Forestry and Horticulture Section consulted with the Operations and Maintenance Business Services Section, the Road Operations and Maintenance Section, and the Capital Planning and Implementation Division.

CITY STRATEGIC COMMITMENT:

By evaluating the "Triple Bottom Line", (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

Community Well-Being is enhanced. Yes No

Public services and programs are delivered in an equitable manner, coordinated, efficient, effective and easily accessible to all citizens.

Partnerships are promoted.

**SUBJECT: Floral Traffic Island Program - 2007 Program Enhancement
(PW07027) - (City Wide) - Page 7 of 7**

Environmental Well-Being is enhanced. Yes No

Air quality and water quality and quantity are protected.

Climate-related risks are managed; Greenhouse Gas emissions are reduced.

Economic Well-Being is enhanced. Yes No

Investment in Hamilton is enhanced and supported.

A skilled, innovative and diverse workforce is attracted and retained.

Hamilton's high-quality environmental amenities are maintained and enhanced.

Does the option you are recommending create value across all three bottom lines?

Yes No

Do the options you are recommending make Hamilton a City of choice for high performance public servants?

Yes No

The creation of a respectful, desirable and supportive workplace.

THE CITY OF HAMILTON

**PUBLIC WORKS DEPARTMENT
OPERATIONS & MAINTENANCE DIVISION
Forestry and Horticulture Section**

SERVICE STANDARD

SUBJECT: Service Standard for the Provision of Floral Traffic Islands

Objectives

The provisions of this service standard shall apply to the installation of new floral traffic island features across the City of Hamilton's urban areas. This service standard is intended to provide staff with the requirements necessary to identify opportunities for the creation of new floral traffic island features for inclusion in future development, road construction and reconstruction programs.

Planning Criteria

The following criteria shall apply to the planning of new floral traffic islands:

- Traffic islands must be required for traffic management purposes.
- Floral features shall not be located on elevated structures such as bridge decks or overpasses.
- Floral features shall have a minimum width of 1.2 m.
- Floral features must have municipal water service available for automated irrigation system.

RECOMMENDED FLORAL TRAFFIC ISLAND CONVERSION LOCATIONS - IRRIGATED

Location	# of Traffic Islands
----------	----------------------

Ward 1	
Dundurn/King north	1
Dundurn/ Main north	1
King and Paradise	1
Total	3

Ward 2	
Burlington/Wellington	1
Total	1

Ward 3	
Burlington/Hillyard east	1
Burlington/Hillyard west	1
Burlington/Wentworth east	1
Delta north	1
Delta southeast end	1
Total	5

Ward 4	
Woodward north	1
Woodward south	1
Queenston Traffic Circle	4
Total	6

Ward 5	
Barton/Gray's west	1
Barton/Lake east	1
Centennial/Arrowsmith north	1
Centennial/Arrowsmith south	1
Total	4

Location	# of Traffic Islands
----------	----------------------

Ward 6	
Upper Ottawa/Limeridge west	1
Upper Ottawa/ Stonechurch east	1
Upper Sherman/Mohawk north	1
Upper Sherman/Mohawk north north	1
Crockett at Sherman Cut N/E	1
Crockett at Sherman Cut N/W	1
Total	6

Ward 7	
Upper Sherman/Limeridge n/e	1
Upper Sherman/Limeridge s/e	1
Upper Wellington/Mohawk west	1
Upper Wentworth/Rymal east	1
Upper Wentworth/north of Rymal	1
Total	5

Ward 8	
Upper James/Mohawk west	1
Upper James/Mohawk west/west	1
West 5th/Fennell south	1
Upper James/Fennell north	1
Upper James/Fennell south	1
Upper James/Fennell west	1
Upper James/Regina north	1
Total	7

Grand Total 37

APPENDIX "B" to Report PW07027

RECOMMENDED FLORAL TRAFFIC ISLAND CONVERSION - NON IRRIGATED.

Location	# Traffic Islands
----------	-------------------

Ward 3	
Burlington/Victoria east	1
Total	1

Ward 6	
Mohawk/East 45th	1
Upper Gage/Thorley north	1
Upper Gage/Thorley south	1
Upper Ottawa/Mohawk east	1
Upper Ottawa/Mohawk north	1
Upper Ottawa/Mohawk south	1
Upper Ottawa/Mohawk west	1
Total	7

Ward 8	
Upper James/Regina south	1
Garth/Fennell north	1
Total	2

Grand Total	10
-------------	----

NON RECOMMENDED TRAFFIC ISLAND CONVERSION - IRRIGATED

Location	#
----------	---

Ward 1	
Main/403 south	1
Dundurn/King south	1
Total	2

Ward 4	
King/Keswick	2
Total	2

Ward 6	
Upper Sherman/Crockett south	1
Upper Sherman/Crockett north	1
Total	2

Grand Total	6
--------------------	----------

Non Recommended Island Conversion (Annuals) - Non Irrigated

APPENDIX " C " to Report PW07027

NON RECOMMENDED TRAFFIC ISLAND CONVERSION - NON IRRIGATED

Location	#
----------	---

Ward 5	
Centennial/Barton north	1
Total	1

Ward 7	
Upper Wentworth/Freeway north	1
Upper Wentworth/Freeway north bridge	1
Upper Wentworth/Freeway south	1
Upper Wentworth/Freeway south bridge	1
Limeridge south of mall	1
Upper Gage/Freeway north	1
Upper Gage/Freeway south	1
Upper Gage/Limeridge north	1
Upper Gage/Limeridge south	1
Total	9

Ward 8	
Garth/Freeway south/north	1
Garth/Freeway north/south	1
Garth/Freeway north/north	1
Garth/Freeway south/south	1
Upper James/Freeway north	1
Upper James/Freeway south	1
Upper James/Limeridge south	1
Total	7

Grand Total	17
-------------	----

RECOMMENDED FLORAL TRAFFIC ISLAND CONVERSION LOCATIONS(PW07027)

Location	# of Traffic Islands
----------	----------------------

Ward 1	
Dundurn/King north	1
Dundurn/ Main north	1
King and Paradise	1
Total	3

Ward 2	
Burlington/Wellington	1
Total	1

Ward 3	
Burlington/Hillyard east	1
Burlington/Hillyard west	1
Burlington/Wentworth east	1
Delta north	1
Delta southeast end	1
Burlington/Victoria east	1
Total	6

Ward 4	
Woodward north	1
Woodward south	1
Queenston Traffic Circle	4
Total	6

Ward 5	
Barton/Gray's west	1
Barton/Lake east	1
Centennial/Arrowsmith north	1
Centennial/Arrowsmith south	1
Total	4

Location	# of Traffic Islands
----------	----------------------

Ward 6	
Upper Ottawa/Limeridge west	1
Upper Ottawa/ Stonechurch east	1
Upper Sherman/Mohawk north	1
Upper Sherman/Mohawk north north	1
Crockett at Sherman Cut N/E	1
Crockett at Sherman Cut N/W	1
Mohawk/East 45th	1
Upper Gage/Thorley north	1
Upper Gage/Thorley south	1
Upper Ottawa/Mohawk east	1
Upper Ottawa/Mohawk north	1
Upper Ottawa/Mohawk south	1
Upper Ottawa/Mohawk west	1
Total	13

Ward 7	
Upper Sherman/Limeridge n/e	1
Upper Sherman/Limeridge s/e	1
Upper Wellington/Mohawk west	1
Upper Wentworth/Rymal east	1
Upper Wentworth/north of Rymal	1
Total	5

Ward 8	
Upper James/Mohawk west	1
Upper James/Mohawk west/west	1
West 5th/Fennell south	1
Upper James/Fennell north	1
Upper James/Fennell south	1
Upper James/Fennell west	1
Upper James/Regina north	1
Upper James/Regina south	1
Garth/Fennell north	1
Total	9

Grand Total	47
--------------------	-----------

NOT RECOMMENDED FLORAL TRAFFIC ISLAND CONVERSION
LOCATIONS(PW07027)

Location	#
----------	---

Ward 1	
Main/403 south	1
Dundurn/King south	1
Total	2

Ward 4	
King/Keswick	2
Total	2

Ward 5	
Centennial/Barton north	1
Total	1

Ward 6	
Upper Sherman/Crockett south	1
Upper Sherman/Crockett north	1
Total	2

Ward 7	
Upper Wentworth/Freeway north	1
Upper Wentworth/Freeway north bridge	1
Upper Wentworth/Freeway south	1
Upper Wentworth/Freeway south bridge	1
Limeridge south of mall	1
Upper Gage/Freeway north	1
Upper Gage/Freeway south	1
Upper Gage/Limeridge north	1
Upper Gage/Limeridge south	1
Total	9

Ward 8	
Garth/Freeway south/north	1
Garth/Freeway north/south	1
Garth/Freeway north/north	1
Garth/Freeway south/south	1
Upper James/Freeway north	1
Upper James/Freeway south	1
Upper James/Limeridge south	1
Total	7

Grand Total	23
-------------	----

Street Floral Bed Locations	
As of March, 2012	
Location	# Floral Beds
Ward 1	
Aberdeen/Longwood	1
Aberdeen/Queen	1
York Blvd.Gateway	17
Dundurn/York southwest	1
Dundurn/York southeast	1
Dundurn/York west.	1
Dundurn/ King North	1
Dundurn/King South	1
Dundurn/Main south	1
King/Paradise	6
Main/403 west	1
Main/403 east	1
Main/Haddon west	1
Main/Haddon east	1
Main/Longwood east	1
Main/Longwood west	1
Main/Palsley	1
Westdale Blvd. north	1
Westdale Blvd. south	1
TOTAL	40

Ward 2	
Bay/Aberdeen	1
Bay/Jackson, (north) City Hall	1
Bay/Jackson, (south) City Hall	1
Bay/Bayfront Park (mast bed)	1
Bay, (north of entrance)	1
Strachan/Bay, (east Island)	1
King St. (North side, James-Hughson)	3
King St. (North side, Hughson-John)	4
King St. (North side, John-Catharine)	4
King St. (North side, Catharine to Mary)	3
King St. (North side, Mary to Walnut)	2
King St. (North side, Walnut to Ferguson)	2
King St. (North side, Ferg. to Jarvis Carpark)	1
King St. (North side, Jarvis Carpark to Wellington)	3
King St.(South side, James to Hughson)	4
King St. (South side, Hughson to John)	4
King St. (South side, Catharine to Mary)	3
King St. (South side, Mary to Walnut)	3
King St. (South side, Walnut to Ferguson)	3
King St. (South side, Ferguson to Spring)	2
King St. (South side, Spring to Wellington)	2
Hughson (South of Main, East side)	1
Hughson (North of Main)	1
Hughson (North of Jackson, East side)	1
King William/Mary	1
S/W of Pavillon	1
North of Pavillon	1

N/E of Area, Close to Main	1
Ferguson/King N/E (raised planter)	1
Ferg. between King & King William (East side, midway)	1
Ferguson/King William S/E	1
Ferguson/King William N/E	1
Ferguson/King William N/W	1
Ferguson/King William S/W, (raised planter)	1
Ferg. Between King & King William (West side, midway)	1
Ferguson/King N/W	1
Ferguson/Rebecca S/E	1
Ferguson/Rebecca S/W	1
Ferguson/Wilson S/E	1
Ferguson/Wilson S/W	1
Bay/King (n/w corner)	1
Bay/Main (east side, east of Sidewalk)	1
Bay/Main (east side, west of Sidewalk)	1
Bay, (east side,north of above)	1
Bay, (east side,north north above)	1
Bay/King, (S/E corner)	1
Bay, (east side, south of above)	1
Bay/King (N of King, east side)	1
Bay/George, (N/W corner)	1
Bay/Main, (N/W corner)	1
Ferguson (stage area 4 pockets)	4
Ferguson (North of stage area)	1
Bay/ King Southwest corner	1
Bay/King N or King (west side)	1
Bay/King N/E corner	1
Bay/Market	1
Bay front of federal Building West side South	1
Bay front of federal Building West side North	1
Bay/York NW corner	1
Bay @ York East Side	1
Bay @ York West Side	1
Bay/Vine West Side	1
Bay N of Vine East Side	1
Bay NN of Vine	1
Bay @ Cannon West Side	1
York/Blvd/Park/S/W corner	1
York Blvd@ Park	1
York Blvd East of Caroline	1
York Blvd East East of Caroline	1
York Blvd Centre at Bay Street	1
York Blvd S/E corner of Bay	1
York Blvd S/E corner of McNab	1
York Blvd South side west of Library	1
York Blvd/James In Parkette	1
King William and James Street N	1
King William and James Street S	1
Burlington/ Wellington	1
TOTAL	108

Ward 3	
Burlington/Wentworth west	1
Burlington/ Wentworth east	1
Burlington/ Hillyard east	1
Burlington/ Hillyard west	1
Burlington/ Victoria east	1
Sherman/Cannon north	1
Sherman/Cannon west	1
Sherman/Cannon centre	1
Delta southwest end	1
Delta south centre	1
Delta north	1
Delta southeast end	1
TOTAL	12

Ward 4	
Parkdale/Melvin south	1
Barton/Parkdale east	1
Barton/Parkdale west	1
Barton/Parkdale north	1
Barton/Parkdale south	1
Woodward North	1
Woodward Centre	1
Woodward South	1
Queenston Traffic Circle	1
Kenilworth access	5
Kenilworth Access North Arm	1
Kenilworth Access West Arm	1
TOTAL	16

Ward 5	
Barton/Brockley east	1
Barton/Brockley west	1
Beach Blvd/Van Wagner's	1
Barton/ Gray's West	1
Barton/ Lake East	1
Centennial/ Arrowsmith North	1
Centennial/ Arrowsmith South	1
TOTAL	7

Ward 6	
Dartnall/Stonechurch east	1
Dartnall/Stonechurch north	1
Dartnall/Stonechurch south	1
Dartnall/Stonechurch west	1
Upper Ottawa/ Limeridge West	1
Upper Ottawa/ Stonechurch East	1
Upper Sherman/ Mohawk North	1
Upper Sherman/ Mohawk North North	1
Crockett at Sherman Cut N/E	1
Crockett at Sherman Cut Centre Island	1
Crockett at Sherman Cut NW	1
Mohawk/ East 45th	1
Upper Gage/ Thorley North	1
Upper Gage/ Thorley South	1
Upper Ottawa/ Mohawk East	1
Upper Ottawa/ Mohawk North	1
Upper Ottawa/ Mohawk South	1
Upper Ottawa, Mohawk West	1
Kenilworth Access (upper)	1
TOTAL	19

Ward 7	
Upper James/Rymal east	1
Upper Wellington/Concession north	1
Upper Wellington/Concession south	1
Limeridge west of Upper Wellington/Maitland	1
Upper Sherman/Limeridge N/E	1
Upper Sherman/Limeridge S/E	1
Upper Wellington/ Mohawk West	1
Upper Wentworth/ Rymal East	1
Upper Wentworth/ North of Rymal	1
TOTAL	9

Ward 8	
Garth/Fennell South	1
Garth/Stonechurch East	3
Garth/Stonechurch East East	1
Garth/ Fennell North	1
Upper James/Mohawk south	1
Upper James/Mohawk east	1
West 5th/Limeridge	1
Upper James/Mohawk east/east	1
Upper James/Mohawk north	1
Upper James/Mohawk north/north	1
West 5th/College north	1
West 5th/College south	1
Upper James/Rymal west	1
Upper James/ Mohawk West	1
Upper James/ Mohawk West/West	1
West 5th/Limeridge	1
West 5th/ Fennell South	1
Upper James/ Fennell North	1
Upper James/ Fennell South	1
Upper James/ Fennell West	1
Upper James/ Reglna North	1
Upper James/ Reglna South	1
TOTAL	24

Ward 9	
King Street at Smith's Knoll (Opposite Battlefield Park)	4
King street (bridge bed)	1
TOTAL	5

Ward 10	
Stoney Creek Cenotaph	2
TOTAL	2

Ward 11	
TOTAL	0

Ward 12	
Wilson/Rousseaux, north	1
Wilson/Rousseaux, east	1
Wilson/Fiddler's Green South	3
Wilson/Fiddler's Green East	1
Wilson/Fiddler's Green West	1
Gofflinks, (north of Meadowlands/Legend)	1
Gofflinks, (south of Meadowlands/Legend)	1
Gofflinks, (south of Kitty Murray)	1
Gofflinks, (south south of Kitty Murray)	3
TOTAL	13

Ward 13	
Cootes, (Thorpe to West)	9
TOTAL	9

Ward 14	
TOTAL	0

Ward 15	
TOTAL	0

Roundabouts/Traffic Circles	
As of March 2012 unless noted otherwise	
Location	#
Ward 1	
Total	0
Ward 2	
Total	0
Ward 3	
Total	0
Ward 4	
Total	0
Ward 5	
Total	0
Ward 6	
Total	0
Ward 7	
Alless Dr/Dicenzo Dr*	1
Total	1
Ward 8	
Omni and Stonechurch*	1
Total	1
Ward 9	
First Road West (South of Mud Street)	1
Bridgewater (East of Paramount, North of Mud Street)	1
Cityview (North of Highland)	1
Elderidge (South of Glenhollow Drive)	1
Foxmeadow (North of Rymal, west of # 20)	1
Parkvista (South of Kennard)	1
Treeview (East of Glenhollow)	1
Total	7
Ward 10	
Federal Road/Norwich (North of #8, East of Gray's Road)	1
Federal Road/Warwick (North of #8, East of Gray's Road)	1
Federal Road/Chester (North of #8, East of Gray's Road)	1
Federal Road/Blenhelm (North of #8, East of Gray's Road)	1
MacIntosh Drive (West of Dewitt Road)	1
Margaret Street/Royce Avenue	1
Prestige Drive (South of #8, Between Dewitt & Margaret)	1
Robindale Court (E. of Saltfleet Arena, Fruiland Rd. Area)	1
Royalwood Court (N. of #8 Between Fruiland & dewitt Rd.)	1
Vulcan Court (South of Barton, Between Grays & Green)	1
Spartan (north of MacIntosh, West of Dewitt Road)	1
Total	11
Ward 11	
Liuna Court (East of Winona Rd. Close to Lake)	1
McCullum/Avery East of Fifty Road, Close to Lake)	1
Orivieto (South of Barton, West of Winona Rd.)	1
Richmond Crescent (North of QEW, West of Fifty Rd.)	1
Shadowdale (West of Winona Rd., Close to Lake)	1
Sugarberry (West of Winona Rd., Close to Lake)	1
Tuscani Drive (South of Barton, West of Winona Rd.)	1

Portofino (West of Winona Rd., Close to Lake)	1
Maggie Johnsons/Tanglewood*	1
Pumpkin Pass/ Royal Winter Drive*	1
Fall Fair Way Pumpkin Pass*	1
Fall Fair Way/Bradley Ave (at Binbrook Rd)*	1
Bradley Ave/Whitehall Way*	1
Bradley Ave/Magnificent Way*	1
Bradley Ave/Winwood Dr*	1
Dakota Blvd/Pinehill Dr*	1
On Southbrook @ Binbrook Road East (median)*	1
On Southbrook @ Hwy 58(median)*	1
On Winward @ Hwy 56(median)*	1
Total	19
Ward 12	
Braithwaite/Panabaker	1
Braithwaite/Donnelly	1
Braithwaite/Liam	1
Braithwaite/Somerville	1
Kitty Murray/Bridgeport	1
Kitty Murray/Stonehenge	1
Kitty Murray/Thoroughbred	1
Morwick/Moore	1
Morwick/Valmont	1
Morwick/Stevenson	1
Stonehenge/Meadowlands	1
Stonehenge/Thoroughbred	1
Stonehenge/Cloverleaf	1
Wilson/Meadowbrook	1
Jeffery Court	1
Stonehenge/Raymond	1
Raymond/Whittaker	1
Raymond/Robertson	1
Raymond/Irwin	1
Wilson/Meadowbrook*	1
Jerseyville and Hwy 52*	1
Jeffery Court	1
Shaver and Wilson*	1
Total	23
Ward 13	
Total	0
Ward 14	
Total	0
Ward 15**	
Wimberly at Nisbet*	1
Nisbet at Cole*	1
Burke at Skinner*	1
Spring Creek at Blue Sky Trail*	1
Total	4
	66
* Roundabouts, Traffic Circles, medians that are or are scheduled to be maintained in which no operating funding has been received.	
** Scheduled to come on line in 2012.	