

**DEVELOPMENT CHARGES
BACKGROUND STUDY:
TOWN-WIDE HARD SERVICES &
AREA-SPECIFIC CHARGES**

Town of Markham

HEMSON Consulting Ltd.

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EXECUTIVE SUMMARY

The following summarizes the findings of the study.

(i) THE TOWN HAS A COMPLEX DEVELOPMENT CHARGES REGIME

The Town of Markham currently levies three types of development charges for the recovery of growth-related capital costs:

1. **Town-Wide Soft (TWS) Service Development Charges** — for the recovery of growth-related cost for the provision of general government, library, fire, indoor recreation, parks development and facilities, and public works (building, equipment and fleet) services.
2. **Town-Wide Hard (TWH) Service Development Charges** — for the recovery of growth-related cost for the provision of major roads and related services, including structures, sidewalks, streetlights and special traffic management and design features, as well as storm water management projects (erosion control projects), and related studies.
3. **Area-Specific Development Charges (ASDC)** — for the recovery of growth-related cost for the provision of some roads, intersection improvements, sidewalks, streetlighting, watermains, sanitary sewers and storm water management facilities (storm water ponds).

The first two types of development charges, the TWS and TWH, are levied on a uniform basis against all development in the Town. The ASDC's are levied on a planning area-specific basis. The basis for the current charges is the Town's most recent development charges background study, completed in 2004.

(ii) THE TOWN INITIATED A REVIEW OF DEVELOPMENT CHARGES POLICIES AND PRACTICES

In 2006, the Town initiated a review of the Town-wide hard and area-specific development charges projects and cost recovery approach. The review was driven by two main factors:

- the rapidly increasing cost of capital projects; and
- the fiscal soundness, equitability and complexity of the Town's current development charges regime.

(iii) THE STUDY HAS FOCUSED ON TWO OBJECTIVES

- The Study has focussed on achieving two key objectives:
 - Update the cost of the growth-related projects and set new development charges rates to ensure that growth is fully funding all eligible growth-related costs; and
 - Examine approaches of providing a more efficient and fiscally viable method of recovering growth-related costs, while maintaining equitability, through a reduction in the number of area-specific by-laws, enhancing local service policies and recoveries, and by funding more projects through the Town-wide charges.
- The Study process has included extensive consultation with the Markham developers.

(iv) STUDY CONSISTENT WITH LEGISLATION

- This Town of Markham Development Charges Background Study is presented as part of a process to lead to the approval of new TWH and ASDC development charges by-laws in compliance with the *Development Charges Act, 1997 (DCA)* and its related regulation (*Ontario Regulation 82/98*).

- The current TWS development charges by-law and rates are not being addressed as part of this Background Study.

(v) *ENGINEERED SERVICES WITH GROWTH-RELATED COSTS INCLUDED IN THE ANALYSIS*

- The following Town services have been included in the development charges analysis:
 - Roads (including associated structures, sidewalks, streetlights, etc.);
 - Water distribution;
 - Sanitary sewers; and
 - Storm water management.
- The other eligible Town services, often referred to as Town-wide soft services, have not been included in this development charges analysis.

(vi) *THE GROWTH FORECAST COVERS THE PERIOD 2008–2031*

- As this development charges study deals only with engineered services — roads and associated works, water, sanitary sewers and storm water management programs — the longer forecast period, 2008–2031, forms the basis of the calculations.
- The forecast represents the build-out of lands currently designated under the Town’s Official Plan for residential and non-residential development.
- The growth forecast used in the study is based on the forecasts prepared by Hemson in conjunction with the Town’s Planning & Urban Design Department.
- The residential forecast provides for an additional 30,990 households, over the period 2008–2031, and a population in the new households of approximately 86,500.

- It is forecast that 795 hectares of additional non-residential land will be developed over the planning period.

(vii) TWO APPROACHES ARE USED TO CALCULATE DEVELOPMENT CHARGES

Town-Wide Hard Development Charges

- This approach results in uniform charges throughout the Town for each of the Town-wide soft and Town-wide hard services. The scope of works to be funded from the Town-wide hard development charges has been expanded from the Town's previous practices. The Town-wide hard services include the following:
 - roads and related infrastructure, e.g. the 3rd and 4th travelled lanes, sidewalks, street lights, intersection improvements, bridges, culverts, streetscape improvements, related land acquisition needs, and traffic management;
 - storm water management (watercourse improvements);
 - watermains in excess of 300 mm; and
 - studies related to the above.
- The resulting development charges for these services would be imposed against all development anywhere in the Town.

Area-Specific Development Charges

- The scope of works being recovered for under the area-specific development charges has been narrowed since the Town's 2004 Development Charges Study. Some costs previously recovered for under the area-specific charges are now proposed to be recovered through the Town-wide hard charges and as local service contributions. The area-specific charges now recover primarily for the following services:
 - sanitary sewers;
 - storm water management facilities (storm water ponds); and

- growth-related studies.
- In some situations, the area specific charges will continue to recover for some outstanding costs for projects undertaken through credit agreements with various landowners and to recovery costs for other outstanding area specific issues.

(viii) PROPOSED TOWN-WIDE HARD SERVICE CHARGES

- The following summarizes the proposed residential and non-residential charges for Town-wide hard services:

Residential Development Charges	\$/unit
Single and Semi-Detached Units	\$8,046
Townhouse and Other Multiples	\$6,331
Apartments	
Large	\$4,979
Small	\$2,992
Non-Residential Development Charges	\$/Net Hectare
All Non-Residential Development	\$168,265

(ix) AREA-SPECIFIC CHARGES

- Area-specific development charges are recommended for sanitary sewers, storm water management facilities, growth-related studies and other outstanding area-specific growth-related costs.
- The area-specific approach more closely aligns costs and benefits for services where benefits are more localized and can be identified.

- The following summarizes the proposed area-specific development charges for various areas in the Town:

	<u>\$/Net Hectare</u>
Area 4 - Don Mills/Browns Corner	\$ 29,371
Area 5 - Armadale	\$ 10,694
Area 7 - Armadale NE	\$ 13,911
Area 8 - Milliken Mills	\$196,289
Area 9 - PD 1 - 7	\$508,403
Area 17 - Rodick/Miller Road Planning District	\$293,218
Area 42A - South Unionville	\$ 54,775
Area 42A-1 - South Unionville - Helen Ave	\$770,062
Area 42B - Markham Centre	\$ 45,474
Area 42B.2 - Markham Centre - Clegg	\$ 64,003
Area 42B.4 - Markham Centre - Hotel	\$848,772
Area 42B.6 - Markham Centre - South Hwy 7	\$321,738
Area 42B.8 - Markham Centre - Sciberras	\$541,610
Area 42B.9 - Markham Centre - East Precinct	\$524,837
Area 43 - Greensborough	\$ 2,736
Area 44A - Rouge North East	\$ 6,892
Area 45A - Wismer	\$ 6,647
Area 46 - Cathedral	\$ 3,106
Area 47A - Angus Glen	\$ 11,046
Area 47B - York Downs and	\$ 24,175
Area 49 - 404 North	\$ 17,229

(x) MODIFICATIONS TO THE TOWN'S DEVELOPMENT CHARGES BY-LAW AND LOCAL SERVICE DEFINITIONS ARE PROPOSED

- The Town is proposing to modify a few provisions of the development charges by-law. The proposed draft by-law is available, under separate cover, and all the by-law provisions are provided in the draft. Some of the changes being proposed include:
 - Definition of large and small apartments:
 - One-bedroom apartment to small apartment dwelling with a gross floor area equal to or less than 750 square feet.
 - Two-bedroom or larger to large apartment dwelling with a gross floor area of more than 750 square feet.
 - Limited exemption on non-residential developments is to continue until August 31, 2009 to coincide with the natural expiry of the 2004 by-laws.
 - The exemption on expansions/additions to buildings where lot levies were previously paid will be discontinued.
 - The exemption/credit where a change of use exists is amended to provide a credit for an amount equal to the development charges originally paid.
 - The proposed draft by-laws should be reviewed for the exact wording of the changes and all rules related to the implementation and levying of development charges in the Town of Markham.
- The Town has reviewed and updated the definition of local services.
 - The reason for establishing this definition is to determine the capital costs eligible for inclusion in the development charges calculation for the Town.
 - The functions or services deemed to be local in nature are not to be included in the determination of the development charges rates.

- The provision of local services is considered to be a direct developer responsibility under s.59 of the *DCA* and will (or may) be recovered under other agreement(s) with the landowner or developer.
- The Background Study contains details on the Town's new local service definitions and policies.
- It is recommended that Town's other practices regarding collection of development charges and by-law administration continue to the extent possible, having regard to any requirements of the *DCA*.
- It is recommended that the Town continue to actively encourage the use of front-ending agreements or developer agreements (and services-in-lieu arrangements), whichever are practical and desirable by the development industry and the Town;
- It is recommended that Council adopt "in principle" the growth-related capital forecast for Town-wide and area-specific services included in this background study, subject to annual review through the Town's normal capital budget process.
- The adoption "in principle" of the growth-related capital forecast will signify Council's intention to ensure that the increase in need for services attributable to growth will be met as required under the *DCA*, s.5.(1) 3. It is recognized, however, that specific projects and project timing as contained in the forecast included in this study may be revised from time to time at the discretion of Council.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
I INTRODUCTION	1
II THE METHODOLOGY COMBINES A TOWN-WIDE AND AREA-SPECIFIC APPROACH TO ALIGN GROWTH-RELATED COSTS AND BENEFITS	5
A. Both Town-wide and Area-specific Development Charges Are Proposed	5
B. Key Steps in Determining Development Charges for Future Growth-related Projects	9
III GROWTH FORECAST	12
IV THE GROWTH-RELATED CAPITAL FORECAST	14
A. A Growth-related Capital Forecast Is Provided for Council's Approval	14
B. The Growth-related Capital Forecast for Town-wide Services	14
C. The Growth-related Capital Forecast for Area-specific Services	17
V PROPOSED DEVELOPMENT CHARGES ARE CALCULATED IN ACCORDANCE WITH THE <i>DCA</i>	19
A. Development Charges Calculation for Town-wide Services	20
B. Proposed Town-wide Residential and Non-residential Development Charges	22
C. Proposed Development Charges for Area-specific Services	24
VI DEVELOPMENT CHARGES ADMINISTRATION	26
A. Development Charges Policies and Practices	26
B. Development Charges By-law Provisions	26
C. Local Service Definitions	27
APPENDICES	

LIST OF APPENDICES

- A. Growth Forecast
- B. Town-wide Hard Services
- C. Area-specific Hard Services
- D. Reserve Fund

DRAFT DEVELOPMENT CHARGES BY-LAW — Available under Separate Cover

I INTRODUCTION

The Town of Markham currently levies three types of development charges for the recovery of growth-related capital costs:

1. **Town-Wide Soft (TWS) Service Development Charges** — for the recovery of growth-related cost for the provision of general government, library, fire, indoor recreation, parks development and facilities, and public works (building, equipment and fleet) services.
2. **Town-Wide Hard (TWH) Service Development Charges** — for the recovery of growth-related cost for the provision of major roads and related services, including structures, sidewalks, streetlights and special traffic management and design features, as well as storm water management projects (erosion control projects), and related studies.
3. **Area-Specific Development Charges (ASDC)** — for the recovery of growth-related cost for the provision of some roads, intersection improvements, sidewalks, streetlighting, watermains, sanitary sewers and storm water management facilities (storm water ponds).

The first two types of development charges, the TWS and TWH, are levied on a uniform basis against all development in the Town. The ASDC's are levied on a planning area-specific basis. The basis for the current charges is the Town's most recent development charges background study, completed in 2004.

In 2006, the Town initiated a review of the Town-wide hard and area-specific development charges projects and cost recovery approach. The review was driven by two main factors:

- the rapidly increasing cost of capital projects; and
- the fiscal soundness, equitability and complexity of the Town's current development charges regime.

As with most municipalities in the Southern Ontario, Markham has experienced significant increases in capital project costs in recent years. These cost increases exceed, by a wide margin, the cost estimates included in the 2004 background study. The result is that the current development charges rates are not fully funding the Town's growth-related capital program.

In addition, the Town of Markham has one of the most complicated development charges regimes in the Province that incorporates two Town-wide development charges by-laws and 27 area-specific development charges by-laws. The complex regime has resulted in administrative difficulties and inefficiencies and has exacerbated the fiscal shortcomings of the Town's development charges rate structures and policies.

Over the last two years the Town has undertaken a comprehensive review of its Town-wide hard and area-specific development charges projects and costs. This review has included an examination of approaches of providing a more efficient and fiscally viable method of recovering growth-related costs, while maintaining equitability, through a reduction in the number of area-specific by-laws, enhancing local service policies and recoveries, and by funding more projects through the Town-wide charges. The Town has had extensive consultation with the Markham developers through this process.

This Town of Markham Development Charges Background Study is presented as part of a process to lead to the approval of new TWH and ASDC development charges by-laws in compliance with the DCA. The current TWS development charges by-law and rates are not being addressed as part of this Background Study.

The DCA and *Ontario Regulation 82/98 (O. Reg. 82/98)* require that, prior to enacting a development charges by-law, a development charges background study be prepared in which development charges are determined with reference to:

- a forecast of the amount, type and location of housing units, population and non-residential development anticipated in the Town;
- the average capital service levels provided in the Town over the 10-year period immediately preceding the preparation of the background study;
- a review of anticipated future capital projects, including an analysis of gross expenditures, funding sources, and net expenditures to be incurred by the Town or

its local boards to provide for the expected development, including the determination of the growth and non-growth-related components of the capital projects; and

- an examination of the long-term capital and operating costs for the capital facilities and infrastructure required for each service to which the development charges by-laws would relate.

This study presents the results of the review to determine the growth-related net capital costs which are attributable to development that is forecast to occur in the Town. The growth-related net capital costs are then apportioned among various types of development (residential, non-residential) in a manner that reflects the increase in the need for each service attributable to each type of development. The study arrives, therefore, at proposed development charges for various types of development.

The *DCA* provides for a period of public review and comment regarding the proposed development charges. Following completion of this process, in accordance with the *DCA* and Council's review of this study as well as the comments Council receives regarding this study or other information brought to its attention about the proposed charges, it is anticipated that Council will pass new development charges for the Town.

The remainder of this study sets out the information and analysis upon which the proposed development charges are based.

Section II designates the services for which the development charges are proposed and the areas within the Town to which the development charges will apply. It also briefly reviews the methodologies that have been used in this background study.

Section III presents a summary of the forecast residential and non-residential development which is expected to occur within the Town over the period 2008–2031.

In Section IV, the growth-related capital forecast for Town services that has been developed by the Town is reviewed.

Section V summarizes the calculation of applicable Town-wide development charges and the resulting proposed development charges by class and type of development. This

section also summarizes the calculation of the area-specific development charges by area.

Section VI provides a review of proposed changes to the development charges by-laws and related development charges administrative matters such as collection method and timing of payments, exemptions, credits for services-in-lieu, front-end financing, local service definitions, etc.

II THE METHODOLOGY COMBINES A TOWN-WIDE AND AREA-SPECIFIC APPROACH TO ALIGN GROWTH-RELATED COSTS AND BENEFITS

Several key steps are required in calculating any development charges. However, specific circumstances arise in each municipality which must be reflected in the calculation. In this study, therefore, we have tailored our approach to the Town of Markham's unique circumstances. The approach to the proposed development charges is focussed on providing a reasonable alignment of growth-related costs with the development that necessitates them. This study combines a Town-wide approach for certain services with an area-specific approach for certain Engineering services, consistent with the Town's existing practices.

A. BOTH TOWN-WIDE AND AREA-SPECIFIC DEVELOPMENT CHARGES ARE PROPOSED

The Town provides a wide range of services to the community it serves and has an extensive inventory of facilities, land, infrastructure, vehicles and equipment. The *DCA* provides municipalities with flexibility to define services that will be included in the development charges by-laws, provided that the other provisions of the *Act* and *Regulations* are met. The *DCA* also requires that the by-laws designate the areas within which the by-laws shall be imposed. The development charges may apply to all lands in the municipality or to other designated development areas as specified in the by-laws.

1. Services Based on a Town-Wide Approach

For the majority of services that the Town provides, a range of capital facilities, land, equipment and infrastructure is available throughout the Town. All Town residents have access to all facilities. As new development occurs, new facilities and infrastructure will need to be added so that overall service levels in the Town do not decline. A widely accepted method for sharing the growth-related capital costs for such Town services is to apportion them over all new growth anticipated in the Town.

The following services are included in the Town-wide soft development charges by-law and are not considered in this Background Study:

- General government;
- Library services;
- Fire services;
- Indoor recreation;
- Parks development and Facilities; and
- Public works (yards and fleet).

The study does provide for an update and revision to the Town-wide hard service development charges. The scope of works to be funded from the Town-wide hard development charges has been expanded from the Town's previous practices. The Town-wide hard services include the following:

- roads and related infrastructure, e.g. the 3rd and 4th travelled lanes, sidewalks, street lights, intersection improvements, bridges, culverts, streetscape improvements, related land acquisition needs, and traffic management;
- storm water management (watercourse improvements);
- watermains in excess of 300 mm; and
- studies related to the above.

The resulting development charges for these services would be imposed against all development anywhere in the Town.

2. Area-Specific Charges Are Proposed

For some services the Town provides, the need for growth-related capital additions to support anticipated development is more localized. In 1994, and again in 1999, the Town implemented an area-specific approach for certain services where the costs and benefits are more localized. It is proposed that this approach be maintained.

The scope of works being recovered for under the area-specific development charges has been narrowed since the Town's 2004 Development Charges Study. Some costs previously recovered for under the area-specific charges are now proposed to be recovered through the Town-wide hard charges and as local service contributions. The area-specific charges now recover primarily for the following services:

- sanitary sewers;
- storm water management facilities (storm water ponds); and

- growth-related studies.



In some situations, the area-specific charges will continue to recover for some outstanding costs for projects undertaken through credit agreements with various landowners. In addition, in a few areas, the charges will recover for other project costs not transferred to the Town-wide hard calculations.

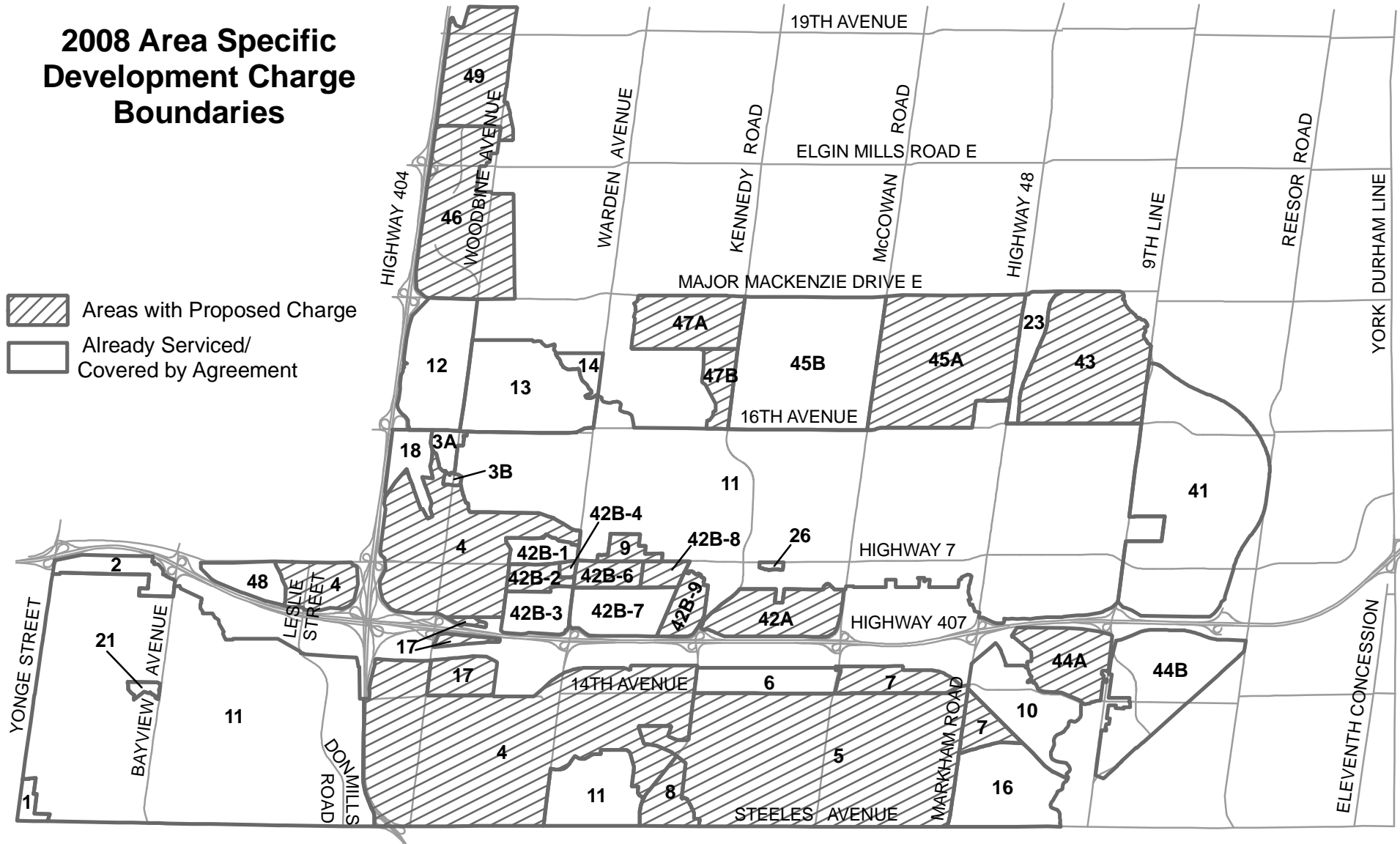
A review of capital servicing plans for these services indicates that there are considerable differences in the servicing requirements of the various areas that are to be developed as the Town grows. The servicing plans identify differing additional and largely independent projects in order to provide for anticipated growth. The area-specific approach is applied to these services to more closely align the capital costs for these services with the particular areas that will be serviced by the required infrastructure.

Map 1 illustrates the area-specific service areas that have been identified in the Town. The proposed changes to growth-related cost recovery have resulted in a reduction in the number of area-specific charges. Area-specific development charges by-laws are therefore no longer proposed for some areas that were previously subject to this type of development charges. For other areas, development plans are not sufficiently known to be able to provide appropriate servicing plans and development charges. Area-specific development charges for these areas may be prepared by the Town in the future as development plans become more advanced. The areas recommended in this study are as follows:

- Area 4 - Don Mills/Browns Corner
- Area 5 - Armadale
- Area 7 - Armadale NE
- Area 8 - Milliken Mills
- Area 9 - PD 1 - 7
- Area 17 - Rodick/Miller Road Planning District
- Area 42A - South Unionville
- Area 42A-1 - South Unionville - Helen Ave
- Area 42B - Markham Centre
- Area 42B.2 - Markham Centre - Clegg
- Area 42B.4 - Markham Centre - Hotel
- Area 42B.6 - Markham Centre - South Hwy 7
- Area 42B.8 - Markham Centre - Sciberras
- Area 42B.9 - Markham Centre - East Precinct
- Area 43 - Greensborough
- Area 44A - Rouge North East
- Area 45A - Wismer
- Area 46 - Cathedral
- Area 47A - Angus Glen

2008 Area Specific Development Charge Boundaries

-  Areas with Proposed Charge
-  Already Served/
Covered by Agreement



- Area 47B - York Downs and
- Area 49 - 404 North

In addition to more closely aligning benefits and costs, the area-specific approach also facilitates front-end financing and service-in-lieu arrangements for the designated services as provided in the *DCA*. It is the Town's current practice to actively encourage the use of service-in-lieu and front-end financing agreements, and continuation of the area-specific charges facilitates the administration of these agreements.

B. KEY STEPS IN DETERMINING DEVELOPMENT CHARGES FOR FUTURE GROWTH-RELATED PROJECTS

Several key steps are required in calculating development charges for future growth-related projects. These are summarized below.

1. Growth Forecast

The first step in the methodology requires a development forecast to be prepared for the study period, 2008–2031. The forecast of the future residential and non-residential development by location used in this study is an update of the growth forecast contained in the Town of Markham 2004 Development Charges Background Study. The Town-wide hard service charges and the area-specific development charges calculations are based on full build-out of lands currently designated for development under the Town's Official Plan.

2. Service Categories and Historic Service Levels

The *DCA* provides that the increase in the need for service attributable to anticipated development

... must not include an increase that would result in the level of service exceeding the average level of that service provided in the municipality over the 10-year period immediately preceding the preparation of the background study...(s. 5. (1) 4.)

For hard services, such as roads, water, sanitary sewers, and storm water management, historic service levels are less applicable and reference is made to the Town's engineering standards as well as Provincial health or environmental requirements.

3. Growth-Related Capital Forecast and Analysis of Net Capital Costs to Be Included in the Development Charges

A growth-related capital forecast has been prepared by the Town's staff. The forecast identifies growth-related projects and their gross and net costs, after allowing for capital grants, subsidies or other recoveries as required by the Act (*DCA*, s. 5. (2)). The capital forecast provides the cornerstone upon which development charges are based. The *DCA* requires that the increase in the need for service attributable to the anticipated development may include an increase

... only if the council of the municipality has indicated that it intends to ensure that such an increase in need will be met. (s. 5. (1) 3.)

The growth-related capital forecast prepared for this study ensures that development charges are only imposed to help pay for projects that are intended to be purchased or built in order to accommodate future anticipated development. It is not sufficient in the calculation of development charges merely to have had the service in the past. There must also be a demonstrated commitment to continue to purchase capital facilities or infrastructure in the future. In this regard, *Ontario Regulation 82/98*, s. 3 states that

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

This study contains a recommendation that Council adopt the growth-related capital forecast in order to comply with this requirement of the Act.

For some projects in the growth-related capital forecast, a portion of the project may confer benefits to existing residents. As required by the *DCA*, s. 5. (1) 6., these portions of projects and their associated net costs (called the non-growth share in this study) are the funding responsibility of the Town from non-development charges sources. The amount of Town financing for such non-growth shares of projects is also identified as part of the preparation of the growth-related capital forecast. Portions of some projects may also relate to "prior growth" that has occurred in the Town. Development charges under the Town's present policy have been paid by this growth. The unallocated balances in the Town's Development Charges Reserve Fund accounts are shown in this study as the funding source for "prior growth" shares of the first projects included in the capital forecast.

There is also a requirement in the *DCA* to reduce the applicable development charges by the amount of any "uncommitted excess capacity" that is available for a service. Such capacity (if it exists) is available to partially meet the future servicing requirements. In

reviewing the Town of Markham services, there were no services with “uncommitted excess capacity”.

4. Attribution to Types of Development

For the Town-wide development charges, the next step in the determination of development charges is the allocation of the growth-related net capital costs between the residential and the non-residential sectors. This is done by using different apportionments for different services in accordance with the demands which the two sectors would be expected to place on the various services and the different benefits derived from those services.

Where reasonable data exist, the apportionment is based on the expected demand for, and use of, the service by each sector. The Town-wide hard costs have been apportioned based largely on the shares of population and employment growth over the planning period.

Finally, the residential component of the Town-wide development charges is applied to different housing types on the basis of average occupancy factors. The non-residential component is applied on the basis of gross building space in square metres.

The area-specific development charges will be apportioned on the basis of net developable land area within each area. This is considered equitable since the charges will apply only against lands that can be developed.

5. Final Adjustment

The final determination of the development charges results from adjustments made to growth-related net capital costs for each service and sector resulting from a cash flow analysis to account for the timing of projects and receipt of development charges. Interest earnings or borrowing costs are therefore accounted for in the calculation as allowed under the *DCA*.

III GROWTH FORECAST

This section summarizes the growth forecast used to calculate the development charges. The forecast used for this study is an update of the growth forecast contained in the Town's 2004 Development Charges Background Study. The Town-wide hard service (TWH) charges and the area-specific development charges (ASDC) calculations are based on full build-out of lands currently designated for development under the Town's Official Plan. The lands available for development have not changed since the 2004 Background Study.

The Town of Markham and the Region of York are in the process of reviewing their Official Plans and growth forecasts in the context of the Provincial *Growth Plan for the Greater Golden Horseshoe* and associated policies and guidelines. The Town and the Region anticipate completing this study process in 2009. The review may result in the identification of additional lands for development in Markham and of different levels and types of development within the Town. When the new growth forecasts are complete, the Town may need to review its Development Charges Background Studies to determine if adjustments and updates to the policies, practices and rates are required.

This Development Charges Background Study is therefore based on the growth forecasts completed as part of the 2004 Background Study. The 2004 forecast has been adjusted to reflect growth that has occurred since 2004. In addition, the forecast incorporates information and data from the 2006 Census.

Table 1 provides a summary of the residential forecast for development in the planning period 2008–2031 (with current land designations). The Town is forecast to add 30,990 households over the next 24 years. The population in these new housing units is estimated at approximately 86,500 persons. Appendix A provides details on the anticipated mix of housing types and the rate of growth over the period.

The non-residential Town-wide hard and area-specific development charges are recovered on a net developable land area. The total amount of net developable vacant and designated non-residential land within the Town is estimated at 795 hectares.

TABLE 1

**TOWN OF MARKHAM
SUMMARY OF RESIDENTIAL GROWTH FORECAST 2008 - 2031**

Markham Residential Development Charge Growth Forecast					
Residential Units	2006 <u>Census</u>	2031 <u>Forecast</u>	Growth <u>2006 - 2031</u>	Completions <u>2006-2007</u>	Growth <u>2008 - 2031</u>
Single and Semi	55,480	68,220	12,740	2,820	9,920
Towns/Other Multiples	8,560	15,933	7,373	884	6,489
Apartments	13,160	29,294	16,134	1,553	14,581
Total	<u>77,200</u>	<u>113,447</u>	<u>36,247</u>	<u>5,257</u>	<u>30,990</u>
	Unit Growth	Person Per Unit	Population in New Units		
Population in New Units	<u>2008 - 2031</u>	<u>New Units¹</u>	<u>2008 - 2031</u>		
Single and Semi	9,920	3.77	37,398		
Towns/Other Multiples	6,489	2.96	19,207		
Apartments	14,581	2.05	29,891		
Total	<u>30,990</u>		<u>86,496</u>		

Notes:

1) Persons Per Unit in new units based on 2006 Census and units constructed in the period 2001-2006 (apartment values exclude apartments in detached duplex):

	2006 Census PPU	% of Single
Singles and Semis	3.77	
Multiples	2.96	79%
Apartments		
Overall Average	2.05	54%
Small	1.40	37%
Large	2.33	62%

IV THE GROWTH-RELATED CAPITAL FORECAST

A. A GROWTH-RELATED CAPITAL FORECAST IS PROVIDED FOR COUNCIL'S APPROVAL

The *DCA* requires the Council of a municipality to express its intent to provide future capital facilities at the level incorporated in the development charges calculation. As noted above in Section II, *Ontario Regulation 82/98*, s. 3 states that

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

Based on the growth forecasts summarized in Section III and detailed in Appendix A, staff of the Town departments have developed a growth-related capital forecast for Town services setting out those projects that are required to service anticipated development. The capital plan covers the period from 2008 to 2031 for both Town-wide hard services and area-specific services.

One of the recommendations contained in this study is for Council to adopt the growth-related capital forecast for Town services developed for the purposes of the development charges calculation. It is assumed that future capital budgets and forecasts will continue to bring forward the growth-related projects contained herein that are consistent with the growth occurring in the Town. It is noted that variations will no doubt occur and will be accommodated through the normal capital budget process.

B. THE GROWTH-RELATED CAPITAL FORECAST FOR TOWN-WIDE SERVICES

A summary of the growth-related capital forecast for the Town-wide services is presented in Table 2. The table provides a summary breakdown of the Town-wide hard services. Further details on the capital plans for each individual service category are available in Appendix B.

Table 2 provides a summary of the growth-related capital program for Town-wide hard services. The gross cost of the capital program totals \$579.5 million. A local service or “internal” component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The Town will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculation ensures that only the oversized portion of costs is shared by other developments. The program also includes cost sharing with the Region for a number of structures, as well as some anticipated subsidy from the Ministry of Transportation (MTO). The total recoveries anticipated from these sources are estimated at \$78.8 million. A further \$72.1 million has been identified as a non-growth or benefit to existing share; these costs will be recovered from other municipal funding sources. The remaining capital cost of \$428.5 million is deemed growth-related and recoverable from development charges.

Of the total \$450.5 million, about \$379.1 million is identified as growth-related and forms the basis for the Town-wide hard services development charges calculation. The remaining share of \$49.4 million will be funded through portions of the projects that are allocated to the area-specific development charges proposed in this study.

Over half of the capital program relates to the provision of structures — \$195.7 million, or 34%; and roads — \$103.8 million, or 18%. Storm water management (\$64.8 million), property acquisition (\$54.6 million) and special projects (largely streetscape projects at \$61.2 million) each account for approximately 10% of the capital program.

The balance of the gross capital cost capital program is for illumination (\$16.1 million), intersections (\$26.7 million), sidewalks (\$19.4 million), studies (\$6.4 million), water projects (\$19.5 million), and a variety of types of projects undertaken under credit agreements (\$11.2 million).

TABLE 2

**TOWN OF MARKHAM
TOWN-WIDE GROWTH-RELATED PROJECTS SUMMARY**

Service	<u>Non-Development Charge Recoverable Costs</u>				
	Total Gross Cost	Local Costs	Non-Growth (Benefit to Existing)	Area Specific Development Charges Recovery	Town-Wide Development Charge Recoverable
ILLUMINATION	\$ 16,095,612	\$ -	\$ 3,036,569	\$ -	\$ 13,059,044
INTERSECTION	\$ 26,726,680	\$ 1,540,925	\$ 5,488,914	\$ -	\$ 19,696,842
ROADS	\$ 103,795,967	\$ 6,222,559	\$ 13,832,438	\$ 15,339,492	\$ 68,401,479
PROPERTIES ACQUISITION	\$ 54,567,328	\$ 8,455,185	\$ 742,016	\$ 5,078,332	\$ 40,291,796
SIDEWALKS	\$ 19,423,405	\$ -	\$ 4,791,780	\$ -	\$ 14,631,625
STORM WATER MANAGEMENT	\$ 64,880,524	\$ 14,000,023	\$ 22,332,372	\$ 2,561,140	\$ 25,986,990
STRUCTURES	\$ 195,687,777	\$ 32,177,822	\$ 1,925,998	\$ 10,363,858	\$ 151,220,098
STUDIES	\$ 6,361,500	\$ -	\$ 72,450	\$ -	\$ 6,289,050
WATER	\$ 19,548,114	\$ -	\$ 176,122	\$ 5,718,038	\$ 13,653,954
SPECIAL PROJECTS	\$ 61,164,501	\$ 16,408,160	\$ 19,746,692	\$ 5,519,449	\$ 19,490,200
CREDIT AGREEMENT PROJECTS	\$ 11,226,877	\$ -	\$ -	\$ 4,808,284	\$ 6,418,593
TOTAL	\$ 579,478,285	\$ 78,804,674	\$ 72,145,350	\$ 49,388,592	\$ 379,139,668

C. THE GROWTH-RELATED CAPITAL FORECAST FOR AREA-SPECIFIC SERVICES

Table 3 provides a summary of the growth-related capital program for area-specific services (the projects included in the capital program for each area are identified in Appendix C, Tables 3–23).

Table 3 provides a summary of area-specific capital program by area. Many of the area-specific projects provide benefits to multiple areas and Town-wide, and the recovery of the cost of these projects is shared amongst many areas. In addition, an internal component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The Town will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculations ensures that only the oversized portion of costs is shared by other developments. A further share of some projects is identified as a non-growth or benefit to existing share to be funded from other municipal revenue sources.

Of all the projects included in Appendix C, \$62.75 million is identified as area-specific growth-related and forms the basis for the area-specific development charges calculations. The remaining share of the projects is being funded from the Town-wide charges or other sources (such as the Region of York share of certain projects).

TABLE 3

**TOWN OF MARKHAM
SUMMARY OF AREA SPECIFIC CAPITAL COSTS**

Area	Gross Cost	Non-Development Charge Recoverable Costs		Development Charge Recoverable Costs	
		Local Costs	Non-Growth	TWH or Other ASDC	ASDC
Area 4	\$ 10,795,586	\$ -	\$ 7,856,333	\$ 424,745	\$ 2,514,508
Area 5	\$ 6,085,799	\$ 3,156,233	\$ -	\$ 1,681,235	\$ 1,248,331
Area 7	\$ 5,676,382	\$ 467,835	\$ -	\$ 4,687,061	\$ 521,486
Area 8	\$ 1,999,437	\$ -	\$ -	\$ -	\$ 1,999,437
Area 9	\$ 18,127,135	\$ 529,699	\$ -	\$ 9,452,486	\$ 8,144,950
Area 17	\$ 6,840,680	\$ -	\$ -	\$ 846,830	\$ 5,993,849
Area 42A	\$ 8,447,472	\$ -	\$ -	\$ 969,157	\$ 7,478,315
Area 42A-1	\$ 3,602,974	\$ 426,815	\$ 248,269	\$ 250,000	\$ 2,677,891
Area 42B	\$ 16,201,634	\$ 90,325	\$ 3,627,741	\$ 7,827,449	\$ 4,656,119
Area 42B-2	\$ 2,422,510	\$ 1,538,614	\$ 35,870	\$ 343,553	\$ 504,473
Area 42B-4	\$ 3,240,026	\$ 154,940	\$ -	\$ 2,660,700	\$ 424,386
Area 42B-6	\$ 16,791,966	\$ -	\$ -	\$ 10,872,137	\$ 5,919,829
Area 42B-8	\$ 16,163,142	\$ -	\$ -	\$ 12,746,751	\$ 3,416,392
Area 42B-9	\$ 17,907,312	\$ -	\$ -	\$ 7,518,546	\$ 10,388,766
Area 43	\$ 465,000	\$ -	\$ -	\$ 232,500	\$ 232,500
Area 44A	\$ 165,064	\$ -	\$ -	\$ -	\$ 165,064
Area 45A	\$ 2,337,960	\$ 1,184,798	\$ -	\$ 232,500	\$ 920,663
Area 46	\$ 1,375,388	\$ -	\$ -	\$ 230,375	\$ 1,145,013
Area 47A	\$ 4,695,068	\$ -	\$ -	\$ 3,311,042	\$ 1,384,026
Area 47B	\$ 4,630,589	\$ -	\$ -	\$ 4,127,908	\$ 502,681
Area 49	\$ 6,608,923	\$ -	\$ -	\$ 4,095,981	\$ 2,512,942
Total Area Specific Development Charges Cost Recovery				\$	62,751,619

V PROPOSED DEVELOPMENT CHARGES ARE CALCULATED IN ACCORDANCE WITH THE *DCA*

This section summarizes the calculation of development charges for each of the Town-wide hard services and the area-specific charges and the resulting total development charges by type of development. For Town-wide services, the calculation of the “unadjusted”¹ per capita (residential) and per square metre (non-residential) charges is reviewed. Adjustments to these amounts resulting from a cash flow analysis that takes interest earnings and borrowing costs into account are also discussed.

For residential development, the adjusted total per capita amount is then converted to a variable charge by housing unit type using average unit occupancy factors (derived from Census data for units built in the 2001–2006 period). For non-residential development, the charge is based on net developable non-residential hectares.

For area-specific services, the charges are calculated on the basis of the growth-related net capital costs for a service area divided by the net developable land in the designated area, resulting in area-specific development charges per net developable hectare for both residential and non-residential development.

It is noted that the calculation of the Town development charges does not include any provision for exemptions required under the *DCA*; for example, the exemption for enlargements of up to 50 per cent on existing industrial buildings. Such legislated exemptions, or other exemptions which Council may choose to provide, will result in loss of development charges revenue for the affected types of development. Any such revenue loss may not be made up, however, by offsetting increases in other portions of the calculated charge.

¹ The term “unadjusted” development charge is used to distinguish the charge that is calculated prior to the cash flow analysis presented in Appendix B.

A. DEVELOPMENT CHARGES CALCULATION FOR TOWN-WIDE SERVICES

The following section provides a discussion of the calculation of Town-wide hard service development charges.

1. Town-Wide Hard Services

Town-wide hard services include roads, streetlighting, intersection improvements, sidewalks, structures and special projects (e.g. traffic management, streetscaping), as well as water services, studies and storm water management (erosion control) projects. As shown in Table 4, the growth-related gross capital cost estimated for this infrastructure totals \$579.5 million. This amount provides for growth to 2031 as allowed under the DCA. Details of the projects are included in Appendix B.

Of the \$579.5 million gross cost, a local service, or “internal” component, is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The Town will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculations ensures that only the oversized portion of costs is shared by other developments. The program also includes cost sharing with the Region for a number of structures, as well as some anticipated subsidy from MTO. The total recoveries anticipated from these sources are estimated at \$78.8 million. A further \$72.1 million has been identified as a non-growth or benefit to existing share; these costs will be recovered from other municipal funding sources. The remaining capital cost of \$428.5 million is deemed growth-related and recoverable from development charges.

Of the total \$428.5 million, about \$379.1 million is identified as growth-related and forms the basis for the Town-wide hard services development charges calculations. The remaining share of \$49.4 million will be funded through portions of the projects that are allocated to the area-specific development charges proposed in this study.

The growth-related net capital cost for Town-wide hard services is \$379.1 million. However, \$85.5 million is available in the Town’s existing related development charges reserve accounts (\$26.2 million, see Appendix D) from credits already given (\$3 million), and for projects, or shares of projects, already funded (\$56.3 million) but still in the capital program. Therefore, about \$293.6 million is included in the development charges calculations.

This amount is apportioned between the residential and non-residential sectors based on the weighted average of 57.6% residential and 42.4% non-residential based on shares of anticipated population and employment growth and consideration of other factors.

TABLE 4

**TOWN OF MARKHAM
TOWN-WIDE HARD SERVICE SUMMARY**

Service	Total Gross Cost	Non-Development Charge Recoverable		Area Specific Development Charges	Town-Wide Development Charge	Residential Share of TWH Development Charge Recoverable		Non-Residential Share of TWH Development Charge Recoverable	
		Local Costs	Non-Growth (Benefit to Existing)			%	\$	%	\$
		\$	\$	\$	\$		\$		\$
ILLUMINATION	\$ 16,095,612	\$ -	\$ 3,036,569	\$ -	\$ 13,059,044	57.6%	\$ 7,525,661	42.4%	\$ 5,533,382
INTERSECTION	\$ 26,726,680	\$ 1,540,925	\$ 5,488,914	\$ -	\$ 19,696,842	57.6%	\$ 11,350,889	42.4%	\$ 8,345,952
ROADS	\$ 103,795,967	\$ 6,222,559	\$ 13,832,438	\$ 15,339,492	\$ 68,401,479	57.6%	\$ 39,418,381	42.4%	\$ 28,983,098
PROPERTIES ACQUISITION	\$ 54,567,328	\$ 8,455,185	\$ 742,016	\$ 5,078,332	\$ 40,291,796	57.6%	\$ 23,219,342	42.4%	\$ 17,072,454
SIDEWALKS	\$ 19,423,405	\$ -	\$ 4,791,780	\$ -	\$ 14,631,625	57.6%	\$ 8,431,908	42.4%	\$ 6,199,717
STORM WATER MANAGEMENT	\$ 64,880,524	\$ 14,000,023	\$ 22,332,372	\$ 2,561,140	\$ 25,986,990	57.6%	\$ 14,975,773	42.4%	\$ 11,011,216
STRUCTURES	\$ 195,687,777	\$ 32,177,822	\$ 1,925,998	\$ 10,363,858	\$ 151,220,098	57.6%	\$ 87,145,066	42.4%	\$ 64,075,032
STUDIES	\$ 6,361,500	\$ -	\$ 72,450	\$ -	\$ 6,289,050	57.6%	\$ 3,624,252	42.4%	\$ 2,664,798
WATER	\$ 19,548,114	\$ -	\$ 176,122	\$ 5,718,038	\$ 13,653,954	57.6%	\$ 7,868,496	42.4%	\$ 5,785,458
SPECIAL PROJECTS	\$ 61,164,501	\$ 16,408,160	\$ 19,746,692	\$ 5,519,449	\$ 19,490,200	57.6%	\$ 11,231,806	42.4%	\$ 8,258,394
CREDIT AGREEMENT PROJECTS	\$ 11,226,877	\$ -	\$ -	\$ 4,808,284	\$ 6,418,593	57.6%	\$ 3,698,905	42.4%	\$ 2,719,689
TOTAL	\$ 579,478,285	\$ 78,804,674	\$ 72,145,350	\$ 49,388,592	\$ 379,139,668		\$ 218,490,479		\$ 160,649,190
Adjustments									
Less Existing Unallocated Reserve Fund Balances					-\$ 26,193,460	57.6%	-\$ 15,094,758	42.4%	-\$ 11,098,702
Less Credit Agreements Paid					-\$ 2,955,587	57.6%	-\$ 1,703,245	42.4%	-\$ 1,252,342
Projects Funded From Reserves					-\$ 56,327,926	57.6%	-\$ 32,460,638	42.4%	-\$ 23,867,288
TOTAL TOWN-WIDE HARD DEVELOPMENT CHARGE RECOVERABLE					\$ 293,662,696		\$ 169,231,838		\$ 124,430,858
RESIDENTIAL DEVELOPMENT CHARGE									
Population in New Units 2008 - 2031							86,499		
Unadjusted Development Charge Per Capita - Before Cash Flow							\$ 1,956.46		
NON-RESIDENTIAL DEVELOPMENT CHARGE									
Net Developable Non-Residential Land Area (ha)									795
Unadjusted Development Charge Per Net Hectare - Before Cash Flow									\$ 156,517

Since the Town’s intention is to continue to collect the Town-wide hard services development charges from residential development based on housing units by type, Table 1 shows that the residential sector’s share of \$169.2 million in growth-related net capital costs yields an “unadjusted” development charge of \$1,956.46 per capita.

The non-residential sector’s share of \$124.4 million in growth-related net capital costs yields a proposed “unadjusted” development charge of \$156,517 per net hectare.

2. Adjusted Rates for Town-Wide Residential and Non-Residential Development Charges

Final adjustments to the “unadjusted” development charges rates summarized above are made through a cash flow analysis. The analysis, details of which are included in Appendix B, considers the borrowing cost and interest earnings associated with the timing of expenditures and development charges receipts for each service category.

Table 5 summarizes the “unadjusted” and adjusted per capita and per hectare rates for Town-wide services, respectively. As shown in Table 5, the adjusted per capita rate increases from \$1,956 to \$2,137. This is a result of project timing versus collections — the capital program, particularly for various roads and structures, is front-loaded. This has the effect of increasing the development charges to account for interim borrowing costs.

Table 5 also shows that the adjusted rate for non-residential Town-wide hard services increases from \$156,517 to \$168,265 per net developable hectare. As with the residential charge, this reflects the significant front-loading planned for roads and structures.

B. PROPOSED TOWN-WIDE RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENT CHARGES

Residential Town-wide development charges are proposed to vary by dwelling unit type to reflect their different occupancy factors and resulting demand for services. The occupancy factors used reflect occupancy levels experienced in the Town for units constructed between 2001 and 2006. The resulting proposed residential development charge for all Town-wide services is shown in Table 5. As shown in the table, the proposed charge for Town-wide hard services ranges from \$2,992 for small apartments to \$8,046 for single-family and semi-detached units.

As already discussed and shown in Table 5, the non-residential rate for Town-wide hard services is calculated at \$168,265 per net developable hectare.

TABLE 5

**TOWN OF MARKHAM
TOWN-WIDE HARD SERVICE DEVELOPMENT CHARGES
DEVELOPMENT CHARGES BY TYPE OF DEVELOPMENT**

Residential Development	Charge Per Capita		Persons Per Unit	Development Charge Per Unit
	Unadjusted	Adjusted		
	\$	\$		
1. Single and Semi Detached Units	\$1,956	\$2,137	3.77	\$8,046
2. Multiple Unit Dwellings (Townhouses)	\$1,956	\$2,137	2.96	\$6,331
3. Apartments - 2 Br. and greater	\$1,956	\$2,137	2.33	\$4,979
4. Apartments - Bachelor and 1 Br.	\$1,956	\$2,137	1.40	\$2,992
Non-Residential Development	Charge Per Net Hectare			
	Unadjusted	Adjusted		
All Type of Non-Residential Development	\$156,517	\$168,265		

C. PROPOSED DEVELOPMENT CHARGES FOR AREA-SPECIFIC SERVICES

The proposed Area-Specific development charges are summarized in Table 6. The table shows the growth-related net capital cost for area-specific services of \$62.75 million. However, nearly \$13.55 million of this amount has already been secured by services-in-lieu agreements or is available in the Town's existing area-specific reserve funds to offset some of these costs. Therefore, on a collective basis, nearly \$49.2 million is included in the development charges calculation for area-specific services.

The Town's intention is to continue to calculate and collect the area-specific development charges on the basis of net developable land area. As shown in Table 6, the calculated charges for both residential and non-residential development range from a low of about \$2,736 per net hectare (a supplemental charge for Area 43) to a high of about \$848,800 per net hectare for Area 42B.4. Nevertheless, as shown in the Table, there are significantly different servicing costs associated with the various areas as well as the secured financing already approved by the Town for some of the areas. Together, these factors contribute to the wide range of area-specific development charges.

It is noted that a number of areas that are currently subject to area-specific charges will no longer be levied the supplemental charges as all the areas-specific works are now to be collected as a local service charge or have been shifted to the Town-wide hard service recovery.

TABLE 6

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF AREA SPECIFIC DEVELOPMENT CHARGES**

Area	Growth-Related Costs	Adjustments			Total ASDC Recoverable	Land Area (Ha)	ASDC Charge \$/ha
		Reserve Fund Balance	Credits in Agreements	Projects Funded from Reserve			
Area 4	\$ 2,514,508	\$ (283,966)	\$ -	\$ (11,640)	\$ 2,218,902	75.548	\$ 29,371
Area 5	\$ 1,248,331	\$ (479,086)	\$ (293,988)	\$ -	\$ 475,258	44.440	\$ 10,694
Area 7	\$ 521,486	\$ (48,917)	\$ -	\$ -	\$ 472,569	33.970	\$ 13,911
Area 8	\$ 1,999,437	\$ 139,009	\$ -	\$ -	\$ 2,138,446	10.894	\$ 196,289
Area 9	\$ 8,144,950	\$ 935,237	\$ -	\$ (1,730,202)	\$ 7,349,985	14.457	\$ 508,403
Area 17	\$ 5,993,849	\$ 133,229	\$ -	\$ -	\$ 6,127,078	20.896	\$ 293,218
Area 42A	\$ 7,478,315	\$ (3,060,033)	\$ (3,539,862)	\$ -	\$ 878,420	16.037	\$ 54,775
Area 42A-1	\$ 2,677,891	\$ 297,206	\$ (1,103,847)	\$ -	\$ 1,871,250	2.430	\$ 770,062
Area 42B	\$ 4,656,119	\$ 619,769	\$ -	\$ -	\$ 5,275,888	116.020	\$ 45,474
Area 42B-2	\$ 504,473	\$ -	\$ -	\$ -	\$ 504,473	7.882	\$ 64,003
Area 42B-4	\$ 424,386	\$ -	\$ -	\$ -	\$ 424,386	0.500	\$ 848,772
Area 42B-6	\$ 5,919,829	\$ 1,028,611	\$ -	\$ (1,599,540)	\$ 5,348,900	16.625	\$ 321,738
Area 42B-8	\$ 3,416,392	\$ 115,170	\$ -	\$ (475,258)	\$ 3,056,303	5.643	\$ 541,610
Area 42B-9	\$ 10,388,766	\$ 3,006,536	\$ -	\$ (4,586,969)	\$ 8,808,333	16.783	\$ 524,837
Area 43	\$ 232,500	\$ (132,899)	\$ -	\$ -	\$ 99,601	36.408	\$ 2,736
Area 44A	\$ 165,064	\$ (99,077)		\$ -	\$ 65,987	9.574	\$ 6,892
Area 45A	\$ 920,663	\$ (213,660)	\$ (14,259)	\$ -	\$ 692,744	104.226	\$ 6,647
Area 46	\$ 1,145,013	\$ (463,805)	\$ -	\$ (382,400)	\$ 298,809	96.211	\$ 3,106
Area 47A	\$ 1,384,026	\$ (675,074)	\$ (490,277)	\$ -	\$ 218,674	19.797	\$ 11,046
Area 47B	\$ 502,681	\$ 17,091	\$ -	\$ -	\$ 519,772	21.500	\$ 24,175
Area 49	\$ 2,512,942	\$ 81,541	\$ -	\$ (237,600)	\$ 2,356,883	136.800	\$ 17,229
Total	\$ 62,751,619	\$ 916,883	\$ (5,442,233)	\$ (9,023,609)	\$ 49,202,660	n/a	n/a

VI DEVELOPMENT CHARGES ADMINISTRATION

A. DEVELOPMENT CHARGES POLICIES AND PRACTICES

No significant changes are recommended to the Town's current policies and practices regarding development charges administration. Considering the requirements of the *DCA*, the following recommendations are made:

- It is recommended that present practices regarding collection of development charges and by-law administration continue to the extent possible, having regard to any requirements of the *DCA*;
- As required under the *DCA*, the Town should codify any rules regarding application of the by-laws and exemptions within the development charges by-laws proposed for adoption;
- It is recommended that the Town continue to actively encourage the use of front-ending agreements or developer agreements (and services-in-lieu arrangements), whichever are practical and desirable by the development industry and the Town;
- It is recommended that the by-laws permit the payment of development charges in cash or through services-in-lieu agreements. The municipality is not obligated to enter into services-in-lieu agreements;
- It is recommended that Council adopt the growth-related capital forecast for Town-wide and area-specific services included in this Background Study, subject to annual review through the Town's normal capital budget process.

B. DEVELOPMENT CHARGES BY-LAW PROVISIONS

The Town is proposing to modify a few provisions of the development charges by-laws. The proposed draft by-law is available, under separate cover, and all the by-law provisions are provided in the draft.

Some of the changes being proposed include:

- Description of apartments:
 - One-bedroom apartment to small apartment dwelling with a gross floor area equal to or less than 750 square feet.
 - Two-bedroom or larger to large apartment dwelling with a gross floor area of more than 750 square feet.
- Limited exemption on non-residential developments is to continue until August 31, 2009 to coincide with the natural expiry of the 2004 by-laws.
- The exemption on expansions/additions to buildings where lot levies were previously paid will be discontinued.
- The exemption/credit where a change of use exists is amended to provide a credit for an amount equal to the development charges originally paid.

The proposed draft by-laws should be reviewed for the exact wording of the changes and all rules related to the implementation and levying of development charges in the Town of Markham.

C. LOCAL SERVICE DEFINITIONS

Over the last two years, the Town has undertaken a comprehensive review of its Town-wide hard and area-specific development charges projects and costs. This review process has included the examination of approaches to reduce the number of area-specific by-laws by enhancing local service policies and recoveries and by funding more projects through the Town-wide charges.

The following provides the definition of “local service”, under the *DCA*, for the services provided by the Town of Markham and covered in this Background Study. The reason for establishing this definition is to determine the capital costs eligible for inclusion in the development charges calculation for the Town. The functions or services deemed to be local in nature are not to be included in the determination of the development charges rates. The provision of local services is considered to be a direct developer

responsibility under s.59 of the *DCA* and will (or may) be recovered under other agreement(s) with the landowner or developer. The following outlines the Town's local service definitions and associated policies.

Local Service Definition

- A local service is the infrastructure required to develop a subdivision within the boundaries of the secondary plan in accordance with the Town of Markham standards.
- The infrastructure is assumed by the Town when the secondary plan is completed.
- Example: residential 17 m row & 8.5 m asphalt.
 - Industrial 21 m row & 11 m asphalt (medium-/high-density residential);
 - Turn lanes;
 - Parkway bays;
 - Bike lanes;
 - Municipal services.

ASDC/TWH Project Assessment

- **Illumination**
 - All illumination on Regional and collector roads not in a draft plan of a subdivision are to be funded by TWH.
 - Illumination on collector and local roads in a draft plan are the responsibility of the developer (local service).
- **Intersection**
 - All intersection improvements/signals after assumption of a subdivision are to be financed by TWH.
- **Roads**
 - The 3rd and 4th travelled lanes (including land) in a plan of subdivision are to be financed by TWH.
 - Improvements to existing collector roads are to be financed by TWH (i.e. Yorktech and Miller).
 - New roads outside draft plans area to be financed by TWH.

- **Sidewalks**
 - Sidewalks on Regional roads and collector roads not in a draft plan of a subdivision are to be funded by TWH.
 - Sidewalks on Town collector roads in draft plan of subdivision area to be the responsibility of the developer.
- **Studies**
 - Stay in ASDC.
- **Water**
 - All watermains on Regional and collector roads not in a draft plan of subdivision are to be funded by TWH.
 - 300 mm watermains or less in a draft plan are the responsibility of the developer.
 - Oversizing of watermains (> 300 mm) in a draft plan are to be financed by TWH.
- **Sanitary/Storm Sewers and Stormwater Management Facilities**
 - To be funded from ASDC.
- **Environmental Issues**
 - To be funded by TWH
- **Special Projects**
 - Streetscaping — 25% Local; 25% Non-Growth; 50% TWH.

These policies are subject to ongoing review and update.

APPENDIX A

GROWTH FORECAST

APPENDIX A

GROWTH FORECAST

This appendix provides a review of the method, key assumptions and results of the growth forecasts for the Town of Markham prepared for the 2008 Town-Wide Hard Services and Area-Specific Development Charges Background Study.

The forecast used for this study is an update of the growth forecast contained in the Town of Markham 2004 Development Charges Background Study. The Town-wide hard service (TWH) charges and the area-specific development charges (ASDC) calculations are based on full build-out of lands currently designated for development under the Town's Official Plan.

The Town of Markham and the Region of York are in the process of reviewing their official plans and growth forecasts in the context of the Provincial *Growth Plan for the Greater Golden Horseshoe* and associated policies and guidelines. The Town and the Region anticipate completing this study process in 2009. The review may result in the identification of additional lands for development in Markham and of different levels and types of development within the Town. When the new growth forecasts are complete, the Town may need to review its Development Charges Background Studies to determine if adjustments and updates to the policies, practices and rates are required.

This Development Charges Background Study is based on the growth forecasts completed as part of the 2004 Background Study. The 2004 forecast has been adjusted to reflect growth that has occurred since 2004. In addition, the forecast incorporates information and data from the 2006 Census.

The forecasts are based on a combination of information prepared by Hemson Consulting and the Town of Markham. Hemson generally provides the modelling and information related to the broader market forces affecting growth in Markham over the forecast period. In conjunction with Hemson, the Town has prepared the residential and employment land supply information and the distribution of the Town-wide "control totals" to the smaller geographic areas within the Town.

The forecast is based on census years and is translated into the time periods required for development charges purposes generally by prorating the census periods to the DC time period. The planning time period for both the TWH and the ASDC calculations is 2008 to 2031. The annualisation of the DC forecast also accounts for the Town's anticipated timing of development for new areas in the Town.

The following tables provide information on the updated growth forecast.

TABLE 1A

Markham Forecast Housing Growth By Unit Type, 1991— 2031				
	Singles and Semis	Towns/Other Multiples	Apartments	All Units
1991-96	3,360	440	1,960	5,770
1996-01	8,840	1,960	900	11,250
2001-06	8,000	3,260	5,280	16,540
2006-11	6,850	2,140	4,250	13,240
2011-16	4,185	1,645	4,100	9,930
2016-21	1,120	1,990	3,060	6,170
2021-31	590	1,595	4,725	6,910

Note: Totals may not add due to rounding

TABLE 1B

Markham Forecast Total Housing By Unit Type, 2001 - 2031				
	Singles and Semis	Towns/Other Multiples	Apartments	All Units
2001	47,480	5,670	7,890	60,660
2006	55,480	8,560	13,160	77,200
2011	62,330	10,700	17,410	90,440
2016	66,515	12,345	21,510	100,370
2021	67,635	14,335	24,570	106,540
2031	68,220	15,935	29,295	113,450

Note: Totals may not add due to rounding

TABLE 1C

Markham Forecast Population and Average Household Size, 1986 - 2031					
	Population	Singles and Semis	Towns/Other Multiples	Apartments	All Units
1986	114,600	3.63	3.00	2.00	3.41
1991	153,800	3.76	2.80	2.04	3.50
1996	173,400	3.77	2.85	2.23	3.49
2001	208,600	3.68	2.82	2.28	3.43
2006	261,600	3.61	2.86	2.38	3.37
2011	297,200	3.62	2.81	2.33	3.13
2016	322,100	3.57	2.78	2.30	3.02
2021	334,500	3.53	2.73	2.27	2.93
2031	346,100	3.49	2.60	2.24	2.93

**APPENDIX A
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF RESIDENTIAL GROWTH FORECAST 2008 - 2031**

Markham Residential Development Charge Growth Forecast					
Residential Units	<u>2006 Census</u>	<u>2031 Forecast</u>	<u>Growth 2006 - 2031</u>	<u>Completions 2006-2007</u>	<u>Growth 2008 - 2031</u>
Single and Semi	55,480	68,220	12,740	2,820	9,920
Towns/Other Multiples	8,560	15,933	7,373	884	6,489
Apartments	<u>13,160</u>	<u>29,294</u>	<u>16,134</u>	<u>1,553</u>	<u>14,581</u>
Total	77,200	113,447	36,247	5,257	30,990
Population in New Units	<u>Unit Growth 2008 - 2031</u>	<u>Person Per Unit New Units¹</u>	<u>Population in New Units 2008 - 2031</u>		
Single and Semi	9,920	3.77	37,398		
Towns/Other Multiples	6,489	2.96	19,207		
Apartments	<u>14,581</u>	<u>2.05</u>	<u>29,891</u>		
Total	30,990		86,496		

Notes:

1) Persons Per Unit in new units based on 2006 Census and units constructed in the period 2001-2006 (apartment values exclude apartments in detached duplex):

	<u>2006 Census</u>	
	<u>PPU</u>	<u>% of Single</u>
Singles and Semis	3.77	
Multiples	2.96	79%
Apartments		
Overall Average	2.05	54%
Small	1.40	37%
Large	2.33	62%

**APPENDIX A
TABLE 3**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
HOUSEHOLD SIZE BY UNIT TYPE ANDE PERIOD OF CONSTRUCTION**

	Period of Construction			All Units
	Pre 1996	1996-01	2001-06	
<i>Singles</i>				
Household Population	121,340	26,840	40,505	188,685
Households	34,580	6,760	10,585	51,925
Household Size	3.51	3.97	3.83	3.63
<i>Semis</i>				
Household Population	2,620	1,435	7,410	11,465
Households	885	445	2,220	3,550
Household Size	2.96	3.22	3.34	3.23
<i>Sub-Total Singles and Semis</i>				
Household Population	123,960	28,275	47,915	200,150
Households	35,465	7,205	12,805	55,475
Household Size	3.50	3.92	3.74	3.61
<i>Rows</i>				
Household Population	9,160	6,160	9,155	24,475
Households	3,300	2,175	3,090	8,565
Household Size	2.78	2.83	2.96	2.86
<i>Apartments - Five or More Storeys</i>				
Household Population	9,315	1,005	2,100	12,420
Households	4,755	455	1,035	6,245
Household Size	1.96	2.21	2.03	1.99
<i>Apartments - Fewer than Five Storeys</i>				
Household Population	1,260	455	810	2,525
Households	680	295	385	1,360
Household Size	1.85	1.54	2.10	1.86
<i>Apartments in a Detached Duplex</i>				
Household Population	16,835	2,190	1,710	20,735
Households	4,515	550	455	5,520
Household Size	3.73	3.98	3.76	3.76
<i>Other Units (Movable and Other)</i>				
Household Population	135	0	0	135
Households	10	10	10	30
Household Size	13.50			4.50
<i>All Units</i>				
Household Population	160,665	38,085	61,690	260,440
Households	48,725	10,690	17,780	77,195
Household Size	3.30	3.56	3.47	3.37

Source: Statistics Canada, 2006 Census Special Run

APPENDIX B

TOWN-WIDE HARD SERVICES

APPENDIX B

TOWN-WIDE HARD SERVICES
GROWTH-RELATED CAPITAL FORECAST
AND DEVELOPMENT CHARGES CALCULATION

The Engineering Department is responsible for the design and construction of the Town's network of public roads, its water distribution system, the sanitary sewage collection system and the storm water management infrastructure.

This appendix provides an overview of the Town-wide hard services included in the development charges calculation. The scope of works to be funded from the Town-wide hard development charges has been expanded from the Town's previous practices. The Town-wide hard services include the following:

- roads and related infrastructure, e.g. the 3rd and 4th travelled lanes, sidewalks, street lights, intersection improvements, bridges, culverts, streetscape improvements, related land acquisition needs, and traffic management;
- storm water management (watercourse improvements);
- watermains in excess of 300 mm; and
- studies related to the above.

Other elements of required growth-related infrastructure for the Town are analysed on an area-specific basis for development charges purposes. These components are included in Appendix C. In addition, the Town has updated the applicable local service definitions, as discussed in the main body of the report.

As permitted under the *Development Charges Act, 1997* (the *DCA*), the Town-wide hard services are planned for the period from 2008 to 2031 so that the growth-related capital costs are apportioned over the longer-term development anticipated within the Town's designated urban boundary.

This appendix provides a review of the 2008–2031 growth-related capital forecast and the calculation of the development charges for Town-wide hard services. Consistent with s. 5. (1) 7 of the *DCA*, there is no legislated percentage reduction in the eligible growth-related capital costs for the provision of these Town-wide hard services.

The cost, quantum and timing of the projects identified in the forecast have been provided by the Engineering Department based on estimates prepared by Town staff and

various consulting engineers. The estimates include provision for engineering and contingencies.

A. TOWN-WIDE HARD SERVICES ARE ESTIMATED AT \$579.5 MILLION

Table 1 provides a summary of the growth-related capital program for Town-wide hard services (the projects included in the capital program are identified in Table 2).

As shown in Table 1, the capital program totals \$579.5 million gross. A local service or “internal” component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The Town will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculation ensures that only the oversized portion of costs is shared by other developments. The program also includes cost sharing with the Region for a number of structures, as well as some anticipated subsidy from MTO. The total recoveries anticipated from these sources are estimated at \$78.8 million. A further \$72.1 million has been identified as a non-growth or benefit to existing share; these costs will be recovered from other municipal funding sources. The remaining capital cost of \$428.5 million is deemed growth-related and recoverable from development charges.

Of the total \$428.5 million, about \$379.1 million is identified as growth-related and forms the basis for the Town-wide hard services development charges calculation. The remaining share of \$49.4 million will be funded through portions of the projects that are allocated to the area-specific development charges proposed in this study.

Over half of the capital program relates to the provision of structures — \$195.7 million, or 34%; and roads — \$103.8 million, or 18%. Storm water management (\$64.8 million), property acquisition (\$54.6 million) and special projects (largely streetscape projects at \$61.2 million) each account for approximately 10% of the capital program.

The balance of the gross capital cost capital program is for illumination (\$16.1 million), intersections (\$26.7 million), sidewalks (\$19.4 million), studies (\$6.4 million), water projects (\$19.5 million), and a variety of types of projects undertaken under credit agreements (\$11.2 million).

B. \$293.7 MILLION IS INCLUDED IN TOWN-WIDE DEVELOPMENT CHARGES

Table 1 shows the growth-related net capital cost for Town-wide hard services of \$379.1 million. However, \$85.5 million is available in the Town’s existing related development charges reserve accounts (\$26.2 million, see Appendix D) from credits already given (\$3 million), and for projects, or shares of projects, already funded (\$56.3 million) but still

in the capital program. Therefore, about \$293.7 million is included in the development charges calculation.

This amount is apportioned between the residential and non-residential sectors based on the weighted average of 57.6% residential and 42.4% non-residential based on shares of anticipated population and employment growth and consideration of other factors.

Since the Town's intention is to continue to collect the Town-wide hard services development charges from residential development based on housing units by type, Table 1 shows that the residential sector's share of \$169.2 million in growth-related net capital costs yields an "unadjusted" development charge of \$1,956.46 per capita. After cash flow, this charge increases to \$2,136.85 per capita reflecting the significant front-loading of the capital program (see Table 4).

The non-residential sector's share of \$124.4 million in growth-related net capital costs yields a proposed "unadjusted" development charge of \$156,517 per net hectare (see Table 1). After cash flow, this charge increases to \$168,265 per net developable hectare, again reflecting the significant front-loading of the capital program (see Table 5).

**APPENDIX B
TABLE 1**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN-WIDE GROWTH-RELATED PROJECTS SUMMARY**

Service	Total Gross Cost	Non-Development Charge Recoverable Costs		Area Specific Development Charges Recovery	Town-Wide Development Charge Recoverable	Residential Share of TWH Development Charge Recoverable		Non-Residential Share of TWH Development Charge Recoverable	
		Local Costs	Non-Growth (Benefit to Existing)			%	\$	%	\$
ILLUMINATION	\$ 16,095,612	\$ -	\$ 3,036,569	\$ -	\$ 13,059,044	57.6%	\$ 7,525,661	42.4%	\$ 5,533,382
INTERSECTION	\$ 26,726,680	\$ 1,540,925	\$ 5,488,914	\$ -	\$ 19,696,842	57.6%	\$ 11,350,889	42.4%	\$ 8,345,952
ROADS	\$ 103,795,967	\$ 6,222,559	\$ 13,832,438	\$ 15,339,492	\$ 68,401,479	57.6%	\$ 39,418,381	42.4%	\$ 28,983,098
PROPERTIES ACQUISITION	\$ 54,567,328	\$ 8,455,185	\$ 742,016	\$ 5,078,332	\$ 40,291,796	57.6%	\$ 23,219,342	42.4%	\$ 17,072,454
SIDEWALKS	\$ 19,423,405	\$ -	\$ 4,791,780	\$ -	\$ 14,631,625	57.6%	\$ 8,431,908	42.4%	\$ 6,199,717
STORM WATER MANAGEMENT	\$ 64,880,524	\$ 14,000,023	\$ 22,332,372	\$ 2,561,140	\$ 25,986,990	57.6%	\$ 14,975,773	42.4%	\$ 11,011,216
STRUCTURES	\$ 195,687,777	\$ 32,177,822	\$ 1,925,998	\$ 10,363,858	\$ 151,220,098	57.6%	\$ 87,145,066	42.4%	\$ 64,075,032
STUDIES	\$ 6,361,500	\$ -	\$ 72,450	\$ -	\$ 6,289,050	57.6%	\$ 3,624,252	42.4%	\$ 2,664,798
WATER	\$ 19,548,114	\$ -	\$ 176,122	\$ 5,718,038	\$ 13,653,954	57.6%	\$ 7,868,496	42.4%	\$ 5,785,458
SPECIAL PROJECTS	\$ 61,164,501	\$ 16,408,160	\$ 19,746,692	\$ 5,519,449	\$ 19,490,200	57.6%	\$ 11,231,806	42.4%	\$ 8,258,394
CREDIT AGREEMENT PROJECTS	\$ 11,226,877	\$ -	\$ -	\$ 4,808,284	\$ 6,418,593	57.6%	\$ 3,698,905	42.4%	\$ 2,719,689
TOTAL	\$ 579,478,285	\$ 78,804,674	\$ 72,145,350	\$ 49,388,592	\$ 379,139,668		\$ 218,490,479		\$ 160,649,190
Adjustments									
Less Existing Unallocated Reserve Fund Balances					-\$ 26,193,460	57.6%	-\$ 15,094,758	42.4%	-\$ 11,098,702
Less Credit Agreements Paid					-\$ 2,955,587	57.6%	-\$ 1,703,245	42.4%	-\$ 1,252,342
Projects Funded From Reserves					-\$ 56,327,926	57.6%	-\$ 32,460,638	42.4%	-\$ 23,867,288
TOTAL TOWN-WIDE HARD DEVELOPMENT CHARGE RECOVERABLE					\$ 293,662,696		\$ 169,231,838		\$ 124,430,858
RESIDENTIAL DEVELOPMENT CHARGE									
Population in New Units 2008 - 2031							86,499		
Unadjusted Development Charge Per Capita - Before Cash Flow							\$ 1,956.46		
NON-RESIDENTIAL DEVELOPMENT CHARGE									
Net Developable Non-Residential Land Area (ha)									795
Unadjusted Development Charge Per Net Hectare - Before Cash Flow									\$ 156,517

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual 2008 to 2026	Share	Cost	Share	Cost	Share	Cost	
<u>ILLUMINATION</u>									
Alden Road	N&W Esna Park to Warden Ave.		174,636	0%	0	65%	113,546	35%	61,090
Birchmount Rd.	W.S. 14th Avenue to Royal Cres.		33,472	0%	0	65%	21,763	35%	11,709
Birchmount Rd.	E.S. Denison St. to 14th Avenue		95,634	0%	0	65%	62,180	35%	33,454
Birchmount Rd.	B.S. Royal Cres. To Highway 407		174,636	0%	0	0%	0	100%	174,636
Denison Street	S.S. Birchmount Rd. to Corvette Drive		107,588	0%	0	65%	69,953	35%	37,636
Denison Street	N.S. Warden Ave. to Birchmount Rd.		116,424	0%	0	65%	75,698	35%	40,726
Denison Street	N.S. Woodbine to Esna Park		128,066	0%	0	65%	83,267	35%	44,799
Denison Street	N.S. Woodbine to Steelecase		71,726	0%	0	65%	46,635	35%	25,090
Don Mills	E.S. N of Simonston to John Street		35,863	0%	0	65%	23,318	35%	12,545
Esna Park Road	N.S. Alden Road to Woodbine		107,588	0%	0	65%	69,953	35%	37,636
Esna Park Road	W.S. Steeles to Alden Road		139,709	0%	0	65%	90,837	35%	48,872
Fourteenth Avenue	N.S. GO Rail to Kennedy Rd.		41,840	0%	0	0%	0	100%	41,840
Fourteenth Avenue	N.S. Horstman St. To Roxbury St.		71,726	0%	0	0%	0	100%	71,726
Fourteenth Avenue	S.S. Markham Rd. to Roxbury Street		83,680	0%	0	0%	0	100%	83,680
Fourteenth Avenue	S.S. Noble St. to Brimley Rd.		41,840	0%	0	65%	27,204	35%	14,636
John Street	N.S. Leslie Street to Woodbine		180,457	0%	0	65%	117,331	35%	63,126
Kennedy Road	W.S. Highglen to Lee Avenue		47,817	0%	0	65%	31,090	35%	16,727
Kennedy Road	E.S. Kevlin Road to N of Lee Avenue		35,863	0%	0	65%	23,318	35%	12,545
Main St. north, Markham	E.S. Castlemore to Major Mackenzie		71,726	0%	0	35%	25,335	65%	46,391
Main Street South	W.S. Highway 7 to Rouge River		47,817	0%	0	65%	31,090	35%	16,727
Major Mackenzie	N.S. CNR to Markham by-pass		113,565	0%	0	0%	0	100%	113,565
Major Mackenzie	N.S. Kennedy Rd. to McCowan Rd.		244,490	0%	0	0%	0	100%	244,490
Major Mackenzie	N.S. McCowan Rd. to Markham Rd.		244,490	0%	0	0%	0	100%	244,490
Major Mackenzie	N.S. OHEPC to Warden Avenue		168,815	0%	0	65%	109,761	35%	59,053
Major Mackenzie	S.S. Warden to Glenbourne Park		47,817	0%	0	65%	31,090	35%	16,727
Major Mackenzie	S.S. Woodbine Ave. to Warden Ave.		238,669	0%	0	65%	155,180	35%	83,489
Donald Cousens Parkway	E.S. 16th Avenue to 9th Line		232,848	0%	0	0%	0	100%	232,848
Donald Cousens Parkway	E.S. Highway 407 N. to 16th Avenue		325,987	0%	0	0%	0	100%	325,987
Donald Cousens Parkway	E.S. Highway 407 S. to 9th Line		349,272	0%	0	0%	0	100%	349,272
Markham Road	E.S. James Scott Rd. to Highway 7		101,611	0%	0	65%	66,066	35%	35,545
Markham Road	E.S. Parkway Avenue to 16th Avenue		139,709	0%	0	65%	90,837	35%	48,872
Miller Extension	B.S. Rodick Road to Birchmount Rd.		430,769	0%	0	0%	0	100%	430,769
Ninth Line	W.S. 14th Ave. S to Markham by-pass		128,066	0%	0	65%	83,267	35%	44,799
Ninth Line	W.S. Highway 407 to N of Church St.		128,066	0%	0	0%	0	100%	128,066
Rodick Extension	B.S. Riviera Drive to Esna Park Drive		128,066	0%	0	35%	45,236	65%	82,831
Rodick Extension	B.S. Yorktech Road to Miller Avenue		170,707	0%	0	35%	60,297	65%	110,409
Rodick Road	B.S. 14th Avenue to Miller Avenue		169,048	0%	0	35%	59,711	65%	109,336
Rodick Widening	B.S. Riviera Drive to 14th Avenue		39,316	0%	0	35%	13,887	65%	25,429
Sixteenth Avenue	S.S. Markham Rd to 300m westerly		35,863	0%	0	65%	23,318	35%	12,545
Sixteenth Avenue	S.S. Markham Rd. to Fincham Ave.		59,771	0%	0	65%	38,863	35%	20,909
Sixteenth Avenue	N.S. Warden Ave. to York Downs		186,278	0%	0	65%	121,116	35%	65,162
Steeles Avenue	N.S. CNR to Old Kennedy Rd.		47,817	0%	0	0%	0	100%	47,817

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual 2008 to 2026	Share	Cost	Share	Cost	Share	Cost	
<u>ILLUMINATION</u>									
Victoria Park	W.S. Steelecase to Denison		29,886	0%	0	65%	19,431	35%	10,454
Victoria Park	E.S. Steeles to Steelecase		107,588	0%	0	65%	69,953	35%	37,636
Warden Avenue	E.S. 16th Ave. to Major Mackenzie		227,027	0%	0	65%	147,610	35%	79,417
Warden Avenue	W.S. Calvert Dr. to Major Mackenzie		197,921	0%	0	65%	128,686	35%	69,235
Woodbine Avenue	E.S. Buttonville Crescent S to N		47,817	0%	0	65%	31,090	35%	16,727
Yorktech Drive	Rodick Rd. to Enterprise Dr.		165,322	0%	0	0%	0	100%	165,322
Castlemore /Anderson	Markham Rd. to CNR		45,426	0%	0	0%	0	100%	45,426
Clegg Road Extension	East of Rodick to Town-Centre		47,817	0%	0	0%	0	100%	47,817
Elgin Mills Road	Highway 404 to Hamlet		174,636	0%	0	0%	0	100%	174,636
Fourteenth Avenue	E of Kennedy to Noble St.		53,794	0%	0	0%	0	100%	53,794
Fourteenth Avenue	Markham by-pass to 9th by-pass		174,636	0%	0	0%	0	100%	174,636
Fourteenth Avenue	McCowan Rd to Markham Rd.		244,490	0%	0	0%	0	100%	244,490
Fourteenth Avenue	Ninth Line to Ninth Line by-pass		116,424	0%	0	0%	0	100%	116,424
Fourteenth Avenue	Roxbury St. To 9th Line		139,709	0%	0	0%	0	100%	139,709
Fourteenth Avenue	Woodbine Ave. to Rodick Road		71,726	0%	0	0%	0	100%	71,726
Fourteenth Avenue	Woodbine to W. of Hwy 404		107,588	0%	0	0%	0	100%	107,588
Highway 7	9th to Markham By-Pass		419,126	0%	0	0%	0	100%	419,126
Main St. north, Markham	N. 16th Ave to Major Mackenzie		174,636	0%	0	0%	0	100%	174,636
Main Street South	Rouge River to south end		53,794	0%	0	0%	0	100%	53,794
Major Mackenzie	CNR to Markham by-pass		59,771	0%	0	0%	0	100%	59,771
Major Mackenzie	Glenbourne to Kennedy		197,921	0%	0	0%	0	100%	197,921
Major Mackenzie	Kennedy Rd. to McCowan Rd.		244,490	0%	0	0%	0	100%	244,490
Major Mackenzie	Markham Rd. to CNR		53,794	0%	0	0%	0	100%	53,794
Major Mackenzie	Markland Street to Woodbine		59,771	0%	0	0%	0	100%	59,771
Major Mackenzie	McCowan Rd. to Markham Rd.		244,490	0%	0	0%	0	100%	244,490
Major Mackenzie	Warden Avenue to Kennedy		244,490	0%	0	0%	0	100%	244,490
Major Mackenzie	Woodbine Avenue to OHEPC		71,726	0%	0	0%	0	100%	71,726
Donald Cousens Parkway	Highway 407 N. to 16th Avenue		325,987	0%	0	0%	0	100%	325,987
Donald Cousens Parkway	Highway 407 S. to 9th Line		349,272	0%	0	0%	0	100%	349,272
Donald Cousens Parkway	Major Mackenzie to Highway 48		314,345	0%	0	0%	0	100%	314,345
Donald Cousens Parkway	Major Mackenzie to Ninth Line		174,636	0%	0	0%	0	100%	174,636
Miller Avenue	Woodbine Ave. to Rodick Road		190,935	0%	0	0%	0	100%	190,935
Ninth Line	14th Avenue to Highway 407		116,424	0%	0	0%	0	100%	116,424
Ninth Line	16th Ave. to Major Mackenzie		232,848	0%	0	0%	0	100%	232,848
Ninth Line	16th Ave. to Markham by-pass		107,588	0%	0	0%	0	100%	107,588

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual 2008 to 2026	Share	Cost	Share	Cost	Share	Cost	
<u>ILLUMINATION</u>									
Ninth Line	Church St. to 16th Avenue		157,172	0%	0	0%	0	100%	157,172
Ninth Line	OHEPC to South of Highway 407		272,432	0%	0	0%	0	100%	272,432
Old Kennedy Road	Steeles Ave. to Denison St.		222,370	0%	0	0%	0	100%	222,370
Sixteenth Avenue	9th to Markham By-Pass		419,126	0%	0	0%	0	100%	419,126
Sixteenth Avenue	Bruce River to Highway 404		71,726	0%	0	0%	0	100%	71,726
Sixteenth Avenue	Woodbine to Rouge River		47,817	0%	0	0%	0	100%	47,817
Sixteenth Avenue	York Downs to Kennedy Road		59,771	0%	0	0%	0	100%	59,771
Steeles Avenue	Markham Rd. to CNR		162,994	0%	0	0%	0	100%	162,994
Warden Avenue	16th Ave. to Calvert Road		47,817	0%	0	0%	0	100%	47,817
Warden Avenue	Enterprise to Riverside Dr.		71,726	0%	0	0%	0	100%	71,726
Woodbine Avenue	N. limit of Cathedral to 19th Avenue		193,846	0%	0	0%	0	100%	193,846
Woodbine Avenue	Hamlet to N. of Cathedral		52,001	0%	0	0%	0	100%	52,001
Woodbine Avenue	Major Mackenzie to Hamlet S		151,351	0%	0	0%	0	100%	151,351
Woodbine By-pass	Lord Melborne to Existing Woodbine		186,278	0%	0	0%	0	100%	186,278
Woodbine By-pass	Elgin Mills to Lord Melborne		59,771	0%	0	0%	0	100%	59,771
Woodbine By-pass	Major Mackenzie to Elgin Mills		488,981	0%	0	0%	0	100%	488,981
YMCA Boulevard	GO Station to Kennedy Road		114,096	0%	0	0%	0	100%	114,096
Church Street	Country Glen to Bur Oak		38,254	0%	0	0%	0	100%	38,254
Fourteenth Avenue	Rodick Rodick to Alden Road		139,709	0%	0	65%	90,837	35%	48,872
Donald Cousens Parkway	Steeles Ave. to OHEPC		133,888	0%	0	0%	0	100%	133,888
Donald Cousens Parkway	Steeles Ave. to OHEPC		133,888	0%	0	0%	0	100%	133,888
Nineteenth Avenue	Highway 404 to Woodbine		244,490	0%	0	0%	0	100%	244,490
Reesor Road	North to south of Highway 7		238,669	0%	0	0%	0	100%	238,669
Town-wide Illumination requests	0		1,075,000	0%	0	65%	698,953	35%	376,047
Warden Avenue Widening, illumintion I0			125,668	0%	0	0%	0	100%	125,668
Woodbine Avenue	Through Hamlet		59,771	0%	0	65%	38,863	35%	20,909
TOTAL ILLUMINATION			\$ 16,095,612	0%	\$ -	19%	\$ 3,036,569	81%	\$ 13,059,044

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 4

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To		Share	Cost	Share	Cost	Share	Cost	
<u>INTERSECTION</u>		Level Annual 2008 to 2026							
Carlton Road	at Manhattan Drive		209,622	0%	0	65%	136,294	35%	73,328
Commerce Valley Drive	at Leslie Street		658,088	0%	0	65%	427,881	35%	230,207
Denison (Int. Imp.)	at Birchmount Road		446,292	0%	0	35%	157,640	65%	288,652
Green Lane	at Aileen / Willowbrook		446,292	0%	0	65%	290,174	35%	156,118
Henderson Street	at John Street		209,622	0%	0	65%	136,294	35%	73,328
Henderson Street	at Proctor Avenue		684,411	0%	0	65%	444,996	35%	239,415
Mid-block Crossing Hwy 404	0 between Elgin Mills & 19th Ave.		209,622	0%	0	0%	0	100%	209,622
Mid-block Crossing Hwy 404	0 between Highway 7 and 16th Ave.		209,622	0%	0	0%	0	100%	209,622
Rodick Road	at Clegg Road		209,622	0%	0	0%	0	100%	209,622
Rodick Road	at Cox Blvd.		209,622	0%	0	0%	0	100%	209,622
Rodick Road	at Macrill / Rachel		209,622	0%	0	0%	0	100%	209,622
Town Centre Blvd.	at Apple Creek Blvd.		446,292	0%	0	65%	290,174	35%	156,118
Birchmount Extension	at Miller Avenue		209,622	0%	0	0%	0	100%	209,622
Brimley Road	at Winston / Wilcay		209,622	0%	0	35%	74,043	65%	135,579
Bur Oak Avenue	at Alford Paterson Drive		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at Church Street		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at Mingay Avenue		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at Roy Raney Avenue		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at Stonebridge Drive		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at The Bridlewalk		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at White's Hill Avenue		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at Williamson Road		209,622	0%	0	0%	0	100%	209,622
Carlton Road	at Village Parkway		209,622	0%	0	0%	0	100%	209,622
Castlemore Avenue	at Delray Drive		209,622	0%	0	0%	0	100%	209,622
Castlemore Avenue	at Mingay Avenue		209,622	0%	0	0%	0	100%	209,622
Castlemore Avenue	at Roy Raney Avenue		209,622	0%	0	0%	0	100%	209,622
Castlemore Avenue	at Stonebridge Drive		209,622	0%	0	0%	0	100%	209,622
Castlemore Avenue	at The Bridlewalk		209,622	0%	0	0%	0	100%	209,622
Elson Street	at Coppard Avenue		209,622	0%	0	50%	104,811	50%	104,811
Elson Street	at Coxworth Avenue		209,622	0%	0	50%	104,811	50%	104,811
Enterprise Drive	at Birchmount Extension		209,622	0%	0	0%	0	100%	209,622
Enterprise Drive	at Main Street south, Unionville		209,622	0%	0	0%	0	100%	209,622
Enterprise Drive	at Rivas Drive		209,622	0%	0	0%	0	100%	209,622
Enterprise Drive	at Sciberras Road		209,622	0%	0	0%	0	100%	209,622
Enterprise Drive	at West Valley Road		209,622	0%	0	0%	0	100%	209,622
Fourteenth Avenue	at Highway 48		675,632	0%	0	0%	0	100%	675,632
Fourteenth Avenue	at Rivera Drive (east of Rodick)		209,622	0%	0	0%	0	100%	209,622

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 5

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To		Share	Cost	Share	Cost	Share	Cost	
<u>INTERSECTION</u>		Level Annual 2008 to 2026							
Helen Avenue	at East side of Kennedy Road								
Highway 7	Between 9th Line and Markham by-pass		612,021	0%	0	0%	0	100%	612,021
Main Street, Markham	at Bur Oak Avenue		209,622	0%	0	0%	0	100%	209,622
Main Street, Markham	at Castlemore Avenue		251,419	0%	0	0%	0	100%	251,419
Markham Centre Turning Lane 0	0		545,000	0%	0	0%	0	100%	545,000
Markland	at Hillmount Road		209,622	0%	0	0%	0	100%	209,622
Midland Avenue	at Old Kennedy Road		209,622	0%	0	0%	0	100%	209,622
Rivas Drive	at YMCA Blvd.		175,309	0%	0	0%	0	100%	175,309
Riverside Drive	at Birchmount Extension		209,622	0%	0	0%	0	100%	209,622
Riverside Drive	at Sciberras Road		209,622	0%	0	0%	0	100%	209,622
Riverside Drive	at Verclair Gate		209,622	0%	0	0%	0	100%	209,622
Riverwalk Drive	at Fieldside Street		209,622	0%	0	0%	0	100%	209,622
Riverwalk Drive	at Oakbrook Drive		209,622	0%	0	0%	0	100%	209,622
Steeles Avenue	at Irenemount Crescent		256,956	0%	0	0%	0	100%	256,956
Steeles Avenue	at Shadlock Street		256,956	0%	0	0%	0	100%	256,956
Town Centre Blvd.	at Clegg Road		209,622	0%	0	0%	0	100%	209,622
Village Gate	at Calvert Road		209,622	0%	0	0%	0	100%	209,622
White's Hill Avenue	at Existing Markham by-pass		209,622	0%	0	0%	0	100%	209,622
Woodbine Avenue	at Stony Hill Blvd.		209,622	0%	0	0%	0	100%	209,622
Woodbine Avenue	at Vinecliff Blvd.		209,622	0%	0	0%	0	100%	209,622
404 North employment Land N-S Road Internal Traffic Signals (3)									
Alden Road	at Bentley Street		209,622	0%	0	65%	136,294	35%	73,328
Aldergrove Drive	at Old Kennedy Road		209,622	0%	0	65%	136,294	35%	73,328
Birchmount (Int. Imp.)	at McNabb		446,292	0%	0	35%	157,640	65%	288,652
Brimley Road	at Cardiff / Worthing		209,622	0%	0	35%	74,043	65%	135,579
Brimley Road	at Randall		209,622	0%	0	35%	74,043	65%	135,579
Bur Oak Avenue	btwn Bridle Walk and Glenbrook (IPS)		83,318	0%	0	50%	41,659	50%	41,659
Bur Oak Avenue	at Country Glen Road		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at Dog Wood		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at East-west Road		209,622	0%	0	0%	0	100%	209,622
Bur Oak Avenue	at GO Station, east of HWY 48		209,622	0%	0	65%	136,294	35%	73,328
Bur Oak Avenue	at Greensborough Village Cir. (IPS)		83,318	0%	0	50%	41,659	50%	41,659
Carlton Road	at Main Street, Unionville		209,622	0%	0	65%	136,294	35%	73,328
Church Street	at Country Glen Road		209,622	0%	0	0%	0	100%	209,622
Church Street	at Wooten Way		209,622	0%	0	65%	136,294	35%	73,328

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 6

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To		Share	Cost	Share	Cost	Share	Cost	
<u>INTERSECTION</u>		Level Annual 2008 to 2026							
Fairburn Drive	at First Markham Place		209,622	0%	0	65%	136,294	35%	73,328
Fourteenth Avenue	at Mid Block (east of Woodbine)		209,622	0%	0	0%	0	100%	209,622
Fourteenth Avenue	at Rodick Road		209,622	0%	0	65%	136,294	35%	73,328
Highway 7	at Main Street, Markham		1,947,094	50%	973,547	33%	632,989	17%	340,558
Hood Road	at McPherson Road		209,622	0%	0	65%	136,294	35%	73,328
Joseph / Washington / George	at 0		446,292	0%	0	65%	290,174	35%	156,118
Mid-block Crossing Hwy 404	at 0 between Major Mac. & Elgin Mills.		209,622	0%	0	0%	0	100%	209,622
Middlefield (Int. Imp.)	at Elson Street		446,292	0%	0	50%	223,146	50%	223,146
Midland Avenue	at Steeles Avenue		209,622	0%	0	0%	0	100%	209,622
Ramona Blvd.	at Wooten Way		209,622	0%	0	65%	136,294	35%	73,328
Rizal Avenue	at Copper Creek		209,622	0%	0	0%	0	100%	209,622
Rizal Avenue	at Riverwalk Drive		209,622	0%	0	0%	0	100%	209,622
Rodick Road	at East-west collection (Miller)		209,622	0%	0	0%	0	100%	209,622
Rodick Road	at Miller Avenue		209,622	0%	0	0%	0	100%	209,622
Rodick Road	at Yorktech Road		209,622	0%	0	0%	0	100%	209,622
Sixteenth Avenue	at Main Street, Markham		1,234,878	46%	567,378	19%	235,525	35%	431,975
Town Centre Blvd.	at Cedarland Drive		209,622	0%	0	0%	0	100%	209,622
Town-wide Intersection Improvements			1,298,063	0%	0	0%	0	100%	1,298,063
Victoria Park and Steelcase intersection Improvements			446,292	0%	0	35%	157,640	65%	288,652
Honda Blvd.	at 19th Avenue		209,622	0%	0	0%	0	100%	209,622
Carlton Road	at West of Manhattan (IPS)		83,318	0%	0	100%	83,318	0%	0
John Street	at West of Don Mills (IPS)		83,318	0%	0	100%	83,318	0%	0
Main Street, Markham	at Edward Jefferys Avenue		209,622	0%	0	0%	0	100%	209,622
TOTAL INTERSECTION			\$ 26,726,680	6%	\$ 1,540,925	21%	\$ 5,488,914	74%	\$ 19,696,842

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To			Share	Cost	Share	Cost	Share	Cost
ROADS									
14th Avenue Reconstruction	Town settlement with Cedarland	2008	270,500	0%	0	0%	0	100%	270,500
Birchmount Road	Relocation of Concanmar Pond	2008	4,728,914	0%	0	0%	0	100%	4,728,914
Birchmount Road	N. limit CNR to N.limit Hwy 407	2008	1,784,489	0%	0	0%	0	100%	1,784,489
Birchmount Road	S of CNR to S of 14th Avenue	2009	1,206,041	0%	0	0%	0	100%	1,206,041
Birchmount Road, 4th lane	Enterprise to Rouge River	2008	1,182,500	0%	0	0%	0	32%	382,250
Birchmount Road, 4th lane	Highway 7 to Rouge River	2012	1,067,485	0%	0	0%	0	32%	345,070
Birchmount Road, 4th lane	Hwy 407 to Enterprise Drive	2008	1,338,366	0%	0	0%	0	32%	432,634
Bur Oak Avenue, 4th lane	Riverlands Ave. to Michilina Terrace	2008	2,648,166	0%	0	0%	0	32%	856,036
Cedar Avenue Extension	Langstaff Rd to Richmond Hill	2015	1,531,338	50%	765,669	0%	0	50%	765,669
Commerce Valley Drive East Widening to 4 lanes		2010	1,887,378	0%	0	0%	0	100%	1,887,378
Commerce Valley Drive West Widening to 4 lanes		2010	1,209,375	0%	0	0%	0	100%	1,209,375
Enterprise Drive, 4th lane	Rivas Road to GO Line	2008	1,067,976	0%	0	0%	0	32%	343,491
Enterprise Drive, 4th lane	Sciberras to CNR	2008	565,399	0%	0	0%	0	32%	181,848
Enterprise Drive, 4th lane (3m)	Rivas Road to Main Street S	2009	2,172,736	0%	0	0%	0	32%	698,813
Enterprise Drive, 4th lane (3m)	Warden to Sciberras	2008	2,970,000	0%	0	0%	0	32%	960,070
Main St. North, Markham	16th Ave. to Major Mackenzie Drive	2011	6,039,880	0%	0	10%	603,988	90%	5,435,892
Main St. South, Markham	Highway 407 to Highway 7	2012	3,294,617	0%	0	10%	329,462	90%	2,965,155
Miller (2) / Yorktech (2)	Rodick Road to Birchmount Rd.	2016	5,586,889	0%	0	0%	0	100%	5,586,889
Rivas Drive (N-S Connection Road), 4th Lane		2008	565,399	0%	0	0%	0	32%	182,768
Riverside Drive, 4th lane	Warden to Birchmount	2012	1,988,800	100%	1,988,800	0%	0	0%	0
Rodick (2 to 4 lanes)	14th Avenue to Miller Avenue	2009	2,322,136	0%	0	35%	820,228	65%	1,501,908
Rodick Extension	Riviera Drive to Esna Park Drive	2009	504,392	0%	0	0%	0	100%	504,392
Rodick Widening	Riviera Drive to 14th Avenue	2009	524,718	0%	0	0%	0	100%	524,718
South Unionville, 4th lane	Kennedy Rd / Town Owned ROW	2010	869,000	68%	588,090	0%	0	32%	280,910
Town Centre Blvd. widening	Highway 7 to Cedarland Drive	2010	549,081	0%	0	0%	0	100%	549,081
Town-wide Soil Decommission / Demolitions		2012	2,150,000	0%	0	0%	0	100%	2,150,000
Unionville Gate widening	Main Street S to Kennedy Road	2009	3,562,654	0%	0	0%	0	100%	3,562,654
YMCA Boulevard	GO Station to Kennedy Road	2008	1,554,847	0%	0	0%	0	100%	1,554,847
16th Avenue	Warden Avenue to 9th Line	2012	8,005,459	23%	1,880,000	42%	3,355,677	35%	2,769,781
Birchmount Road, 3rd lane	Enterprise to Rouge River	2008	Included Above						
Birchmount Road, 3rd lane	Highway 7 to Rouge River	2012	Included Above						
Birchmount Road, 3rd lane	Hwy 407 to Enterprise Drive	2008	Included Above						
Bur Oak Avenue, 3rd lane	Riverlands Ave. to Michilina Terrace	2008	Included Above						
Clegg Road Ext. (3rd lane)	Town-Centre to Warden Ave.	2008	2,422,510	0%	0	1%	35,870	5.88%	142,509

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To			Share	Cost	Share	Cost	Share	Cost
ROADS									
Enterprise Drive, 3rd lane	Rivas Road to GO Line	2008	Included Above	0%					
Enterprise Drive, 3rd lane	Sciberras to CNR	2008	Included Above	0%					
Enterprise Drive, 3rd lane(3m)	Rivas Road to Main Street S	2009	Included Above	0%					
Enterprise Drive, 3rd lane(3m)	Warden to Sciberras	2008	Included Above	0%					
Existing Markham by-pass		2009	4,946,763	20%	1,000,000	42%	2,091,785	37%	1,854,978
Kirkham Drive	Marachi Drive to S limit Lot 4, Con. 8	2012	1,433,988	0%	0	0%	0	100%	1,433,988
Midland Avenue	Steeles Ave. to 120m north of Steeles	2009	321,989	0%	0	0%	0	100%	321,989
Ninth Line improvements		2017	1,752,384	0%	0	75%	1,314,288	25%	438,096
Rivas Drive (N-S Connection Road), 3rd Lane		2008	Included Above	0%					
Riverside Drive, 3rd lane	Warden to Birchmount	2012	0	0%					
Sciberras Drive, 3rd lane	Highway 7 to Rouge River	2015	962,677	0%	0	0%	0	56%	542,677
South Unionville, 3rd lane	Kennedy Rd / Town Owned ROW	2010	Included Above	0%					
Village Parkway Realignment	Highway 7 to Buchanan Drive		By the local Developer	0%					
Woodbine urbanize - By-pass to Hamlet (S end)		2015	1,841,498	0%	0	10%	184,150	90%	1,657,348
Woodbine urbanize - Hamlet (N end) to by-pass		2015	1,274,883	0%	0	10%	127,488	90%	1,147,395
Woodbine urbanize - Thought Hamlet		2015	861,782	0%	0	100%	861,782	0%	0
Centurion Drive Reconstruction	Allstate Parkway to Woodbine	2010	2,101,007	0%	0	0%	0	100%	2,101,007
Church Street	Ninth Line to Bur Oak Blvd.	2013	1,181,318	0%	0	0%	0	100%	1,181,318
Miller Reconstruction	Woodbine Avenue to Rodick Road	2010	2,511,394	0%	0	0%	0	100%	2,511,394
Main Street South, Unionville Reconstruction, south of Highway 7		2009	934,539	0%	0	100%	934,539	0%	0
Main Street, Markham	Highway 7 to 16th Avenue	2012	3,173,181	0%	0	100%	3,173,181	0%	0
Elign Mills Reconstruction	Woodbine by-pass to Woodbine		Region of York DC project						
Nineteenth Ave. Reconstruction	Highway 404 to Woodbine Avenue	2010	2,824,274	0%	0	0%	0	100%	2,824,274
Reesor Reconstruction	North to south of Highway 7	2016	5,437,118	0%	0	0%	0	100%	5,437,118
Honda Boulevard	Woodbine By-pass to 19th Avenue	2009	2,956,250	0%	0	0%	0	16%	470,313
Street I	Woodbine Avune to Honda Blvd.	2011	1,182,500	0%	0	0%	0	16%	188,125
Town-wide Road Projects		2009	500,000	0%	0	0%	0	100%	500,000
South Unionville, local ROW (Holdout Property)		2010	726,630	0%	0	0%	0	100%	726,630
Copper Creek Drive, 4th lane	9th Line to 9th Line By-pass		0	0%	0	0%	0	100%	0
Copper Creek Drive, 4th lane	9th Line By-pass to Markham By-pas	2009	1,300,750	0%	0	0%	0	100%	1,300,750
TOTAL ROADS			\$ 103,795,967	6%	\$ 6,222,559	13%	\$ 13,832,438	66%	\$ 68,401,479

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 9

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To			Share	Cost	Share	Cost	Share	Cost
PROPERTIES ACQUISITION									
A - ROADS PROPERTIES ACQUISITION									
Birchmount Road ROW	CNR to N. limit Hwy 407	2008	2,216,100	0%	0	0%	0	100%	2,216,100
Birchmount Road ROW	South of 14th Avenue to CNR	2009	838,902	0%	0	0%	0	100%	838,902
Birchmount Road, 4th ROW	Hwy 407 to Rouge River	2008	625,064	0%	0	0%	0	100%	625,064
Birchmount Road, 6m ROW	Highway 7 to Rouge River	2012	432,700	0%	0	0%	0	100%	432,700
Box Grove temporary Markham by-pass, properties (20m ROW)		2009	4,484,078	0%	0	0%	0	100%	4,484,078
Bur Oak Avenue, 4th ROW	Riverlands Ave. to Michilina Terrace	2008	379,232	0%	0	0%	0	100%	379,232
Cedar Avenue Extension	Property	2015	2,258,130	50%	1,129,065	0%	0	50%	1,129,065
Enterprise, Property (over 26m)	Quan Property	2008	7,428,765	0%	0	0%	0	61%	4,546,124
Enterprise Drive, 4th lane (3m)	Sciberras to CNR	2008	135,174	0%	0	0%	0	100%	135,174
Enterprise Drive, 4th lane (3m)	Warden to Sciberras	2008	900,680	0%	0	0%	0	100%	900,680
Main St. North, properties	16th Ave. to Markham By-pass	2011	625,690	0%	0	10%	62,569	90%	563,121
Main St. south, Markham additional ROW		2012	1,956,558	0%	0	0%	0	100%	1,956,558
Miller / Yorktech (ROW)	Rodick Road to Birchmount Rd.	2016	8,656,235	0%	0	0%	0	100%	8,656,235
Riverside Drive, 4th lane (3m)	Warden to Birchmount	0	0	0%	0	0%	0	0%	0
South Unionville, 4th lane (3m)	Kennedy Rd / Town Owned ROW	2010	263,532	0%	0	0%	0	100%	263,532
Birchmount Road, 3rd ROW	Highway 7 to Rouge River	2012	216,350	0%	0	0%	0	100%	216,350
Birchmount Road, 3rd ROW	Hwy 407 to Rouge River	2008	625,064	0%	0	0%	0	100%	625,064
Bur Oak Avenue, 3rd ROW	Riverlands Ave. to Michilina Terrace	2008	379,232	0%	0	0%	0	100%	379,232
East Precinct Property	GIC Holding	2008	3,009,000	0%	0	0%	0	38%	1,158,159
Enterprise Drive, 3rd lane (3m)	Quan Property	2008	Included Above	0%					
Enterprise Drive, 3rd lane (3m)	Sciberras to CNR	2008	135,174	0%	0	0%	0	100%	135,174
Enterprise Drive, 3rd lane(3m)	Warden to Sciberras	2008	900,680	0%	0	0%	0	100%	900,680
Riverside Drive, 3rd lane (3m)	Warden to Birchmount	2008	0	0%	0	0%	0	0%	0
Rodick Extension Properties	14th Avenue to Esna Park Drive	2009	256,036	0%	0	0%	0	100%	256,036
South Unionville, 3rd lane (3m)	Kennedy Rd / Town Owned ROW	2010	263,532	0%	0	0%	0	100%	263,532
Centurion Drive Reconstruction		2010	117,920	0%	0	0%	0	100%	117,920
Commerce Valley Drive ROW requirements		0	0	0%	0	0%	0	0%	0
Midland Avenue (over local ROW requirement) - Property		2009	1,304,338	0%	0	0%	0	100%	1,304,338
Town-wide properties Acquisition request and Business Loses		2011	2,090,000	0%	0	0%	0	100%	2,090,000
Unionville Gate widening - property requirements		0	0	0%	0	0%	0	0%	0
Honda Boulevard R.O.W. (6m)	Woodbine By-pass to 19th Avenue	2009	144,035	0%	0	0%	0	100%	144,035
Street I R.O.W. (6m)	Woodbine Avune to Honda Blvd.	2011	58,581	0%	0	0%	0	100%	58,581
B - PROPERTIES ACQUISITION for SIDEWALKS									
R.O.W. requisition for sidewalks construction		2008 - 2026	1,045,000	0%	0	65%	679,447	35%	365,553
C - PROPERTIES ACQUISITION for 2004 STRUCTURE PROJECTS									
Mid-block Crossing Hwy 404 property - Hwy 7 to 16th Avenue		2009	4,851,712	67%	3,234,475	0%	0	33%	1,617,237
Mid-block Crossing Hwy 404 property - Major Mac. to Elgin Mills		2018	2,758,800	67%	1,839,200	0%	0	33%	919,600
C - NEW PROPERTIES ACQUISITION									
Fourteenth Avenue Grade Separation, Property		2013	525,776	0%	0	0%	0	100%	525,776
Mid-block Crossing Hwy 404 Easements - Hwy 7 to 16th Avenue		2009	1,309,568	67%	873,045	0%	0	33%	436,523
Mid-block Crossing Hwy 404 property - 16th avenue to Major Mackenzie		0	Subject to Feasibility Study						
Mid-block Crossing Hwy 404 property - Elgin Mills to 19th Avenue		2020	2,069,100	67%	1,379,400	0%	0	17%	344,850
Ramps to Hwy 404 Property	Elgin Mills Road	2010	1,306,591	0%	0	0%	0	100%	1,306,591
Ramps to Hwy 404 Property	Highway 7	0	Dedicates under Planning Act						
Ramps to Hwy 404 Property	Major Mackenzie Drive	0	Dedicates under Planning Act						
TOTAL PROPERTIES ACQUISITION			\$ 54,567,328	15%	\$ 8,455,185	1%	\$ 742,016	74%	\$ 40,291,796

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 10

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual	Share	Cost	Share	Cost	Share	Cost	
<u>SIDEWALKS</u>									
Bayview Ave.	E.S. Green Line to Willowbrook Rd	2008 - 2026	90,399	0%	0	65%	58,777	35%	31,623
Birchmount Rd.	B.S. Royal Cres. To N. limit of Hwy 407		172,431	0%	0	0%	0	100%	172,431
Don Mills	E.S. Simonston Blvd. S to N		105,466	0%	0	35%	37,253	65%	68,213
Fourteenth Avenue	N.S. Birchmount Rd to Kennedy Rd		190,756	0%	0	35%	67,379	65%	123,377
Fourteenth Avenue	S.S. Boxwood Cres. To 9th Line		97,933	0%	0	65%	63,675	35%	34,258
Highway 7	N.S. Kennedy Rd. to Bullock Dr		146,735	0%	0	0%	0	100%	146,735
Highway 7	S.S. W of Swansea to Oakcrest Rd.		60,266	0%	0	65%	39,184	35%	21,082
Highway 7	N.S. W. of Warden to Verclaire		22,600	0%	0	65%	14,694	35%	7,906
Highway 7	S.S. Yonge St. to Bayview Ave.		293,471	0%	0	65%	190,811	35%	102,659
Kennedy Road	W.S. Denby Rd. To 16th Avenue		218,413	0%	0	65%	142,009	35%	76,403
Kennedy Road	E.S. Highway 407 Crossing		117,388	0%	0	65%	76,325	35%	41,064
Main St. north, Markham	E.S. N. 16th Ave to Major Mackenzie		293,471	0%	0	35%	103,660	65%	189,811
Major Mackenzie	S.S. Markham Rd. to CNR		53,115	0%	0	65%	34,535	35%	18,580
Major Mackenzie	S.S. Warden Rd. to Glenbourne Park		47,213	0%	0	65%	30,698	35%	16,516
Major Mackenzie	S.S. Woodbine to Warden Avenue		235,656	0%	0	65%	153,221	35%	82,435
Donald Cousens Parkway	W.S. Highway 407 Crossing (north)		60,266	0%	0	0%	0	100%	60,266
Donald Cousens Parkway	W.S. Highway 407 Crossing (south)		60,266	0%	0	0%	0	100%	60,266
Markham Road	W.S. Princess Rd. to Highway 7		132,062	0%	0	65%	85,865	35%	46,197
Miller Extension	1 Rodick Road to Birchmount Rd.		212,665	0%	0	0%	0	100%	212,665
Ninth Line	E.S. Highway 407 Crossing (north)		60,266	0%	0	0%	0	100%	60,266
Ninth Line	E.S. Highway 407 Crossing (south)		60,266	0%	0	0%	0	100%	60,266
Ninth Line	W.S. Highway 407 to 16th Avenue		304,628	0%	0	65%	198,066	35%	106,562
Rodick Extension	B.S. Riviera Drive to Esna Park Drive		86,812	0%	0	35%	30,664	65%	56,148
Rodick Extension	B.S. Yorktech Road to Miller Avenue		151,952	0%	0	35%	53,673	65%	98,279
Rodick Road	W.S. 14th Avenue to Miller Avenue		89,773	0%	0	35%	31,710	65%	58,063
Rodick Widening	B.S. Riviera Drive to 14th Avenue		25,956	0%	0	65%	16,876	35%	9,080
Sidewalks construction crossing	0		1,612,500	0%	0	65%	1,048,429	35%	564,071
Sixteenth Avenue	N.S. Warden Ave. to York Downs		234,777	0%	0	65%	152,649	35%	82,128
Steeles Avenue	N.S. CNR to Old Kennedy Rd.		30,133	0%	0	0%	0	100%	30,133
Warden Avenue	E.S. 16th Ave. to Major Mackenzie		308,144	0%	0	65%	200,352	35%	107,792
Warden Avenue	W.S. Calvert Dr. to Major Mackenzie		249,450	0%	0	65%	162,190	35%	87,261
Woodbine Ave	E.S. Highway 407 Crossing		117,388	0%	0	35%	41,464	65%	75,924
Woodbine Ave	W.S. Highway 407 Crossing		117,388	0%	0	35%	41,464	65%	75,924
Woodbine Ave	W.S. Hooper Rd to Rouge River		52,733	0%	0	65%	34,286	35%	18,447
Woodbine Ave	E.S. Personna to Major Mackenzie		117,388	0%	0	65%	76,325	35%	41,064
Yorktech Drive	1 Rodick Rd. to Warden Road		163,235	0%	0	0%	0	100%	163,235
Alden Road	N.S. Esna Park to Warden Ave.		220,103	0%	0	65%	143,108	35%	76,995

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 11

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
Location	From / To			Level Annual	Local Costs	Non-Growth (Benefit to Existing)	Share	Cost	Share
			Share	Cost	Share	Cost	Share	Cost	
<u>SIDEWALKS</u>									
Birchmount Rd.	B.S.	14th Avenue to Royal Cres.	84,373	0%	0	65%	54,858	35%	29,515
Castlemore /Anderson	B.S.	Markham Rd. to CNR	114,506	0%	0	0%	0	100%	114,506
Denison St.	N.S.	E of Clayton to Milliken Meadows	42,186	0%	0	0%	0	100%	42,186
Denison St.	S.S.	Victoria Park to Esna Park	108,479	0%	0	100%	108,479	0%	0
Denison St.	N.S.	Warden Ave. to E of Clayton Dr	220,103	0%	0	100%	220,103	0%	0
Denison St.	S.S.	Woodbine to Steelecase	90,399	0%	0	100%	90,399	0%	0
Elgin Mills Road	B.S.	Highway 404 to Hamlet	183,926	0%	0	0%	0	100%	183,926
Esna Park Road	W.S.	IBM to Alden Road	176,082	0%	0	100%	176,082	0%	0
Esna Park Road	N.S.	Woodbine to 550 m westerly	82,866	0%	0	100%	82,866	0%	0
Fourteenth Avenue	N.S.	Brimley Road to McCowan Rd	105,466	0%	0	0%	0	100%	105,466
Fourteenth Avenue	N.S.	McCowan Rd to Markham Rd.	45,200	0%	0	0%	0	100%	45,200
Fourteenth Avenue	B.S.	Ninth Line to Markham by-pass	287,385	0%	0	0%	0	100%	287,385
Fourteenth Avenue	N.S.	Roxbury St. To 9th Line	183,419	0%	0	0%	0	100%	183,419
Fourteenth Avenue	S.S.	Woodbine Ave. to Alden Road	264,124	0%	0	35%	93,294	65%	170,830
Fourteenth Avenue	S.S.	Woodbine to W. of Hwy 404	132,062	0%	0	0%	0	100%	132,062
Highway 7	B.S.	9th to Markham By-Pass	413,834	0%	0	0%	0	100%	413,834
Highway 7	S.S.	Fairburn Dr. to Rodick Road	82,866	0%	0	50%	41,433	50%	41,433
Highway 7	N.S.	Montgomery Dr. to Rodick Rd.	82,866	0%	0	50%	41,433	50%	41,433
Highway 7	N.S.	Rodick Road to Warden Ave.	146,735	0%	0	0%	0	100%	146,735
Highway 7	S.S.	Rodick Road to Warden Ave.	146,735	0%	0	0%	0	100%	146,735
Highway 7	N.S.	Verclaire to Sciberras	161,409	0%	0	0%	0	100%	161,409
Highway 7	S.S.	Warden Avenue to CNR	249,450	0%	0	0%	0	100%	249,450
Kennedy Road	E.S.	Highway 407 to Castan Avenue	70,820	0%	0	0%	0	100%	70,820
Main St. north, Markham	W.S.	N. 16th Ave to Major Mackenzie	212,665	0%	0	0%	0	100%	212,665
Main Street South	W.S.	Rouge River to S end	75,333	0%	0	0%	0	100%	75,333
Main Street South	E.S.	Rouge River to S end	75,333	0%	0	100%	75,333	0%	0
Major Mackenzie	S.S.	CNR to Markham by-pass	183,926	0%	0	0%	0	100%	183,926
Major Mackenzie	S.S.	Glenbourne to Kennedy	195,422	0%	0	0%	0	100%	195,422
Major Mackenzie	S.S.	McCowan Rd. to Markham Rd.	241,403	0%	0	0%	0	100%	241,403
Major Mackenzie	N.S.	Warden Avenue to Kennedy	241,403	0%	0	0%	0	100%	241,403
Major Mackenzie	N.S.	Woodbine Avenue to OHEPC	70,820	0%	0	0%	0	100%	70,820
Major Mackenzie	N.S.	Woodbine to Highway 404	120,702	0%	0	0%	0	100%	120,702
Donald Cousens Parkway	W.S.	Highway 407 N. to 9th Line	551,779	0%	0	0%	0	100%	551,779
Donald Cousens Parkway	W.S.	Highway 407 S. to 9th Line	344,862	0%	0	0%	0	100%	344,862
Donald Cousens Parkway	N.S.	Major Mackenzie to Ninth Line	195,422	0%	0	0%	0	100%	195,422
Markham Road	E.S.	S limit of Area 7 to 200m north	30,133	0%	0	0%	0	100%	30,133
McCowan Road	E.S.	Bur Oak to Major Mackenzie	154,072	0%	0	0%	0	100%	154,072
McCowan Road	W.S.	Bur Oak to Major Mackenzie	154,072	0%	0	0%	0	100%	154,072
Ninth Line	E.S.	16th Ave. to Burr Oak Avenue	48,653	0%	0	0%	0	100%	48,653
Ninth Line	W.S.	16th Ave. to Major Mackenzie	229,908	0%	0	0%	0	100%	229,908

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 12

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual	Share	Cost	Share	Cost	Share	Cost	
<u>SIDEWALKS</u>									
Ninth Line	E.S. Burr Oak to Markham by-pass		49,468	0%	0	0%	0	100%	49,468
Ninth Line	E.S. Highway 407 to Church St.		160,936	0%	0	0%	0	100%	160,936
Ninth Line	E.S. OHEPC to Highway 407		268,992	0%	0	50%	134,496	50%	134,496
Ninth Line By-Pass	B.S. Markham by-pass to Ninth Line		333,367	0%	0	0%	0	100%	333,367
Old Kennedy	B.S. Steeles Ave. to Denison St.		275,276	0%	0	0%	0	100%	275,276
Rodick Road	E.S. 14th Avenue to Miller Avenue		89,773	0%	0	65%	58,369	35%	31,404
Sixteenth Avenue	B.S. Bur Oak to Markham By-Pass		413,834	0%	0	0%	0	100%	413,834
Sixteenth Avenue	N.S. Kennedy to The Bridle Walk		183,419	0%	0	0%	0	100%	183,419
Sixteenth Avenue	N.S. McCowan Rd to Mingay Ave.		149,440	0%	0	0%	0	100%	149,440
Sixteenth Avenue	N.S. York Downs to Kennedy Road		60,266	0%	0	0%	0	100%	60,266
Reesor Road	W.S. North to south of Highway 7		235,656	0%	0	0%	0	100%	235,656
Warden Avenue	E.S. 14th Ave. to Highway 407		60,266	0%	0	70%	42,186	30%	18,080
Warden Avenue	W.S. 16th Ave. to Calvert Dr.		60,266	0%	0	0%	0	100%	60,266
Warden Avenue	W.S. Alden Rd. to Highway 407		60,266	0%	0	70%	42,186	30%	18,080
Warden Avenue	W.S. Gibson Drive / Denison St.		45,200	0%	0	0%	0	100%	45,200
Woodbine Ave	E.S. 14th Ave to OHEPC		139,399	0%	0	0%	0	100%	139,399
Woodbine Ave	W.S. Highway 7 to Hooper Rd		176,082	0%	0	0%	0	100%	176,082
Woodbine Avenue	W.S. Hamlet to 19th Avenue		53,115	0%	0	0%	0	100%	53,115
Woodbine Avenue	W.S. Hamlet to N. of Cathedral		53,115	0%	0	0%	0	100%	53,115
Woodbine Avenue	E.S. Through Hamlet		90,399	0%	0	65%	58,777	35%	31,623
Woodbine Avenue	E.S. Woodbine By-pass to Hamlet		149,440	0%	0	0%	0	100%	149,440
Woodbine By-pass	B.S. Lord Melborne to Existing Woodbine		183,926	0%	0	0%	0	100%	183,926
Woodbine By-pass	B.S. Elgin Mills to N. of Cathedral		106,230	0%	0	0%	0	100%	106,230
Woodbine By-pass	B.S. Major Mackenzie to Lord Melbrone		581,749	0%	0	0%	0	100%	581,749
YMCA Boulevard	B.S. GO Station to Kennedy Road		119,224	0%	0	0%	0	100%	119,224
Church Street	N.S. 9th Line to Country Glen		25,967	0%	0	65%	16,884	35%	9,084
Church Street	S.S. 9th Line to Country Glen		25,967	0%	0	65%	16,884	35%	9,084
Church Street	S.S. Country Glen to Bur Oak		37,771	0%	0	0%	0	100%	37,771
Major Mackenzie	N.S. OHEPC to Warden Avenue		166,683	0%	0	65%	108,376	35%	58,308
Major Mackenzie	N.S. Warden Avenue to Kennedy		241,403	0%	0	0%	0	100%	241,403
Miller Avenue	B.S. Woodbine to Rodick		197,502	0%	0	0%	0	100%	197,502
Nineteenth Avenue	B.S. Highway 404 to Woodbine Aveune		241,403	0%	0	0%	0	100%	241,403
Miscellanies new sidewalks	0	0	1,075,000	0%	0	0%	0	100%	1,075,000
Sixteenth Ave	N.S. 9th Line to Bur Oak Ave		97,933	0%	0	0%	0	100%	97,933
TOTAL SIDEWALKS			\$ 19,423,405	0%	\$ -	25%	\$ 4,791,780	75%	\$ 14,631,625

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 13

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
Location	From / To			Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
		Level Annual		Share	Cost	Share	Cost	Share	Cost
<u>STORM WATER MANAGEMENT</u>									
Don Mills Industrial Drainage Ditch Improvements		2008 - 2028	2,512,233	0%	0	65%	1,633,425	35%	878,808
Enterprise water course crossing at Tributary # 4 (over local)			1,716,000	0%	0	0%	0	32%	549,120
Glynnwood Pond Improvements			827,310	0%	0	65%	537,907	35%	289,403
Town's Watercourses			57,077,611	25%	14,000,023	35%	20,161,040	40%	22,916,548
Wismer, Culvert Crossing Highway 48 south of Major Mackenzie			397,901	0%	0	0%	0	100%	397,901
Woodbine Culvert			249,961	0%	0	0%	0	100%	249,961
Miller Avenue Storm	Woodbine to Rodick		1,094,823	0%	0	0%	0	17%	180,646
Rodick Road Storm	Miller to 14th Avenue		1,004,685	0%	0	0%	0	52%	524,603
TOTAL STORM WATER MANAGEMENT			\$ 64,880,524	22%	\$ 14,000,023	34%	\$ 22,332,372	40%	\$ 25,986,990

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 14

TOWN - WIDE HARD CHARGES			Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
					Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To			Share	Cost	Share	Cost	Share	Cost	
STRUCTURES										
Birchmount Overpass	at Rouge River	2012	14,967,222	0%	0	0%	0	100%	14,967,222	
Birchmount Underpass	at CNR	2009	10,390,634	0%	0	0%	0	100%	10,390,634	
Cedar Avenue Underpass	at Highway 7 and Highway 407	2015	4,986,000	83%	4,155,000	0%	0	17%	831,000	
Enterprise Underpass	at CNR	2008	12,920,592	8%	1,006,935	0%	0	92%	11,913,658	
Main St. South, Markham widening	at Rouge River	2012	8,071,476	0%	0	10%	807,148	90%	7,264,328	
Markland Avenue	at Rouge River	2011	6,807,219	0%	0	0%	0	100%	6,807,219	
Mid-block Crossing Hwy 404	between Highway 7 and 16th Ave.	2009	14,103,287	67%	9,402,192	0%	0	33%	4,701,096	
Mid-block Crossing Hwy 404	Crossing Improvements	2018	9,714,821	67%	6,476,547	0%	0	17%	1,619,137	
Miller Aveune	at Warden Avenue	2019	7,233,308	0%	0	0%	0	100%	7,233,308	
Rodick Overpass	at Beaver Crossing Structure	2009	3,381,227	0%	0	0%	0	100%	3,381,227	
Rodick Overpass	at Highway 407	2008	9,573,282	33%	3,191,094	0%	0	67%	6,382,188	
Rodick Overpass	at CNR	2009	5,973,990	0%	0	0%	0	100%	5,973,990	
Sciberras Crossing	at Rouge River	2015	8,030,295	0%	0	0%	0	100%	8,030,295	
404 access ramp modification	at Elgin Mills Road	2010	2,234,361	0%	0	0%	0	100%	2,234,361	
404 access ramp modification	at Highway 7	2010	2,923,463	0%	0	0%	0	100%	2,923,463	
404 access ramp modification	at Major Mackenzie Drive	2010	2,234,361	0%	0	0%	0	100%	2,234,361	
Fourteenth Avenue	at CNR	2013	17,336,857	0%	0	0%	0	100%	17,336,857	
Main Street South, Unionville, Rouge River Structure Rehabilitation		2009	1,118,851	0%	0	100%	1,118,851	0%	0	
Mid-block Crossing Hwy 404	between 16th Ave. to Major Mac.	2014	10,491,264	0%	0	0%	0	33%	3,497,088	
Mid-block Crossing Hwy 404	between Elgin Mills & 19th Ave.	2020	10,503,270	67%	7,002,180	0%	0	17%	1,750,545	
Miller Avenue	at Crossing Rouge River Tributary	2016	1,058,663	0%	0	0%	0	100%	1,058,663	
Yorktech Drive Crossing	at Beaver Creek	2016	3,288,895	0%	0	0%	0	100%	3,288,895	
Verclaire Crossing / Town Centre Blvd. Crossing		2013	9,265,725	0%	0	0%	0	100%	9,265,725	
404 access ramp	at 19th Avenue	2018	18,000,000	0%	0	0%	0	100%	18,000,000	
9th Line Tributary Crossings (3 Locations)		2009	1,078,715	88%	943,875	0%	0	13%	134,839	
TOTAL STRUCTURES			\$ 195,687,777	16%	\$ 32,177,822	1%	\$ 1,925,998	77%	\$ 151,220,098	

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 15

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
Location	From / To			Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
		Level		Share	Cost	Share	Cost	Share	Cost
STUDIES									
Don Mills Channel Study		2008 - 2018	80,500	0%	0	90%	72,450	10%	8,050
Markham Centre Transportation Studies			336,000	0%	0	0%	0	100%	336,000
Markham Transportation Planning Study			545,000	0%	0	0%	0	100%	545,000
Town Wide Studies - Trans., Servicing, Environmental...etc.			5,400,000	0%	0	0%	0	100%	5,400,000
TOTAL STUDIES			\$ 6,361,500	0%	\$ -	1%	\$ 72,450	99%	\$ 6,289,050

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 16

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual	Share	Cost	Share	Cost	Share	Cost	
<u>WATER</u>									
E.P. Phase I, Enterprise, Rivas & YMCA Blvd. (300 to 400mm)		2008 - 2018	841,693	0%	0	0%	0	34%	282,417
Enterprise Drive (300 to 400mm)	Sciberras Road to CNR		127,269	0%	0	0%	0	100%	127,269
Enterprise Drive (300 to 400mm)	Warden to Sciberras Road		687,500	0%	0	0%	0	9%	62,190
Enterprise, Phase II (300 to 400mm)	Rivas Rd. to Main Street S		429,192	0%	0	0%	0	39%	166,673
Fourteenth Ave. (400mm)	Markham Rd. to Boxwood Cres.		1,351,911	0%	0	0%	0	100%	1,351,911
Fourteenth Ave. (600mm)	McCowan Rd to Markham Rd		5,227,949	0%	0	0%	0	100%	5,227,949
Karachi Drive, 19T-05017	Markham Rd to Kirkham Drive		552,552	0%	0	0%	0	28%	156,648
Kennedy Road (400mm)	16th Ave. to Major Mackenzie Dr.		711,258	0%	0	0%	0	50%	354,945
Kirkham Drive (300 to 400mm)	N limit Lot 4, Con. 8 to Markham by-pass		579,117	0%	0	0%	0	28%	164,180
Kirkham Drive (400mm)	Karachi Drive to S limit Lot 4, Con.8		484,546	0%	0	0%	0	100%	484,546
Kirkham Drive (400mm)	through Golf Course to 9th line		769,398	0%	0	0%	0	100%	769,398
Ninth Line (300 to 400mm)	Cornell South to Church Street		775,913	0%	0	0%	0	26%	199,520
Ninth Line North (400mm)	Church Street to 16th Avenue		500,000	0%	0	0%	0	10%	50,000
Ninth Line South (400mm)	14th Avenue to Highway 407		1,096,333	0%	0	0%	0	79%	860,697
Realignment of PD 5 and PD 6	0		460,000	0%	0	0%	0	24%	112,416
Rodick Road (400mm)	Miller Avenue to 14th Avenue		579,117	0%	0	0%	0	100%	579,117
Rodick Road (400mm)	Yorktech Drive to Miller Avenue		1,206,598	0%	0	0%	0	100%	1,206,598
Sixteenth Avenue East	Mintleaf Gate to 9th Line		0	0%	0	0%	0	0%	0
Warden Ave. (600/400mm)	14th Avenue to Highway 7		Project Completed by CP # 4717						
Woodbine Avenue	Burr Cres / Millbrook Gate		221,923	0%	0	0%	0	100%	221,923
Woodbine by-pass (400mm)	Elgin Mills to Lord Melbrone		212,520	0%	0	0%	0	15%	31,878
Woodbine by-pass (400mm)	Lord Melbrone to Woodbine Avenue		552,552	0%	0	0%	0	15%	82,883
Woodbine Avenue (400mm)	Woodbine By-pass to 19th Avenue		992,772	0%	0	0%	0	15%	148,916
Unionville Gate Trunk Recovery to Fre0			84,314	0%	0	0%	0	100%	84,314
Church St. Watermain replacement	Ninth Line to Country Glen Road		64,009	0%	0	0%	0	100%	64,009
Church Street Watermain	Country Glen Road to Bur Oak		113,344	0%	0	0%	0	100%	113,344
Miller Road (200mm to 400mm)	Woodbine to Rodick Road		678,394	0%	0	26%	176,122	74%	502,273
Steeles Avenue	Turff Avenue to Midland Avenue		247,940	0%	0	0%	0	100%	247,940
TOTAL WATER			\$ 19,548,114	0%	\$ -	1%	\$ 176,122	70%	\$ 13,653,954

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 17

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable		
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost	
Location	From / To	Level Annual	Share	Cost	Share	Cost	Share	Cost		
SPECIAL PROJECTS										
ENGINEERING										
Bike Lanes on Town, Regional and Developers		10	2008 - 2018	26,042,500	60%	15,570,000	26%	6,808,592	14%	3,663,908
Town-wide Street Safety and Traffic Calming, various locations		10		4,837,500	0%	0	65%	3,145,286	35%	1,692,214
Travel Demand Management		10		2,687,500	0%	0	0%	0	100%	2,687,500
STREETSCAPE										
Birchmount Overpass	Rouge River	10		169,665	0%	0	0%	0	54%	91,619
Birchmount Road	Hwy 407 to Rouge River	10		1,311,260	0%	0	0%	0	25%	327,815
Birchmount Road	Hwy 7 to Rouge River	10		623,230	0%	0	0%	0	25%	155,808
Clegg Road Extension	Town-Centre to Warden Ave.	10		577,667	0%	0	0%	0	25%	144,417
Commerce Valley Drive East Widening		10		220,944	0%	0	25%	55,236	75%	165,708
Commerce Valley Drive West Widening		10		149,009	0%	0	25%	37,252	75%	111,757
Denison Street	Markham Road to Golf Course	10		158,307	0%	0	25%	39,577	50%	79,153
Rivas Road	Enterprise Drive to YMCA Blvd.	10		290,307	25%	72,577	25%	72,577	25%	72,577
Enterprise Drive	Main Street S to NS Collector	10		565,062	0%	0	25%	141,266	25%	141,266
Enterprise Drive	NS Collector to GO Line	10		503,468	0%	0	25%	125,867	25%	125,867
Enterprise Drive	Sciberras to CNR	10		315,922	0%	0	25%	78,981	25%	78,981
Enterprise Drive	Warden to Sciberras	10		1,639,075	0%	0	25%	409,769	25%	409,769
Existing Cedarland Drive	Town-Centre to Warden Ave.	10		107,681	0%	0	25%	26,920	25%	26,920
Existing Ninth Line improvements		10		480,939	0%	0	50%	240,469	50%	240,469
Highway 7	Rodick to E of Sciberras	10		4,507,456	0%	0	50%	2,253,728	50%	2,253,728
Kirkham Drive	Markham Road to Denison St.	10		246,635	0%	0	25%	61,659	50%	123,318
Main St. north, Markham	16th Ave. to Markham By-pass	10		538,487	0%	0	25%	134,622	75%	403,865
Markham Road	Steeles to 14th Ave	10		411,059	0%	0	25%	102,765	75%	308,294
Markland Extension (Woodbine North)		10		86,524	0%	0	25%	21,631	75%	64,893
Ramps to Hwy 404		10		115,096	0%	0	25%	28,774	75%	86,322
Riverside Drive	W. end Area 42b.8 to Sciberras	10		153,834	0%	0	25%	38,459	25%	38,459
Riverside Drive	Warden to Birchmount	10		252,705	0%	0	25%	63,176	25%	63,176
Riverside Drive	Birchmount to east end Area 42B.6	10		71,355	0%	0	25%	17,839	25%	17,839
Sciberras Crossing	Rouge River	10		38,597	0%	0	25%	9,649	54%	20,842
Sciberras Drive	Highway 7 to Rouge River	10		90,816	0%	0	0%	0	25%	22,704
Streetscape Woodbine - Thought Hamlet		10		123,318	0%	0	65%	80,180	35%	43,138
Unionville Gate widening	Main Street S to Kennedy Road	10		418,383	0%	0	50%	209,192	50%	209,192
Verclaire Extension	Highway 7 to Rouge River	10		585,473	0%	0	25%	146,368	25%	146,368
Village Parkway Realignment	Highway 7 to Landmark Crt.	10		394,851	0%	0	25%	98,713	50%	197,425
Warden Avenue	Highway 407 to Highway 7	10		1,802,982	0%	0	25%	450,746	50%	901,491
Warden Avenue	Highway 7 to Applecreek	10		664,778	0%	0	65%	432,231	35%	232,547
YMCA Boulevard	GO Station to Kennedy Road	10		814,353	0%	0	25%	203,589	50%	407,177
Yorktech Drive	Rodick Rd. to Enterprise Dr.	10		298,018	0%	0	0%	0	25%	74,505
Yorktech Drive Crossing	Rodick Rd. to Enterprise Dr.	10		298,018	0%	0	0%	0	54%	160,930
Yorktech Drive Crossing	Beaver Creek	10		16,883	0%	0	0%	0	54%	9,117
Verclaire Crossing	Rouge River	10		192,508	0%	0	0%	0	54%	103,954
Regional Road Streetscape		10		5,300,000	0%	0	65%	3,445,998	35%	1,854,002
Highway 7	at 9th Line to Markham By-pass	10		2,950,335	25%	737,584	25%	737,584	50%	1,475,167
Enhanced Streetscapes (Midland, Gorvette & Old Kennedy)		10		112,000	25%	28,000	25%	28,000	50%	56,000
TOTAL SPECIAL PROJECTS				\$ 61,164,501	27%	\$ 16,408,160	32%	\$ 19,746,692	32%	\$ 19,490,200

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 18

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual 2008 - 2017	Share	Cost	Share	Cost	Share	Cost	
PROJECTS undertaken by CREDIT AGREEMENT									
ROADS									
South Unionville Avenue (4th lane)	McCowan to w of Oakcrest Ave.		64,833	0%	0	0%	0	100%	64,833
South Unionville Avenue	Additional R.O.W. for 4th lane		134,612	0%	0	0%	0	100%	134,612
Burr Oak Avenue	At Grade crossing @ CNR		200,000	0%	0	0%	0	100%	200,000
Burr Oak Avenue	CNR to Anderson Avenue		138,968	0%	0	0%	0	100%	138,968
Anderson Avenue widening	east of Highway 48		102,706	0%	0	0%	0	100%	102,706
PROJECTS undertaken by CREDIT AGREEMENT, 3a									
ILLUMINATION									
Woodbine Avenue	W.S., Hooper Road / 16th Avenue		0	0%	0	#DIV/0!	0	0%	0
SIDEWALKS									
Woodbine Avenue	E.S., Rouge River / 16th Ave.		0	0%	0	#DIV/0!	0	0%	0
Woodbine Avenue	W.S., Rouge River / 16th Ave.		0	0%	0	#DIV/0!	0	0%	0
PROJECTS undertaken by CREDIT AGREEMENT, 41									
ILLUMINATION									
Church Street	S.S., Ninth Line / 250 m east of 9th Line		41,097	0%	0	0%	0	100%	41,097
INTERSECTION									
Intersection Improvement	at Church Street and Hospital entrance		50,000	0%	0	0%	0	100%	50,000
ROADS									
Church Street Widening	Ninth Line / 250 m east of 9th Line		103,103	0%	0	0%	0	100%	103,103
SIDEWALKS									
Church Street	N.S., Ninth Line / 250 m east of 9th Line		33,475	0%	0	0%	0	100%	33,475
WATER									
Realignment of PD 5 and PD 6			460,000	0%	0	0%	0	31%	143,868
Ninth Line North (400mm)	Church Street to 16th Avenue		500,000	0%	0	0%	0	90%	450,000
Sixteenth Avenue East	Mintleaf Gate to 9th Line		1,000,000	0%	0	0%	0	61%	612,900
Church Street	E of Ninth Line / Part Lot 4		28,119	0%	0	0%	0	100%	28,119
PROJECTS undertaken by CREDIT AGREEMENT, 42a									
INTERSECTION									
Highway 7 (Right in and right out)	at Oakcrest Street		100,000	0%	0	0%	0	100%	100,000

**APPENDIX B
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
TOWN - WIDE GROWTH-RELATED PROJECTS**

Page 19

TOWN - WIDE HARD CHARGES		Timing of Project	Total Gross Cost	Non-Development Charge Recoverable Costs				Town-Wide Development Charge Recoverable	
				Local Costs		Non-Growth (Benefit to Existing)		Share	Cost
Location	From / To	Level Annual 2008 - 2017	Share	Cost	Share	Cost	Share	Cost	
PROJECTS undertaken by CREDIT AGREEMENT									
ROADS									
South Unionville Avenue (3rd la 0	McCowan to w of Oakcrest Ave.		124,419	0%	0	0%	0	100%	124,419
South Unionville Avenue	0 Additional R.O.W. for 3rd lane		258,331	0%	0	0%	0	100%	258,331
N-S Connector Road	0 Minor Collector to Avoca Drive		72,000	0%	0	0%	0	100%	72,000
PROJECTS undertaken by CREDIT AGREEMENT, 43									
PROJECTS undertaken by CREDIT AGREEMENT Phase I									
ROADS									
Burr Oak Avenue	At-Grade Crossing at CNR		400,000	0%	0	0%	0	50%	200,000
Burr Oak Avenue	Anderson Ave. / C.N.R.		277,936	0%	0	0%	0	50%	138,968
North Collector Road, Design Only	Anderson Ave. / C.N.R.		55,678	0%	0	0%	0	100%	55,678
North Collector Road, Design Only	C.N.R. at Grade Crossing		30,000	0%	0	0%	0	100%	30,000
SIDEWALKS									
16th Avenue	N.S. Ninth Line to 285m westerly		17,225	0%	0	0%	0	100%	17,225
WATER									
Realignment of PD 5 and PD 6			460,000	0%	0	0%	0	20%	90,868
Sixteenth Avenue East	Mintleaf Gate to 9th Line		1,000,000	0%	0	0%	0	39%	387,100
ROADS									
North Collector Road, construction	Anderson Ave. / C.N.R.		1,055,884	0%	0	0%	0	100%	1,055,884
North Collector Road, construction	C.N.R. at Grade Crossing		573,549	0%	0	0%	0	100%	573,549
North Collector Road (Property)	23m Right of Way		506,094	0%	0	0%	0	100%	506,094
PROJECTS undertaken by CREDIT AGREEMENT, 44a									
WATER									
Ninth Line South (400mm)	14th Avenue to Highway 407		1,096,333	0%	0	0%	0	21%	235,636
PROJECTS undertaken by CREDIT AGREEMENT, 45b									
WATER									
Realignment of PD 5 and PD 6	0 0		460,000	0%	0	0%	0	21%	95,899
Kennedy Road (400mm)	0 16th Ave. to Major Mackenzie Dr.		711,258	0%	0	0%	0	43%	302,794
PROJECTS undertaken by CREDIT AGREEMENT, 47a									
WATER									
Realignment of PD 5 and PD 6			460,000	0%	0	0%	0	4%	16,950
Kennedy Road (400mm)	16th Ave. to Major Mackenzie Dr.		711,258	0%	0	0%	0	8%	53,519
TOTAL			\$ 11,226,877	0%	\$ -	0%	\$ -	57%	\$ 6,418,593

**APPENDIX B
TABLE 3**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF TIMING OF TOWN-WIDE GROWTH-RELATED EXPENDITURES**

Page 1

Residential Share of TWH DC Recoverable (\$000)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1. Illumination	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1
2. Intersections	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4
3. Roads	\$ 6,811.8	\$ 7,172.7	\$ 6,967.2	\$ 3,241.0	\$ 5,569.2	\$ 680.8	\$ -	\$ 2,370.3	\$ 6,352.9	\$ 252.5	\$ -
4. Property Acquisition	\$ 6,926.8	\$ 5,244.4	\$ 1,135.7	\$ 1,573.8	\$ 1,512.6	\$ 314.1	\$ 11.1	\$ 661.7	\$ 4,999.5	\$ 11.1	\$ 541.0
5. Sidewalks	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8
6. Storm Water Management	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1
7. Structures	\$ 10,543.5	\$ 14,166.0	\$ 4,260.0	\$ 3,922.9	\$ 12,811.6	\$ 15,330.5	\$ 2,015.3	\$ 5,106.6	\$ 2,505.4	\$ -	\$ 11,306.1
8. Studies	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9	\$ 258.9
9. Water	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3	\$ 715.3
10. Special	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1	\$ 1,021.1
11. Credit Agreement Projects	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ 369.9	\$ -
Total	\$ 28,797.8	\$ 31,098.6	\$ 16,878.5	\$ 13,253.2	\$ 24,409.0	\$ 20,841.0	\$ 6,542.0	\$ 12,654.2	\$ 18,373.4	\$ 4,779.1	\$ 15,992.8

Non-Residential Share of TWH DC Recoverable (\$000)

1. Illumination	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2
2. Intersections	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3
3. Roads	\$ 5,008.5	\$ 5,273.9	\$ 5,122.8	\$ 2,383.0	\$ 4,094.8	\$ 500.5	\$ -	\$ 1,742.8	\$ 4,671.1	\$ 185.6	\$ -
4. Property Acquisition	\$ 5,093.1	\$ 3,856.0	\$ 835.1	\$ 1,157.2	\$ 1,112.2	\$ 230.9	\$ 8.2	\$ 486.6	\$ 3,676.0	\$ 8.2	\$ 397.8
5. Sidewalks	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3
6. Storm Water Management	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3
7. Structures	\$ 7,752.3	\$ 10,415.8	\$ 3,132.2	\$ 2,884.4	\$ 9,420.0	\$ 11,272.1	\$ 1,481.8	\$ 3,754.7	\$ 1,842.1	\$ -	\$ 8,313.0
8. Studies	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3	\$ 190.3
9. Water	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0	\$ 526.0
10. Special	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8	\$ 750.8
11. Credit Agreement Projects	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ 272.0	\$ -
Total	\$ 21,174.1	\$ 22,865.8	\$ 12,410.3	\$ 9,744.7	\$ 17,947.2	\$ 15,323.7	\$ 4,810.1	\$ 9,304.2	\$ 13,509.4	\$ 3,513.9	\$ 11,759.0

Total TWH DC Recoverable (\$000)

1. Illumination	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3
2. Intersections	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7
3. Roads	\$ 11,820.4	\$ 12,446.6	\$ 12,090.0	\$ 5,624.0	\$ 9,664.0	\$ 1,181.3	\$ -	\$ 4,113.1	\$ 11,024.0	\$ 438.1	\$ -
4. Property Acquisition	\$ 12,019.9	\$ 9,100.4	\$ 1,970.8	\$ 2,730.9	\$ 2,624.8	\$ 545.0	\$ 19.2	\$ 1,148.3	\$ 8,675.5	\$ 19.2	\$ 938.8
5. Sidewalks	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1
6. Storm Water Management	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5
7. Structures	\$ 18,295.8	\$ 24,581.8	\$ 7,392.2	\$ 6,807.2	\$ 22,231.5	\$ 26,602.6	\$ 3,497.1	\$ 8,861.3	\$ 4,347.6	\$ -	\$ 19,619.1
8. Studies	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2	\$ 449.2
9. Water	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3	\$ 1,241.3
10. Special	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8	\$ 1,771.8
11. Credit Agreement Projects	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ 641.9	\$ -
Total	\$ 49,971.9	\$ 53,964.5	\$ 29,288.8	\$ 22,997.9	\$ 42,356.1	\$ 36,164.7	\$ 11,352.1	\$ 21,958.4	\$ 31,882.8	\$ 8,293.1	\$ 27,751.9

**APPENDIX B
TABLE 3**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF TIMING OF TOWN-WIDE GROWTH-RELATED EXPENDITURES**

Page 2

Residential Share of TWH DC Recoverable (\$000)

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
1. Illumination	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ 396.1	\$ -	\$ -	\$ 7,525.7
2. Intersections	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ 597.4	\$ -	\$ -	\$ 11,350.9
3. Roads	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 39,418.4
4. Property Acquisition	\$ 11.1	\$ 209.8	\$ 11.1	\$ 11.1	\$ 11.1	\$ 11.1	\$ 11.1	\$ 11.1	\$ -	\$ -	\$ 23,219.3
5. Sidewalks	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ 443.8	\$ -	\$ -	\$ 8,431.9
6. Storm Water Management	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 713.1	\$ 14,975.8
7. Structures	\$ 4,168.4	\$ 1,008.8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87,145.1
8. Studies	\$ 258.9	\$ 258.9	\$ 258.9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,624.3
9. Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,868.5
10. Special	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,231.8
11. Credit Agreement Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,698.9
Total	\$ 6,588.8	\$ 3,627.9	\$ 2,420.4	\$ 2,161.5	\$ 2,161.5	\$ 2,161.5	\$ 2,161.5	\$ 2,161.5	\$ 713.1	\$ 713.1	\$ 218,490.5

Non-Residential Share of TWH DC Recoverable (\$000)

1. Illumination	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ 291.2	\$ -	\$ -	\$ 5,533.4
2. Intersections	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ 439.3	\$ -	\$ -	\$ 8,346.0
3. Roads	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,983.1
4. Property Acquisition	\$ 8.2	\$ 154.3	\$ 8.2	\$ 8.2	\$ 8.2	\$ 8.2	\$ 8.2	\$ 8.2	\$ -	\$ -	\$ 17,072.5
5. Sidewalks	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ 326.3	\$ -	\$ -	\$ 6,199.7
6. Storm Water Management	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 524.3	\$ 11,011.2
7. Structures	\$ 3,064.9	\$ 741.7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,075.0
8. Studies	\$ 190.3	\$ 190.3	\$ 190.3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,664.8
9. Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,785.5
10. Special	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,258.4
11. Credit Agreement Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,719.7
Total	\$ 4,844.5	\$ 2,667.5	\$ 1,779.6	\$ 1,589.3	\$ 1,589.3	\$ 1,589.3	\$ 1,589.3	\$ 1,589.3	\$ 524.3	\$ 524.3	\$ 160,649.2

Total TWH DC Recoverable (\$000)

1. Illumination	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ 687.3	\$ -	\$ -	\$ 13,059.0
2. Intersections	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ 1,036.7	\$ -	\$ -	\$ 19,696.8
3. Roads	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 68,401.5
4. Property Acquisition	\$ 19.2	\$ 364.1	\$ 19.2	\$ 19.2	\$ 19.2	\$ 19.2	\$ 19.2	\$ 19.2	\$ -	\$ -	\$ 40,291.8
5. Sidewalks	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ 770.1	\$ -	\$ -	\$ 14,631.6
6. Storm Water Management	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 1,237.5	\$ 25,987.0
7. Structures	\$ 7,233.3	\$ 1,750.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 151,220.1
8. Studies	\$ 449.2	\$ 449.2	\$ 449.2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,289.1
9. Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,654.0
10. Special	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,490.2
11. Credit Agreement Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,418.6
Total	\$ 11,433.3	\$ 6,295.4	\$ 4,200.0	\$ 3,750.8	\$ 3,750.8	\$ 3,750.8	\$ 3,750.8	\$ 3,750.8	\$ 1,237.5	\$ 1,237.5	\$ 379,139.7

APPENDIX B
TABLE 4

TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF TIMING OF TOWN-WIDE GROWTH-RELATED EXPENDITURES
RESIDENTIAL CHARGE - CASH FLOW

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
OPENING CASH BALANCE FROM APPLICABLE RESERVES	\$49,258,641															
OPENING CASH BALANCE (\$000)		49,258.6	35,500.0	17,444.3	12,645.7	10,636.4	(4,429.5)	(17,423.5)	(15,443.2)	(21,705.1)	(36,702.9)	(35,521.0)	(48,958.2)	(51,892.3)		
2008-2031 RESIDENTIAL FUNDING REQUIREMENTS																
Town-Wide Engineering - constant (\$000)		\$28,797.8	\$31,098.6	\$16,878.5	\$13,253.2	\$24,409.0	\$20,841.0	\$6,542.0	\$12,654.2	\$18,373.4	\$4,779.1	\$15,992.8	\$6,588.8	\$3,627.9		
Town-Wide Engineering - current (\$000)	2.5%	\$28,797.8	\$31,876.1	\$17,733.0	\$14,272.3	\$26,942.9	\$23,579.6	\$7,586.7	\$15,041.9	\$22,386.2	\$5,968.5	\$20,472.2	\$8,645.1	\$4,879.1		
POPULATION GROWTH																
' - Population in New Units		6,236	5,863	5,490	5,117	5,040	4,663	4,290	3,917	3,544	3,544	3,544	3,170	2,817		
REVENUE - current (\$000)																
- Dev. Charge Receipts	Rate for 2008 \$2,137 Balance:	Inflation: Positive	2.5%	13,325.4	12,841.5	12,325.2	11,775.0	11,887.7	11,273.5	10,631.0	9,949.3	9,226.9	9,457.6	9,694.1	8,887.8	8,095.6
- Interest on Opening Balance	Rate:	4.5%	6.5%	2,216.6	1,597.5	785.0	569.1	478.6	(287.9)	(1,132.5)	(1,003.8)	(1,410.8)	(2,385.7)	(2,308.9)	(3,182.3)	(3,373.0)
- Interest on In-year Transactions (excl.int.)	Rate:	4.5%	6.5%	(502.9)	(618.6)	(175.8)	(81.2)	(489.3)	(399.9)	68.5	(165.5)	(427.7)	78.5	(350.3)	5.5	72.4
TOTAL REVENUE		15,039.2	13,820.4	12,934.4	12,262.9	11,877.0	10,585.6	9,567.0	8,780.0	7,388.4	7,150.4	7,034.9	5,711.0	4,795.0		
CLOSING CASH BALANCE		35,500.0	17,444.3	12,645.7	10,636.4	(4,429.5)	(17,423.5)	(15,443.2)	(21,705.1)	(36,702.9)	(35,521.0)	(48,958.2)	(51,892.3)	(51,976.5)		
Total Town-Wide Engineering Charge Per Capita	\$2,137															

		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL		
OPENING CASH BALANCE (\$000)		(51,976.5)	(50,224.7)	(47,856.7)	(45,194.0)	(42,213.9)	(38,892.1)	(35,202.8)	(29,798.5)	(23,850.8)	(16,094.6)	(7,567.7)			
2008-2031 RESIDENTIAL FUNDING REQUIREMENTS															
Town-Wide Engineering - constant (\$000)		2,420.4	2,161.5	2,161.5	2,161.5	2,161.5	2,161.5	713.1	713.1	0.0	0.0	\$0.0	\$218,490.5		
Town-Wide Engineering - current (\$000)	2.5%	3,336.5	\$3,054.2	\$3,130.5	\$3,208.8	\$3,289.0	\$3,371.2	\$1,140.0	\$1,168.5	\$0.0	\$0.0	\$0.0	\$249,880.0		
POPULATION GROWTH															
' - Population in New Units		2,836.0	2,836.0	2,836.0	2,836.0	2,836.0	2,836.0	2,536.0	2,536.0	2,536.0	2,545.0	2,095	86,499		
REVENUE - current (\$000)															
- Dev. Charge Receipts	Rate for 2008 \$2,137 Balance:	Inflation: Positive	2.5%	8,353.9	8,562.8	8,776.8	8,996.3	9,221.2	9,451.7	8,663.2	8,879.7	9,101.7	9,362.4	7,899.6	\$236,639.9
- Interest on Opening Balance	Rate:	4.5%	6.5%	(3,378.5)	(3,264.6)	(3,110.7)	(2,937.6)	(2,743.9)	(2,528.0)	(2,288.2)	(1,936.9)	(1,550.3)	(1,046.1)	(491.9)	(\$34,714.8)
- Interest on In-year Transactions (excl.int.)	Rate:	4.5%	6.5%	112.9	123.9	127.0	130.2	133.5	136.8	169.3	173.5	204.8	210.7	177.7	(\$1,285.9)
TOTAL REVENUE		5,088.3	5,422.1	5,793.2	6,188.9	6,610.8	7,060.5	6,544.3	7,116.3	7,756.2	8,526.9	7,585.4	\$200,639.2		
CLOSING CASH BALANCE		(50,224.7)	(47,856.7)	(45,194.0)	(42,213.9)	(38,892.1)	(35,202.8)	(29,798.5)	(23,850.8)	(16,094.6)	(7,567.7)	17.7	\$0.0		
Total Town-Wide Engineering Charge Per Capita	\$2,137														

APPENDIX B
TABLE 5TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF TIMING OF TOWN-WIDE GROWTH-RELATED EXPENDITURES
NON-RESIDENTIAL CHARGE - CASH FLOW

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPENING CASH BALANCE FROM APPLICABLE RESERVES	\$36,218,332													
OPENING CASH BALANCE (\$000)		36,218.3	24,272.9	9,660.3	5,339.3	3,668.8	(7,472.9)	(16,483.4)	(13,741.2)	(16,202.9)	(25,836.8)	(23,462.4)	(31,689.1)	(31,274.9)
2008-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS														
Town-Wide Engineering - constant (\$000)		\$21,174.1	\$22,865.8	\$12,410.3	\$9,744.7	\$17,947.2	\$15,323.7	\$4,810.1	\$9,304.2	\$13,509.4	\$3,513.9	\$11,759.0	\$4,844.5	\$2,667.5
Town-Wide Engineering - current (\$000)	2.5%	\$21,174.1	\$23,437.5	\$13,038.5	\$10,494.0	\$19,810.3	\$17,337.4	\$5,578.2	\$11,059.8	\$16,459.9	\$4,388.4	\$15,052.5	\$6,356.4	\$3,587.5
NON-RESIDENTIAL GROWTH														
' - Net Developable ha		47.70	48	48	48	48	48	48	48	40	40	40	40	40
REVENUE - current (\$000)														
- Dev. Charge Receipts	Rate for 2008 \$168,265	Inflation: 2.5%												
	Balance:	Positive	Negative											
- Interest on Opening Balance	Rate:	4.5%	6.5%	1,629.8	1,092.3	434.7	240.3	165.1	(485.7)	(1,071.4)	(893.2)	(1,053.2)	(1,679.4)	(1,525.1)
- Interest on In-year Transactions (excl.int.)	Rate:	4.5%	6.5%	(427.3)	(494.3)	(149.7)	(60.1)	(355.9)	(268.3)	83.9	(49.4)	(270.1)	(89.2)	(210.9)
TOTAL REVENUE				9,228.7	8,824.8	8,717.5	8,823.5	8,668.6	8,326.8	8,320.5	8,598.1	6,826.0	6,762.8	6,825.9
CLOSING CASH BALANCE				24,272.9	9,660.3	5,339.3	3,668.8	(7,472.9)	(16,483.4)	(13,741.2)	(16,202.9)	(25,836.8)	(23,462.4)	(31,689.1)
Total Town-Wide Engineering Charge Per Hectare	\$168,265													

		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL
OPENING CASH BALANCE (\$000)		(27,778.3)	(26,435.8)	(24,652.3)	(22,665.3)	(20,459.3)	(18,018.1)	(17,457.2)	(15,075.8)	(12,451.6)	(8,666.3)	(4,520.1)	
2008-2031 NON-RESIDENTIAL FUNDING REQUIREMENTS													
Town-Wide Engineering - constant (\$000)		1,779.6	1,589.3	1,589.3	1,589.3	1,589.3	1,589.3	524.3	524.3	0.0	0.0	\$0.0	\$160,649.2
Town-Wide Engineering - current (\$000)	2.5%	2,453.2	\$2,245.6	\$2,301.8	\$2,359.3	\$2,418.3	\$2,478.7	\$838.2	\$859.2	\$0.0	\$0.0	\$0.0	\$183,729.0
NON-RESIDENTIAL GROWTH													
' - Net Developable ha		23.9	23.9	23.9	23.9	23.9	15.9	15.9	15.9	15.9	15.9	16	795
REVENUE - current (\$000)													
- Dev. Charge Receipts	Rate for 2008 \$168,265	Inflation: 2.5%											
	Balance:	Positive	Negative										
- Interest on Opening Balance	Rate:	4.5%	6.5%	(1,805.6)	(1,718.3)	(1,602.4)	(1,473.2)	(1,329.9)	(1,171.2)	(1,134.7)	(979.9)	(809.4)	(563.3)
- Interest on In-year Transactions (excl.int.)	Rate:	4.5%	6.5%	69.3	77.1	79.0	81.0	83.0	38.1	77.4	79.3	101.1	103.6
TOTAL REVENUE				3,795.8	4,029.1	4,288.8	4,565.2	4,859.5	3,039.6	3,219.7	3,483.4	3,785.3	4,146.2
CLOSING CASH BALANCE				(26,435.8)	(24,652.3)	(22,665.3)	(20,459.3)	(18,018.1)	(17,457.2)	(15,075.8)	(12,451.6)	(8,666.3)	(4,520.1)
Total Town-Wide Engineering Charge Per Hectare	\$168,265												

APPENDIX C

AREA-SPECIFIC HARD SERVICES

APPENDIX C

AREA-SPECIFIC HARD SERVICES
GROWTH-RELATED CAPITAL FORECAST
AND DEVELOPMENT CHARGE CALCULATION

This appendix provides an overview of the area-specific growth-related capital forecast and development charges calculation. The scope of works being recovered for under the area-specific development charges has been narrowed since the Town's 2004 Development Charges Study. Some costs previously recovered for under the area-specific charges are now proposed to be recovered through the Town-wide hard charges (see Appendix B) and as local service contributions. The area-specific charges now recover primarily for the following services:

- sanitary sewers;
- storm water management facilities (storm water ponds); and
- growth-related studies.

In some situations, the area-specific charges will continue to recover for some outstanding costs for projects undertaken through credit agreements with various landowners. In addition, in a few specific areas, the charges will recover for other project costs not transferred to the Town-wide hard calculations.

As permitted under the *Development Charges Act, 1997* (the *DCA*), the area-specific services are planned for the period from 2004 to 2031 so that the growth-related capital costs are apportioned over the development anticipated within the Town's designated urban boundary. Consistent with s. 5. (1) 7 of the *DCA*, there is no legislated percentage reduction in the eligible growth-related capital costs for the provision of these services.

Map 1 shows a schematic representation of the area-specific service areas that have been identified in the Town. It is noted that the present study includes proposed area-specific development charges for only some of the areas. Since the proposed change in the recovery of costs away from the area-specific charges to the Town-wide charges and by use of local service charges, a number of areas no longer require area-specific charges. No new by-laws are necessary for these areas. For other areas, development plans are not sufficiently known to be able to provide appropriate servicing plans and development charges. Area-specific development charges for these areas may be prepared by the Town in the future as development plans become more advanced. The areas recommended in this study are as follows:

- Area 4 - Don Mills/Browns Corner
- Area 5 - Armadale
- Area 7 - Armadale NE
- Area 8 - Milliken Mills
- Area 9 - PD 1 - 7
- Area 17 - Rodick/Miller Road Planning District
- Area 42A - South Unionville
- Area 42A-1 - South Unionville - Helen Ave
- Area 42B - Markham Centre
- Area 42B.2 - Markham Centre - Clegg
- Area 42B.4 - Markham Centre - Hotel
- Area 42B.6 - Markham Centre - South Hwy 7
- Area 42B.8 - Markham Centre - Sciberras
- Area 42B.9 - Markham Centre - East Precinct
- Area 43 - Greensborough
- Area 44A - Rouge North East
- Area 45A - Wismer
- Area 46 - Cathedral
- Area 47A - Angus Glen
- Area 47B - York Downs and
- Area 49 - 404 North

These areas are judged to represent a reasonable basis on which to calculate the area-specific development charges so that the costs are fairly attributed to the areas that will benefit from them. In general, the areas represent development communities that can be serviced relatively independently of one another. The growth-related net capital costs to provide services are allocated to the development area. In a number of cases, however, projects and related project costs are shared between development areas, and the costs are apportioned between these areas.

The cost, quantum and timing of the projects identified in the forecast have been provided by the Engineering Department based on estimates prepared by Town staff and various consulting engineers. Many of the estimates reflect inflation-adjusted costs from the Town's existing development charges. The estimates include provision for engineering and contingencies.

A. AREA-SPECIFIC CAPITAL COSTS

Table 1 provides a summary of the growth-related capital program for area-specific services (the projects included in the capital program for each area are identified in Tables 3–23).

Table 1 provides a summary of area-specific capital program by area. Many of the area-specific projects provide benefits to multiple areas, and town-wide, and the recovery of

the cost of these projects is shared amongst many areas. In addition, an internal component is identified for some of the projects, reflecting the cost that a development would have to pay to provide for required local servicing for a particular subdivision. The Town will continue to require these contributions through the normal subdivision process, but excluding them from the development charges calculation ensures that only the oversized portion of costs is shared by other developments. A further share of some projects is identified as a non-growth or benefit to existing share to be funded from other municipal revenue sources.

Of the all the projects included in Appendix C, \$62.75 million, is identified as area-specific growth-related and forms the basis for the area-specific development charges calculations. The remaining share of the projects is being funded from the Town-wide charges or other sources (such as the Region of York share of certain projects).



As shown in Table 1, the servicing costs vary significantly by development area. This underscores the merit of utilizing an area-specific approach for these services.

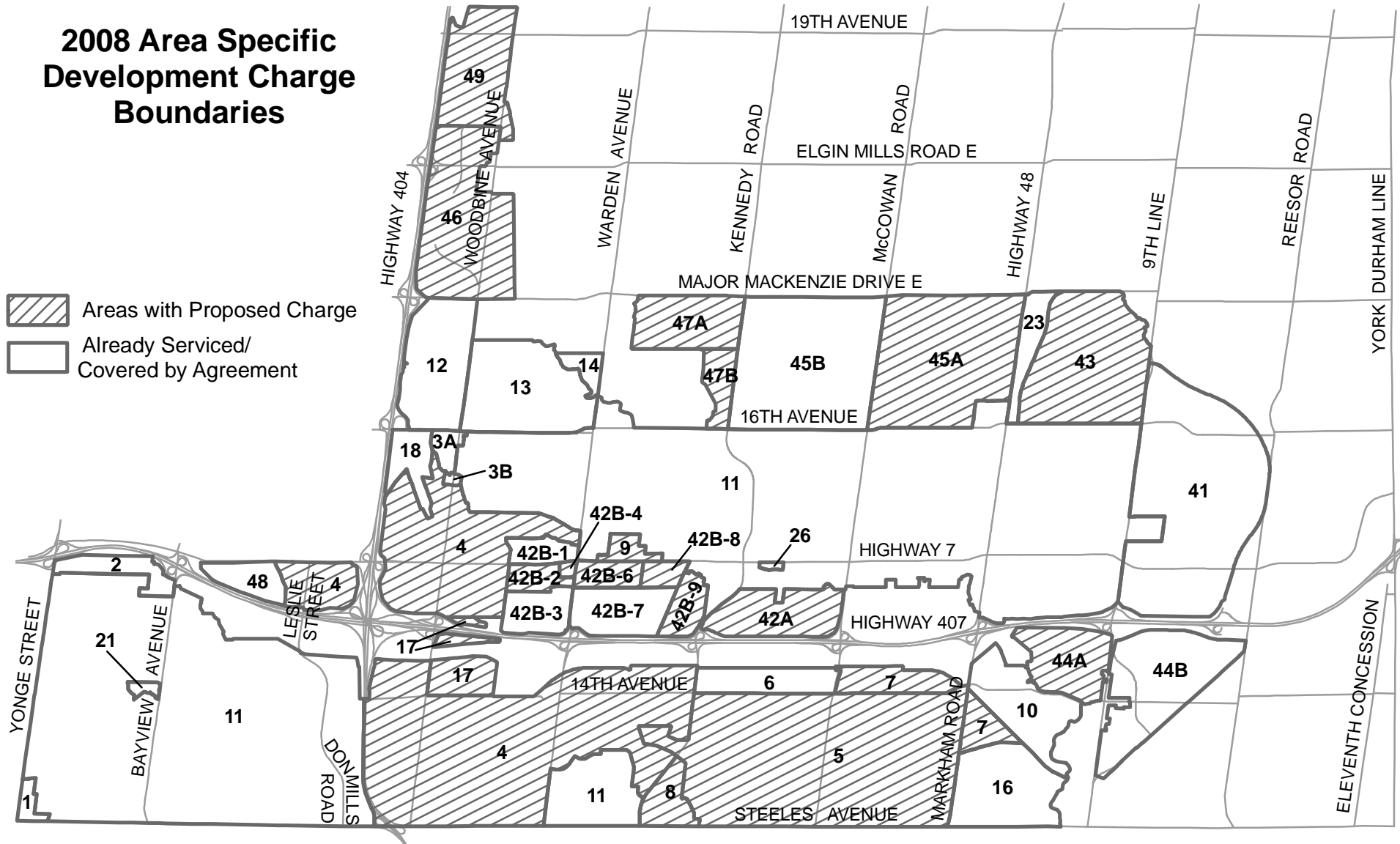
B. \$49.2 MILLION IS INCLUDED IN THE AREA-SPECIFIC DEVELOPMENT CHARGES RECOVERIES

Table 2 shows the growth-related net capital cost for area-specific services of \$62.75 million. However, nearly \$13.55 million of this amount has already been secured by services-in-lieu agreements, and is for shares of projects already funded, or is available in the Town's existing area-specific reserve funds to offset some of these costs. Therefore, on a collective basis, only \$49.2 million is included in the development charges calculations for area-specific services.

The Town's intention is to continue to calculate and collect the area-specific development charges on the basis of net developable land area. As shown in Table 2, the calculated charges range from a low of about \$2,700 per net hectare to a high of about \$848,800 per net hectare. This reflects the differing servicing costs associated with the various areas as well as the secured financing already approved by the Town for some of the areas.

2008 Area Specific Development Charge Boundaries

-  Areas with Proposed Charge
-  Already Served/
Covered by Agreement



**APPENDIX C
TABLE 1**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF AREA SPECIFIC CAPITAL COSTS**

Area	Gross Cost	Non-Development Charge Recoverable Costs		Development Charge Recoverable Costs	
		Local Costs	Non-Growth	TWH or Other ASDC	ASDC
Area 4	\$ 10,795,586	\$ -	\$ 7,856,333	\$ 424,745	\$ 2,514,508
Area 5	\$ 6,085,799	\$ 3,156,233	\$ -	\$ 1,681,235	\$ 1,248,331
Area 7	\$ 5,676,382	\$ 467,835	\$ -	\$ 4,687,061	\$ 521,486
Area 8	\$ 1,999,437	\$ -	\$ -	\$ -	\$ 1,999,437
Area 9	\$ 18,127,135	\$ 529,699	\$ -	\$ 9,452,486	\$ 8,144,950
Area 17	\$ 6,840,680	\$ -	\$ -	\$ 846,830	\$ 5,993,849
Area 42A	\$ 8,447,472	\$ -	\$ -	\$ 969,157	\$ 7,478,315
Area 42A-1	\$ 3,602,974	\$ 426,815	\$ 248,269	\$ 250,000	\$ 2,677,891
Area 42B	\$ 16,201,634	\$ 90,325	\$ 3,627,741	\$ 7,827,449	\$ 4,656,119
Area 42B-2	\$ 2,422,510	\$ 1,538,614	\$ 35,870	\$ 343,553	\$ 504,473
Area 42B-4	\$ 3,240,026	\$ 154,940	\$ -	\$ 2,660,700	\$ 424,386
Area 42B-6	\$ 16,791,966	\$ -	\$ -	\$ 10,872,137	\$ 5,919,829
Area 42B-8	\$ 16,163,142	\$ -	\$ -	\$ 12,746,751	\$ 3,416,392
Area 42B-9	\$ 17,907,312	\$ -	\$ -	\$ 7,518,546	\$ 10,388,766
Area 43	\$ 465,000	\$ -	\$ -	\$ 232,500	\$ 232,500
Area 44A	\$ 165,064	\$ -	\$ -	\$ -	\$ 165,064
Area 45A	\$ 2,337,960	\$ 1,184,798	\$ -	\$ 232,500	\$ 920,663
Area 46	\$ 1,375,388	\$ -	\$ -	\$ 230,375	\$ 1,145,013
Area 47A	\$ 4,695,068	\$ -	\$ -	\$ 3,311,042	\$ 1,384,026
Area 47B	\$ 4,630,589	\$ -	\$ -	\$ 4,127,908	\$ 502,681
Area 49	\$ 6,608,923	\$ -	\$ -	\$ 4,095,981	\$ 2,512,942
Total Area Specific Development Charges Cost Recovery					\$ 62,751,619

**APPENDIX C
TABLE 2**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
SUMMARY OF AREA SPECIFIC DEVELOPMENT CHARGES**

Area	Growth-Related Costs	Adjustments			Total ASDC Recoverable	Land Area (Ha)	ASDC Charge \$/ha
		Reserve Fund Balance	Credits in Agreements	Projects Funded from Reserve			
Area 4	\$ 2,514,508	\$ (283,966)	\$ -	\$ (11,640)	\$ 2,218,902	75.548	\$ 29,371
Area 5	\$ 1,248,331	\$ (479,086)	\$ (293,988)	\$ -	\$ 475,258	44.440	\$ 10,694
Area 7	\$ 521,486	\$ (48,917)	\$ -	\$ -	\$ 472,569	33.970	\$ 13,911
Area 8	\$ 1,999,437	\$ 139,009	\$ -	\$ -	\$ 2,138,446	10.894	\$ 196,289
Area 9	\$ 8,144,950	\$ 935,237	\$ -	\$ (1,730,202)	\$ 7,349,985	14.457	\$ 508,403
Area 17	\$ 5,993,849	\$ 133,229	\$ -	\$ -	\$ 6,127,078	20.896	\$ 293,218
Area 42A	\$ 7,478,315	\$ (3,060,033)	\$ (3,539,862)	\$ -	\$ 878,420	16.037	\$ 54,775
Area 42A-1	\$ 2,677,891	\$ 297,206	\$ (1,103,847)	\$ -	\$ 1,871,250	2.430	\$ 770,062
Area 42B	\$ 4,656,119	\$ 619,769	\$ -	\$ -	\$ 5,275,888	116.020	\$ 45,474
Area 42B-2	\$ 504,473	\$ -	\$ -	\$ -	\$ 504,473	7.882	\$ 64,003
Area 42B-4	\$ 424,386	\$ -	\$ -	\$ -	\$ 424,386	0.500	\$ 848,772
Area 42B-6	\$ 5,919,829	\$ 1,028,611	\$ -	\$ (1,599,540)	\$ 5,348,900	16.625	\$ 321,738
Area 42B-8	\$ 3,416,392	\$ 115,170	\$ -	\$ (475,258)	\$ 3,056,303	5.643	\$ 541,610
Area 42B-9	\$ 10,388,766	\$ 3,006,536	\$ -	\$ (4,586,969)	\$ 8,808,333	16.783	\$ 524,837
Area 43	\$ 232,500	\$ (132,899)	\$ -	\$ -	\$ 99,601	36.408	\$ 2,736
Area 44A	\$ 165,064	\$ (99,077)	\$ -	\$ -	\$ 65,987	9.574	\$ 6,892
Area 45A	\$ 920,663	\$ (213,660)	\$ (14,259)	\$ -	\$ 692,744	104.226	\$ 6,647
Area 46	\$ 1,145,013	\$ (463,805)	\$ -	\$ (382,400)	\$ 298,809	96.211	\$ 3,106
Area 47A	\$ 1,384,026	\$ (675,074)	\$ (490,277)	\$ -	\$ 218,674	19.797	\$ 11,046
Area 47B	\$ 502,681	\$ 17,091	\$ -	\$ -	\$ 519,772	21.500	\$ 24,175
Area 49	\$ 2,512,942	\$ 81,541	\$ -	\$ (237,600)	\$ 2,356,883	136.800	\$ 17,229
Total	\$ 62,751,619	\$ 916,883	\$ (5,442,233)	\$ (9,023,609)	\$ 49,202,660	n/a	n/a

**APPENDIX C
TABLE 3**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 4: DON MILLS / BROWNS CORNER INDUSTRIAL**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In AREA 4: DON MILLS / BROWNS CORNER INDUSTRIAL		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost	Local Costs		Non-Growth (Benefit to Existing)		Share	Cost	Share	Cost	Project Shared With Area
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	Project Shared With Area
STORM WATER MANAGEMENT											
General Servicing Improvements		1,500,000	0%	0	0%	0	100%	1,500,000	0%	0	
SANITARY SEWERS											
Don Mills Sanitary Sewer Improvements (north of Steeles Ave.)		8,729,259	0%	0	90%	7,856,333	10%	872,926	0%	0	NG (Water Rate)
Rodick Road Sanitary Sewer		103,459	0%	0	0%	0	25%	25,865	75%	77,594	17
Rodick Road Sanitary Sewer		462,869	0%	0	0%	0	25%	115,717	75%	347,151	17
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 4: DON MILLS / BROWNS CORNER INDUSTRIAL		\$ 10,795,586		\$ -		\$ 7,856,333		\$ 2,514,508		\$ 424,745	
Adjustments											
						Balance in Reserve Fund as at December 31, 2007		-\$ 283,966			
						Credit as per Agreement		\$ -			
						Projects Funded from Reserve		-\$ 11,640			
ASDC for AREA 4: DON MILLS / BROWNS CORNER INDUSTRIAL											
						Total Recoverable Growth-Related Costs		\$ 2,218,902			
						Net Developable Land Area (ha)		75.5478			
						Area Specific Development Charge per Net Hectare		\$ 29,371			

**APPENDIX C
TABLE 4**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 5 : ARMADALE**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		
			Local Costs	Non-Growth (Benefit to Existing)		AREA 5 : ARMADALE				Project Shared With Area	
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
<u>STORM WATER MANAGEMENT</u>											
Armadales SWM S Pond	SWM E of Hwy 48 pt. lot 1 Con. 8	374,917	0%	0	0%	0	62%	233,831	38%	141,086	16
SANITARY SEWERS											
Replace of existing Walford Road Sanitary sewer		34,500	0%	0	0%	0	100%	34,500	0%	0	
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
Armadales SWM N Pond	SWM E of Hwy 48 pt. lot 3 Con. 8	5,676,382	56%	3,156,233	0%	0	17%	980,000	27%	1,540,150	7 10 16
TOTAL AREA 5 : ARMADALE		\$ 6,085,799		\$ 3,156,233		\$ -		\$ 1,248,331		\$ 1,681,235	
Adjustments											
Balance in Reserve Fund as at December 31, 2007							-\$	479,086			
Credit as per Agreement							-\$	293,988			
Projects Funded from Reserve							\$	-			
ASDC for AREA 5 : ARMADALE											
Total Recoverable Growth-Related Costs							\$	475,258			
Net Developable Land Area (ha)								44.44			
Area Specific Development Charge per Net Hectare							\$	10,694			

APPENDIX C
TABLE 5

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 7 : ARMADALE NE**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable				
			Local Costs	Non-Growth (Benefit to Existing)		AREA 7 : ARMADALE NE		Share	Cost	Project Shared With Area			
			Share	Cost	Share	Cost	Share	Cost	Share	Cost			
<u>STORM WATER MANAGEMENT</u>													
Armadales SWM N Pond	SWM E of Hwy 48 pt. lot 3 Con. 8	5,676,382	8%	467,835	0%	0	9%	521,486	83%	4,687,061	5	10	16
SANITARY SEWERS No Projects													
STUDIES No Projects													
SPECIAL PROJECTS No Projects													
PROJECTS undertaken by CREDIT AGREEMENT No Projects													
TOTAL AREA 7 : ARMADALE NE		\$ 5,676,382		\$ 467,835		\$ -		\$ 521,486		\$ 4,687,061			
		Adjustments											
				Balance in Reserve Fund as at December 31, 2007				-\$	48,917				
				Credit as per Agreement				\$	-				
				Projects Funded from Reserve				\$	-				
ASDC for AREA 7 : ARMADALE NE				Total Recoverable Growth-Related Costs				\$	472,569				
				Net Developable Land Area (ha)					33.97				
				Area Specific Development Charge per Net Hectare				\$	13,911				

**APPENDIX C
TABLE 6**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 8 : MILLIKEN MILLS**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost	Local Costs		Non-Growth (Benefit to Existing)		AREA 8 : MILLIKEN MILLS		Share	Cost	Project Shared With Area
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
<u>ROADS</u>											
Old Kennedy Road improvements		705,775	0%	0	0%	0	100%	705,775	0%	0	
Midland Avenue - Property		795,662	0%	0	0%	0	100%	795,662	0%	0	
<u>STORM WATER MANAGEMENT</u>											
Recovery to Wu International		50,000	0%	0	0%	0	100%	50,000	0%	0	
SANITARY SEWERS No Projects											
STUDIES											
Steeles Avenue Sanitary Trunk Sewer, Capacity Study		112,000	0%	0	0%	0	100%	112,000	0%	0	
SPECIAL PROJECTS											
Traffic Calming, Existing Residential area east Main St., Milliken		336,000	0%	0	0%	0	100%	336,000	0%	0	
PROJECTS undertaken by CREDIT AGREEMENT No Projects											
TOTAL AREA 8 : MILLIKEN MILLS		\$ 1,999,437		\$ -		\$ -		\$ 1,999,437		\$ -	
Adjustments											
								\$ 139,009			
								\$ -			
								\$ -			
ASDC for AREA 8 : MILLIKEN MILLS											
								\$ 2,138,446			
								10.89			
								\$ 196,289			

**APPENDIX C
TABLE 7**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 9 : PD 1-7 (Reference to Markham Centre Sub-Area 5)**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In AREA 9 : PD 1-7 (Reference to Markham Centre Sub-Area 5)		Other Area Specific or TWH Development Charge Recoverable			Project Shared With Area
		Total Gross Cost	Local Costs	Non-Growth (Benefit to Existing)		Share	Cost	Share	Cost	Share	
		Share	Cost	Share	Cost	Share	Cost	Share	Cost		
<u>STORM WATER MANAGEMENT</u>											
Birchmount Storm Sewer		1,378,824	0%	0	0%	0	91%	1,254,729	9%	124,094	42b.6
East Highway 7 Stormwater Management Facilities (Pond # 2)		2,623,298	0%	0	0%	0	53%	1,390,348	47%	1,232,950	42b.6 42b.8
Property Pond # 2	at Sheridan Property	2,948,648	0%	0	0%	0	53%	1,562,783	47%	1,385,864	42b.6 42b.8 ROY
Property Pond # 2	at Lonsmount's property	1,920,438	0%	0	0%	0	53%	1,017,832	47%	902,606	42b.6 42b.8 ROY
Highway 7 Storm Sewer	west of Birchmount	178,631	0%	0	0%	0	100%	178,631	0%	0	
Highway 7 Storm Sewer	east of Birchmount	626,839	0%	0	0%	0	100%	626,839	0%	0	
Sheridan Storm Sewer		1,261,037	0%	0	0%	0	62%	781,843	38%	479,194	42b.6
Village Parkway Local Storm		242,939	100%	242,939	0%	0	0%	0	0%	0	
SANITARY SEWERS											
Highway 7 Sanitary Sewer		6,659,723	0%	0	0%	0	20%	1,331,945	80%	5,327,778	42b.6 42b.8
Village Parkway Sanitary, north Highway 7		286,760	100%	286,760	0%	0	0%	0	0%	0	
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 9 : PD 1-7 (Reference to Markham Centre Sub-Area 5)		\$ 18,127,135		\$ 529,699		\$ -		\$ 8,144,950		\$ 9,452,486	
Adjustments											
								\$ 935,237			
								\$ -			
								-\$ 1,730,202			
ASDC for AREA 9 : PD 1-7 (Reference to Markham Centre Sub-Area 5)											
								\$ 7,349,985			
										14.46	
								\$ 508,403			

**APPENDIX C
TABLE 8**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 17 : RODICK ROAD / MILLER ROAD PLANNING DISTRICT**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In AREA 17 : RODICK ROAD / MILLER ROAD PLANNING DISTRICT		Other Area Specific or TWH Development Charge Recoverable		Project Shared With Area
			Local Costs	Non-Growth (Benefit to Existing)		Share	Cost	Share	Cost	Share	
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
STORM WATER MANAGEMENT											
Miller / Rodick SWM pond and Channel improvements		566,331	0%	0	0%	0	100%	566,331	0%	0	
Miller Avenue Local Storm		1,094,823	0%	0	0%	0	84%	914,177	17%	180,646	TW
Rodick Road Local Storm		1,004,685	0%	0	0%	0	48%	480,082	52%	524,603	TW
Miller / Rodick SWM pond property		2,888,753	0%	0	0%	0	100%	2,888,753	0%	0	
SANITARY SEWERS											
Rodick Road Sanitary Sewer	Yorktech to Miller	103,459	0%	0	0%	0	75%	77,594	25%	25,865	4
Rodick Road Sanitary Sewer	Miller Avenue to 14th Avenue	462,869	0%	0	0%	0	75%	347,151	25%	115,717	4
Miller Avenue Sanitary Sewer	Woodbine to Rodick	719,760	0%	0	0%	0	100%	719,760	0%	0	
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 17 : RODICK ROAD / MILLER ROAD PLANNING DISTRICT		\$ 6,840,680		\$ -		\$ -		\$ 5,993,849		\$ 846,830	
Adjustments											
								\$ 133,229			
								\$ -			
								\$ -			
ASDC for AREA 17 : RODICK ROAD / MILLER ROAD PLANNING DISTRICT											
								\$ 6,127,078			
								20.90			
								\$ 293,218			

**APPENDIX C
TABLE 9**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42A : SOUTH UNIONVILLE**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		
			Local Costs	Non-Growth (Benefit to Existing)		AREA 42A : SOUTH UNIONVILLE		Share	Cost	Project Shared With Area	
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	Project Shared With Area
STORM WATER MANAGEMENT											
South Unionville West SWM Construction, Property and Outlet Sewer		3,713,118	0%	0	0%	0	42a 100%	3,713,118	0%	0	
SANITARY SEWERS											
No Projects											
STUDIES											
Secondary Plan Studies		850,000	0%	0	0%	0	42a 27%	225,335	73%	624,665	42b
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
Traffic Calming - Swansea / Avoca		100,000	0%	0	0%	0	42a 100%	100,000	0%	0	
Storm Water Facility SWM	Pond # 7	2,070,506	0%	0	0%	0	42a 100%	2,070,506	0%	0	
Swansea/Avoca Traffic Calming Study		10,300	0%	0	0%	0	42a 100%	10,300	0%	0	
Stormwater and Floodplain Mgmt Study		125,000	0%	0	0%	0	42a 28%	34,675	72%	90,325	42B
Outlet Sewer to Y.D.S.S.	Campbell Ct. to Y.D.S.S.	307,920	0%	0	0%	0	42a 100%	307,920	0%	0	
Outlet Sewer to Y.D.S.S.	Kennedy Road to Y.D.S.S.	266,461	0%	0	0%	0	42a 100%	266,461	0%	0	
Local sewer improvements		500,000	0%	0	0%	0	42a 100%	500,000	0%	0	
Helen Avenue	Stage IV and V sanitary sewer	222,379	0%	0	0%	0	42a 38%	84,048	62%	138,332	42a.1
Helen Avenue Sanitary	East end to 697m westerly	281,787	0%	0	0%	0	42a 59%	165,952	41%	115,835	42a.1
TOTAL AREA 42A : SOUTH UNIONVILLE		\$ 8,447,472		\$ -		\$ -		\$ 7,478,315		\$ 969,157	
Adjustments											
								-\$ 3,060,033			
								-\$ 3,539,862			
								\$ -			
ASDC for AREA 42A : SOUTH UNIONVILLE											
								\$ 878,420			
								16.04			
								\$ 54,775			

**APPENDIX C
TABLE 10**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42A-1 : HELEN AVENUE**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		
			Local Costs	Non-Growth (Benefit to Existing)		AREA 42A-1 : HELEN AVENUE		Share	Cost	Project Shared With Area	
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
<u>ROADS</u>											
Helen Avenue, IV & V	N.S. Relocation of existing poles	42,199	0%	0	0%	0	100%	42,199	0%	0	
Helen Ave.	urbanize including sidewalk on N.S. Stage IV & V	661,875	0%	0	17%	111,199	83%	550,676	0%	0	NG
Urbanize existing Helen Avenue	(east of Kennedy Road)	163,141	0%	0	17%	27,409	83%	135,732	0%	0	NG
<u>STORM WATER MANAGEMENT</u>											
Helen Local Storm sewer	Stage IV & V	484,693	34%	166,668	0%	0	66%	318,025	0%	0	
<u>SANITARY SEWERS</u>											
Helen Avenue	Stage IV and V sanitary sewer	222,379	0%	0	0%	0	62%	138,332	38%	84,048	42a
Helen Avenue Sanitary	Kennedy To 255m easterly	202,492	0%	0	0%	0	100%	202,492	0%	0	
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
Helen Avenue	N.S. Relocation of existing poles	83,441	0%	0	0%	0	100%	83,441	0%	0	
Urbanize existing Helen Avenue	including sidewalk on north side	652,724	0%	0	17%	109,661	83%	543,063	0%	0	NG
Helen Local Storm sewer	Stages I, II & III	756,544	34%	260,147	0%	0	66%	496,397	0%	0	
Helen Avenue Sanitary	East end to 697m westerly	281,787	0%	0	0%	0	41%	115,835	59%	165,952	42a
Existing Helen Avenue Watermain	Looping	51,700	0%	0	0%	0	100%	51,700	0%	0	
TOTAL AREA 42A-1 : HELEN AVENUE		\$ 3,602,974		\$ 426,815		\$ 248,269		\$ 2,677,891		\$ 250,000	
Adjustments											
Balance in Reserve Fund as at December 31, 2007							\$	297,206			
Credit as per Agreement							-\$	1,103,847			
Projects Funded from Reserve							\$	-			
ASDC for AREA 42A-1 : HELEN AVENUE											
Total Recoverable Growth-Related Costs							\$	1,871,250			
Net Developable Land Area (ha)								2.43			
Area Specific Development Charge per Net Hectare							\$	770,062			

**APPENDIX C
TABLE 11**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B : MARKHAM CENTRE**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable				
		Total Gross Cost	Local Costs	Non-Growth (Benefit to Existing)	Non-Growth (Benefit to Existing)	AREA 42B : MARKHAM CENTRE	AREA 42B : MARKHAM CENTRE	Share	Cost	Share	Cost	Project Shared With Area
		Share	Cost	Share	Cost	Share	Cost	Share	Cost			
STORM WATER MANAGEMENT												
No Projects												
SANITARY SEWERS												
No Projects												
STUDIES												
Secondary Plan Studies		850,000	0%	0	0%	0	73%	624,665	27%	225,335	42a	
Stormwater and Floodplain Mgmt Study		125,000	72%	90,325	0%	0	0%	0	28%	34,675	42a	
SPECIAL PROJECTS												
STREETSCAPE												
Birchmount Overpass	Rouge River	169,665	0%	0	0%	0	46%	78,046	54%	91,619	TW	
Birchmount Road	Hwy 407 to Rouge River	1,311,260	0%	0	25%	327,815	25%	327,815	50%	655,630	TW 42b.7	NG
Birchmount Road	Hwy 7 to Rouge River	623,230	0%	0	25%	155,807	25%	155,807	50%	311,615	TW 42b.6	NG
Clegg Road Extension	Town-Centre to Warden Ave.	577,667	0%	0	25%	144,417	25%	144,417	50%	288,834	TW 42b.2	NG
Rivas Road		290,307	0%	0	25%	72,577	25%	72,577	50%	145,153	TW 42b.9	NG
Enterprise Drive	Warden to Sciberras	1,639,075	0%	0	25%	409,769	25%	409,769	50%	819,537	TW 42b.7	NG
Enterprise Drive	Sciberras to CNR	315,922	0%	0	25%	78,981	25%	78,981	50%	157,961	TW 42b.7	NG
Enterprise Drive	Main Street S to NS Collector Rd.	565,062	0%	0	25%	141,265	25%	141,265	50%	282,531	TW 42b.9	NG
Enterprise Drive	NS Collector Rd. S to GO Line	503,768	0%	0	25%	125,942	25%	125,942	50%	251,884	TW 42b.9	NG
Existing Cedarland Drive	Town-Centre to Warden Ave.	107,681	0%	0	25%	26,920	25%	26,920	50%	53,841	TW NG 42b.2	
Highway 7	Rodick to E of Sciberras	4,507,456	0%	0	25%	1,126,864	25%	1,126,864	50%	2,253,728	TW 42b.1 42b.2 42b.4 42b.6 42b.8	9 NG
Riverside Drive	Warden to Birchmount	252,705	0%	0	25%	63,176	25%	63,176	50%	126,352	TW 42b.6	NG
Riverside Drive	Birchmount to e. end Area 42b.6	71,355	0%	0	25%	17,839	25%	17,839	50%	35,678	TW 42b.6	NG
Riverside Drive	W. end Area 42b.8 to Sciberras	153,834	0%	0	25%	38,458	25%	38,458	50%	76,917	TW 42b.8	NG
Sciberras Crossing	Rouge River	38,597	0%	0	0%	0	46%	17,754	54%	20,842	TW	
Sciberras Drive	Highway 7 to Rouge River	90,816	0%	0	25%	22,704	25%	22,704	50%	45,408	TW 42b.8	NG
Verclaire Crossing	Rouge River	192,508	0%	0	0%	0	46%	88,554	54%	103,954	TW	
Verclaire Extension	Highway 7 to Rouge River	585,473	0%	0	25%	146,368	25%	146,368	50%	292,737	TW 42b.6	NG
Warden Avenue	Highway 407 to Highway 7	1,802,982	0%	0	25%	450,746	25%	450,746	50%	901,491	TW 42b.2 42b.3 42b.4 42b.6 42b.7	NG
YMCA Boulevard	GO Station to Kennedy Road	814,353	0%	0	25%	203,588	25%	203,588	50%	407,177	TW 42b.9	NG
Yorktech Drive	Rodick Rd. to Enterprise Dr.	298,018	0%	0	25%	74,504	50%	149,009	25%	74,504	TW	NG
Yorktech Drive Crossing	Beaver Creek	16,883	0%	0	0%	0	46%	7,766	54%	9,117	TW	
Yorktech Drive Crossing	Rodick Rd. to Enterprise Dr.	298,018	0%	0	0%	0	46%	137,088	54%	160,930	TW	
PROJECTS undertaken by CREDIT AGREEMENT												
No Projects												
TOTAL AREA 42B : MARKHAM CENTRE		\$ 16,201,634		\$ 90,325		\$ 3,627,741		\$ 4,656,119		\$ 7,827,449		
Adjustments												
Balance in Reserve Fund as at December 31, 2007							\$	619,769				
Credit as per Agreement							\$	-				
Projects Funded from Reserve							\$	-				
ASDC for AREA 42B : MARKHAM CENTRE												
Total Recoverable Growth-Related Costs							\$	5,275,888				
Net Developable Land Area (ha)								116.02				
Area Specific Development Charge per Net Hectare							\$	45,474				

**APPENDIX C
TABLE 12**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.2 : MARKHAM CENTRE - CLEGG**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		Project Shared With Area
			Local Costs	Non-Growth (Benefit to Existing)		AREA 42B.2 : MARKHAM CENTRE - CLEGG		Share	Cost		
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
ROADS											
Clegg Road Extension	Town-Centre to Warden Ave.	2,422,510	64%	1,538,614	1%	35,870	21%	504,473	14%	343,553	42b.4 42b
STORM WATER MANAGEMENT											
No Projects											
SANITARY SEWERS											
No Projects											
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 42B.2 : MARKHAM CENTRE - CLEGG		\$ 2,422,510		\$ 1,538,614		\$ 35,870		\$ 504,473		\$ 343,553	
Adjustments											
				Balance in Reserve Fund as at December 31, 2007			\$	-			
				Credit as per Agreement			\$	-			
				Projects Funded from Reserve			\$	-			
ASDC for AREA 42B.2 : MARKHAM CENTRE - CLEGG											
				Total Recoverable Growth-Related Costs			\$	504,473			
				Net Developable Land Area (ha)				7.88			
				Area Specific Development Charge per Net Hectare			\$	64,003			

**APPENDIX C
TABLE 13**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.4 : MARKHAM CENTRE - HOTEL**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable			Project Shared With Area
			Local Costs	Non-Growth (Benefit to Existing)		AREA 42B.4 : MARKHAM CENTRE - HOTEL		Share	Cost	Share	Cost	
			Share	Cost	Share	Cost	Share	Cost	Share	Cost		
ROADS												
Clegg Road Extension	Town-Centre to Warden Ave.	2,422,510	6%	154,940	0%	0	2%	46,103	92%	2,221,467	42b.2	42b
SIDEWALKS												
Clegg Road Extension	Courtyard Lane to Warden Ave.	25,849	0%	0	0%	0	100%	25,849	0%	0		
STORM WATER MANAGEMENT												
Clegg Road	Town Centre to Warden Avenue	519,986	0%	0	0%	0	48%	252,146	52%	267,840	42b.2	
SANITARY SEWERS												
Clegg Road Sanitary	Town Centre to Warden Avenue	217,006	0%	0	0%	0	37%	80,105	63%	136,901	42b.2	
Courtyard Lane (NS Road) Sanitary Sewer		54,674	0%	0	0%	0	37%	20,182	63%	34,492	42b.2	
STUDIES												
No Projects												
SPECIAL PROJECTS												
No Projects												
PROJECTS undertaken by CREDIT AGREEMENT												
No Projects												
TOTAL AREA 42B.4 : MARKHAM CENTRE - HOTEL		\$ 3,240,026		\$ 154,940		\$ -		\$ 424,386		\$ 2,660,700		
Adjustments												
								\$ -				
								\$ -				
								\$ -				
ASDC for AREA 42B.4 : MARKHAM CENTRE - HOTEL												
								\$ 424,386				
										0.50		
								\$ 848,772				

**APPENDIX C
TABLE 14**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.6 : MARKHAM CENTRE - SOUTH HIGHWAY 7**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In AREA 42B.6 : MARKHAM CENTRE - SOUTH HIGHWAY 7		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost	Local Costs	Non-Growth (Benefit to Existing)		Share	Cost	Share	Cost	Project Shared With Area	
		Share	Cost	Share	Cost	Share	Cost	Share	Cost	Project Shared With Area	
ROADS											
No Projects											
STORM WATER MANAGEMENT											
Birchmount Storm Sewer	Highway 7 to Pond # 2	1,378,824	0%	0	0%	0	6%	82,729	94%	1,296,094	9
East Highway 7 Stormwater Managem	0	2,623,298	0%	0	0%	0	19%	498,427	81%	2,124,871	9 42b.8 ROY
Property Pond # 2	at Sheridan Property	2,948,648	0%	0	0%	0	19%	560,243	81%	2,388,405	9 42b.8 ROY
Property Pond # 2	at Lonsmount's property	1,920,438	0%	0	0%	0	19%	364,883	81%	1,555,555	9 42b.8 ROY
Sheridan Storm Sewer	Highway 7 to Pond # 2	1,261,037	0%	0	0%	0	12%	151,324	88%	1,109,712	9 42b.8
SANITARY SEWERS											
Highway 7 Sanitary Sewer	Village Parkway to YDSS	6,659,723	0%	0	0%	0	64%	4,262,222	36%	2,397,500	9 42b.8
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 42B.6 : MARKHAM CENTRE - SOUTH HIGHWAY 7		\$ 16,791,966		\$ -		\$ -		\$ 5,919,829		\$ 10,872,137	
Adjustments											
Balance in Reserve Fund as at December 31, 2007							\$	1,028,611			
Credit as per Agreement							\$	-			
Projects Funded from Reserve							-\$	1,599,540			
ASDC for AREA 42B.6 : MARKHAM CENTRE - SOUTH HIGHWAY 7											
Total Recoverable Growth-Related Costs							\$	5,348,900			
Net Developable Land Area (ha)								16.625			
Area Specific Development Charge per Net Hectare							\$	321,738			

**APPENDIX C
TABLE 15**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.8 : MARKHAM CENTRE - SCIBERRAS**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost	Local Costs		Non-Growth (Benefit to Existing)		AREA 42B.8 : MARKHAM CENTRE - SCIBERRAS		Share	Cost	Project Shared With Area
		Share	Cost	Share	Cost	Share	Cost	Share	Cost		
ROADS											
Sciberras Drive, local ROW	Highway 7 to Rouge River	750,000	0%	0	0%	0	100%	750,000	0%	0	
STORM WATER MANAGEMENT											
East Highway 7 Stormwater Management Facilities (Pond # 2)		2,623,298	0%	0	0%	0	18%	472,194	82%	2,151,104	9 42b.6
Sheridan Storm Sewer		1,261,037	0%	0	0%	0	20%	252,207	80%	1,008,830	9 42b.6 ROY
Property Pond # 2		2,948,648	0%	0	0%	0	18%	530,757	82%	2,417,891	9 42b.6 ROY
Property Pond # 2		1,920,438	0%	0	0%	0	18%	345,679	82%	1,574,759	9 42b.6 ROY
SANITARY SEWERS											
Highway 7 Sanitary Sewer	Village Parkway to YDSS	6,659,723	0%	0	0%	0	16%	1,065,556	84%	5,594,167	9 42b.6
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 42B.8 : MARKHAM CENTRE - SCIBERRAS		\$ 16,163,142		\$ -		\$ -		\$ 3,416,392		\$ 12,746,751	
Adjustments											
								\$		115,170	
								\$		-	
								-\$		475,258	
ASDC for AREA 42B.8 : MARKHAM CENTRE - SCIBERRAS											
								\$		3,056,303	
										5.643	
								\$		541,610	

**APPENDIX C
TABLE 16**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 42B.9 : MARKHAM CENTRE - EAST PRECINCT**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost	Local Costs	Non-Growth (Benefit to Existing)	Share	Cost	Share	Cost	Share	Cost	Project Shared With Area
<u>ILLUMINATION</u>											
Rivas Drive	W.S. Enterprise Drive to YMCA Blvd.	21,518	0%	0	0%	0	100%	21,518	0%	0	
Enterprise Drive	B.S. GO Line to Main Street South	147,858	0%	0	0%	0	100%	147,858	0%	0	
<u>ROADS</u>											
Rivas Road, local		565,399	0%	0	0%	0	68%	382,631	32%	182,769	TW 42b
Enterprise Drive, local (Ph. II)	Rivas Road to Main Street S	2,172,736	0%	0	0%	0	68%	1,470,387	32%	702,350	TW 42b
Enterprise Drive, local (Ph. I)	Rivas Road to GO Line	1,067,976	0%	0	0%	0	68%	722,747	32%	345,229	TW 42b
East Precinct Property	GIC Holding	3,009,000	0%	0	0%	0	62%	1,850,841	38%	1,158,159	TW 42b
Enterprise, Property (23m)	Quan Property	7,646,345	0%	0	0%	0	39%	2,965,396	61%	4,680,949	TW 42b
<u>STORM WATER MANAGEMENT</u>											
E.P., Enterprise Phase 1- Local Storm Sewers		895,423	0%	0	0%	0	100%	895,423	0%	0	
E.P., South Pond # 2 (001-T-04)		101,380	0%	0	0%	0	100%	101,380	0%	0	
Enterprise Phase II, Local Storm sewers		228,530	0%	0	0%	0	100%	228,530	0%	0	
<u>SANITARY SEWERS</u>											
E.P., Enterprise Phase I Sanitary Sewer (001-T-04)		730,262	0%	0	0%	0	100%	730,262	0%	0	
<u>STUDIES</u>											
East Precinct Serving Study		50,000	0%	0	0%	0	100%	50,000	0%	0	
<u>WATER</u>											
East Precinct, Phase I (400mm)		841,693	0%	0	0%	0	66%	559,276	34%	282,417	42b.1 42b.2 42b.3 42b.4 9 42b.6 42b.7 42b.8
Enterprise, Phase II (400mm)	Rivas Rd. to Main Street S	429,192	0%	0	0%	0	61%	262,519	39%	166,673	42b.1 42b.2 42b.3 42b.4 9 42b.6 42b.7 42b.8
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 42B.9 : MARKHAM CENTRE - EAST PRECINCT		\$ 17,907,312		\$ -		\$ -		\$ 10,388,766		\$ 7,518,546	
Adjustments											
	Balance in Reserve Fund as at December 31, 2007							\$ 3,006,536			
	Credit as per Agreement							\$ -			
	Projects Funded from Reserve							-\$ 4,586,969			
ASDC for AREA 42B.9 : MARKHAM CENTRE - EAST PRECINCT											
	Total Recoverable Growth-Related Costs							\$ 8,808,333			
	Net Developable Land Area (ha)							16.78			
	Area Specific Development Charge per Net Hectare							\$ 524,837			

**APPENDIX C
TABLE 17**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 43 : GREENSBOROUGH**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost	Local Costs		Non-Growth (Benefit to Existing)		AREA 43 : GREENSBOROUGH		Share	Cost	Project Shared With Area
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
<u>STORM WATER MANAGEMENT</u>											
No Projects											
SANITARY SEWERS											
No Projects											
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaking by CREDIT AGREEMENT											
STORM WATER MANAGEMENT											
Exhibition Creek realignment and restoration		465,000	0%	0	0%	0	50%	232,500	50%	232,500	45A
TOTAL AREA 43 : GREENSBOROUGH		\$ 465,000		\$ -		\$ -		\$ 232,500		\$ 232,500	
Adjustments											
								-\$ 132,899			
								\$ -			
								\$ -			
ASDC for AREA 43 : GREENSBOROUGH											
								\$ 99,601			
								36.41			
								\$ 2,736			

APPENDIX C
TABLE 18

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 44A : ROUGE NORTH EAST**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		
			Local Costs		Non-Growth (Benefit to Existing)		AREA 44A : ROUGE NORTH EAST		Share	Cost	Project Shared With Area
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
<u>STORM WATER MANAGEMENT</u>											
Environmental		165,064	0%	0	0%	0	100%	165,064	0%	0	
SANITARY SEWERS											
No Projects											
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaking by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 44A : ROUGE NORTH EAST		\$ 165,064		\$ -		\$ -		\$ 165,064		\$ -	
Adjustments											
								-\$ 99,077			
								\$ -			
								\$ -			
ASDC for AREA 44A : ROUGE NORTH EAST											
								\$ 65,987			
								9.57			
								\$ 6,892			

APPENDIX C
TABLE 19

TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 45A : WISMER

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		
			Local Costs		Non-Growth (Benefit to Existing)		AREA 45A : WISMER		Share	Cost	Project Shared With Area
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
STORM WATER MANAGEMENT											
Wismer, E / W Storm Sewer	E. Hwy. 48 to Mount Roy Pond	1,872,960	63%	1,184,798	0%	0	37%	688,163	0%	0	
SANITARY SEWERS No Projects											
STUDIES No Projects											
SPECIAL PROJECTS No Projects											
PROJECTS undertaken by CREDIT AGREEMENT Phase I											
STORM WATER MANAGEMENT											
Exhibition Creek realignment and restoration		465,000	0%	0	0%	0	50%	232,500	50%	232,500	43
TOTAL AREA 45A : WISMER		\$ 2,337,960		\$ 1,184,798		\$ -		\$ 920,663		\$ 232,500	
Adjustments											
								-\$ 213,660			
								-\$ 14,259			
								\$ -			
ASDC for AREA 45A : WISMER											
								\$ 692,744			
										104.23	
								\$ 6,647			

APPENDIX C
TABLE 20

TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 46: CATHEDRAL

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		
			Local Costs	Non-Growth (Benefit to Existing)		AREA 46: CATHEDRAL		Project Shared With Area			
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	Project Shared With Area
STORM WATER MANAGEMENT											
No Projects											
SANITARY SEWERS											
Exist. Sanitary Oversizing & Deepening S. of Major Mackenzie Dr.											
	by Woodbine Cachet West Inc.	399,500	0%	0	0%	0	100%	399,500	0%	0	
	by Woods and Mardevco Holdings I	205,800	0%	0	0%	0	100%	205,800	0%	0	
Woodbine North Relief Sewer	to 404 Region Trunk Sewer	770,088	0%	0	0%	0	70%	539,713	30%	230,375	
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 46: CATHEDRAL		\$ 1,375,388		\$ -		\$ -		\$ 1,145,013		\$ 230,375	
Adjustments											
								-\$ 463,805			
								\$ -			
								-\$ 382,400			
ASDC for AREA 46: CATHEDRAL											
								\$ 298,809			
								96.21			
								\$ 3,106			

**APPENDIX C
TABLE 21**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 47A : ANGUS GLEN**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable			
		Total Gross Cost		Non-Growth (Benefit to Existing)		AREA 47A : ANGUS GLEN		Project Shared With Area			
		Share	Cost	Share	Cost	Share	Cost	Share	Cost		
ROADS											
No Projects											
STORM WATER MANAGEMENT											
No Projects											
SANITARY SEWERS											
No Projects											
STUDIES											
No Projects											
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT STUDIES											
Class E.A. Study - Sewer and Water		17,636	0%	0	0%	0	65%	11,436	35%	6,200	47b
External Traffic Study		127,812	0%	0	0%	0	65%	82,878	35%	44,934	47b
North Markham Subwatershed Study		29,542	0%	0	0%	0	65%	19,156	35%	10,386	47b
SANITARY SEWERS											
Kennedy Road Temporary Pumping Station and Forcemain		2,457,093	0%	0	0%	0	34%	842,440	66%	1,614,653	45b
Operation & Maintenance for 15 Year Period		429,224	0%	0	0%	0	31%	134,897	69%	294,327	45b
York Downs Sanitary		1,633,761	0%	0	0%	0	18%	293,219	82%	1,340,542	45b 47b
TOTAL AREA 47A : ANGUS GLEN		\$ 4,695,068		\$ -		\$ -		\$ 1,384,026		\$ 3,311,042	
Adjustments											
								-\$ 675,074			
								-\$ 490,277			
								\$ -			
ASDC for AREA 47A : ANGUS GLEN											
								\$ 218,674			
								19.80			
								\$ 11,046			

APPENDIX C
TABLE 22

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 47B : YORK DOWNS**

Location	From / To	Total Gross Cost	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable		Project Shared With Area
			Local Costs		Non-Growth (Benefit to Existing)		AREA 47B : YORK DOWNS		Share	Cost	
			Share	Cost	Share	Cost	Share	Cost	Share	Cost	
ROADS											
No Projects											
STORM WATER MANAGEMENT											
No Projects											
SANITARY SEWERS											
York Downs Sanitary		1,633,761	0%	0	0%	0	10%	158,977	90%	1,474,784	45b 47a
STRUCTURES											
Angus Glen crossing	at Beaver Creek	2,821,837	0%	0	0%	0	10%	282,184	90%	2,539,654	47a
STUDIES											
Class E.A. Study - Sewer and Water		17,636	0%	0	0%	0	35%	6,200	65%	11,436	47a
External Traffic Study		127,812	0%	0	0%	0	35%	44,934	65%	82,878	47a
North Markham Subwatershed Study		29,542	0%	0	0%	0	35%	10,386	65%	19,156	47a
SPECIAL PROJECTS											
No Projects											
PROJECTS undertaken by CREDIT AGREEMENT											
No Projects											
TOTAL AREA 47B : YORK DOWNS		\$ 4,630,589		\$ -		\$ -		\$ 502,681		\$ 4,127,908	
Adjustments											
Balance in Reserve Fund as at December 31, 2007							\$	17,091			
Credit as per Agreement							\$	-			
Projects Funded from Reserve							\$	-			
ASDC for AREA 47B : YORK DOWNS											
Total Recoverable Growth-Related Costs							\$	519,772			
Net Developable Land Area (ha)								21.50			
Area Specific Development Charge per Net Hectare							\$	24,175			

**APPENDIX C
TABLE 23**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
AREA SPECIFIC GROWTH-RELATED PROJECTS
AREA 49: 404 NORTH EMPLOYMENT LANDS**

Location	From / To	Non-Development Charge Recoverable Costs				ASDC Recoverable In		Other Area Specific or TWH Development Charge Recoverable				
		Total Gross Cost		Non-Growth (Benefit to Existing)		AREA 49: 404 NORTH EMPLOYMENT LANDS		Project Shared With Area				
		Share	Cost	Share	Cost	Share	Cost	Share	Cost	Project Shared With Area		
ROADS												
No Projects												
STORM WATER MANAGEMENT												
No Projects												
SANITARY SEWERS												
Woodbine North Relief Sewer	to 404 Region Trunk Sewer		770,088	0%	0	0%	0	30%	230,375	70%	539,713	46
Woodbine by-pass Sanitary sewer, Phase 1 to Lord Melbourne			5,838,835	0%	0	0%	0	39%	2,282,567	61%	3,556,268	46 ROY
STUDIES												
No Projects												
SPECIAL PROJECTS												
No Projects												
PROJECTS undertaken by CREDIT AGREEMENT												
No Projects												
TOTAL AREA 49: 404 NORTH EMPLOYMENT LANDS			\$ 6,608,923		\$ -		\$ -		\$ 2,512,942		\$ 4,095,981	
Adjustments												
							\$		81,541			
							\$		-			
							-\$		237,600			
ASDC for AREA 49: 404 NORTH EMPLOYMENT LANDS												
							\$		2,356,883			
									136.80			
							\$		17,229			

APPENDIX D

RESERVE FUND

APPENDIX D

DEVELOPMENT CHARGES RESERVE FUNDS
TREATMENT AND ALLOCATION OF BALANCES

Table 1 presents the uncommitted reserve fund balances available to help fund the growth-related net capital costs identified in this study. The opening balances of the development charges reserve funds as at December 31, 2007 have been adjusted to account for current commitments to reserve fund projects. All of the adjusted reserve fund balances are accounted for in the study.

The existing reserve fund balances have been allocated between the Town-wide hard (TWH) and the area-specific (ASDC) calculations based on the share of costs transferred from the individual Area-specific recoveries to the Town-wide recovery calculations. The transfers are based on the projects contained in the 2004 Background Study.

As shown on Table 1, the December 31, 2007 total reserve fund balance was just approximately \$26.86 million. Of this balance, approximately \$26.19 million has been applied against projects in the Town-wide calculations. The remaining monies have been kept within individual area-specific calculations and a portion has been held to cover the growth-related costs of committed projects.

The application of the available uncommitted balance in each of the reserve funds is discussed in the appendix section related to each service. These funds are either assigned to projects in the initial years of the capital program for each service or to the opening balance of the cash flow calculations. The effect is to reduce and defer capital costs brought forward to the development charges calculations and the cash flow analysis.

**APPENDIX D
TABLE 1**

**TOWN OF MARKHAM
DEVELOPMENT CHARGES BACKGROUND STUDY
RESERVE BALANCES**

Area	Balance as of		Allocation of Reserves		
	Decemeber 31, 2007		TWH	ASDC	Existing Committments
	\$	\$	\$	\$	\$
Town-Wide	\$ (15,088,868)	\$ (15,088,868)			
3A	\$ (41,759)	\$ (41,759)	\$ -	\$ -	
4	\$ (2,559,820)	\$ (2,275,854)	\$ (283,966)	\$ -	
5	\$ (1,203,696)	\$ (724,610)	\$ (479,086)	\$ -	
6	\$ (145,632)	\$ (145,632)	\$ -	\$ -	
7	\$ (91,772)	\$ (42,855)	\$ (48,917)	\$ -	
8	\$ 223,705	\$ 84,696	\$ 139,009	\$ -	
9	\$ 1,254,751	\$ 319,514	\$ 935,237	\$ -	
12	\$ (226,928)	\$ (226,928)	\$ -	\$ -	
16	\$ (69,435)	\$ (69,435)	\$ -	\$ -	
17	\$ 265,437	\$ 132,208	\$ 133,229	\$ -	
21	\$ 0	\$ 0	\$ -	\$ -	
23	\$ (676,885)	\$ (676,885)	\$ -	\$ -	
41	\$ (2,136,166)	\$ (2,136,166)	\$ -	\$ -	
42A	\$ (3,922,910)	\$ (862,877)	\$ (3,060,033)	\$ -	
42A.1	\$ 297,206	\$ -	\$ 297,206	\$ -	
42B	\$ 3,700,116	\$ 3,080,347	\$ 619,769	\$ -	
43	\$ (2,860,566)	\$ (2,727,667)	\$ (132,899)	\$ -	
44A	\$ (537,839)	\$ (438,762)	\$ (99,077)	\$ -	
44B	\$ (2,687,534)	\$ (2,687,534)	\$ -	\$ -	
45A	\$ (979,778)	\$ (766,118)	\$ (213,660)	\$ -	
45B	\$ (1,630,217)	\$ (687,734)	\$ (942,483)	\$ -	
46	\$ (2,018,067)	\$ (1,554,262)	\$ (463,805)	\$ -	
47A	\$ (1,591,751)	\$ (272,905)	\$ (675,074)	\$ (643,772)	
47B	\$ 27,758	\$ 10,667	\$ 17,091	\$ -	
49	\$ 244,538	\$ 162,997	\$ 81,541	\$ -	
42b.1	\$ -	\$ -	\$ -	\$ -	
42b.2	\$ (797,428)	\$ (797,428)	\$ -	\$ -	
42b.3	\$ -	\$ -	\$ -	\$ -	
42b.4	\$ -	\$ -	\$ -	\$ -	
42b.6	\$ 1,655,825	\$ 627,214	\$ 1,028,611	\$ -	
42b.7	\$ 1,180,540	\$ 1,180,540	\$ -	\$ -	
42b.8	\$ 491,995	\$ 376,825	\$ 115,170	\$ -	
42b.9	\$ 3,062,348	\$ 55,812	\$ 3,006,536	\$ -	
Total	\$ (26,862,832)	\$ (26,193,460)	\$ (25,600)	\$ (643,772)	

Note: \$() represents a credit (positive balance).