

# TORONTO STAFF REPORT

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June 20, 2005

To: Works Committee

From: Deputy City Manager  
General Manager, Solid Waste Management Services

Subject: Implementation of Multi-unit Waste Reduction Levy

All Wards

Purpose:

This report recommends a revised implementation plan for the Multi-Unit Waste Reduction Levy, effective January 1, 2006, and provides staff responses to resolutions adopted by City Council and Works Committee in connection with its introduction.

Financial Implications and Impact Statement:

The purpose of the Multi-unit Waste Reduction Levy (the “levy”) is to provide a financial incentive to encourage maximum use of the no-charge recycling service provided by the City of Toronto (the “City”), by placing a levy on a portion of the residual solid waste (i.e. “garbage”) that is generated by each multi-unit residential building.

When the levy was adopted as part of the 2005 Solid Waste Management Services’ (“SWMS”) Operating Budget, a September 1, 2005 implementation date was identified. However, due to the complexities involved with the implementation of the levy, a revised implementation plan has been recommended in this report that has two distinct steps:

- (i) under the revised implementation plan collection tracking would be initiated on or about November 1, 2005 in order to generate mock-billing through to December 31, 2005, to provide multi-unit residential buildings with individual accounts of their waste generation, waste diversion (recycling) and the amount that would have been charged if the levy was active. This mock-billing procedure will assist in the identification of short-comings in waste diversion efforts; and
- (ii) the initiation of the levy as of January 1, 2006, with invoicing provided on a quarterly basis.

The SWMS 2005 approved Operating Budget provided for a net revenue of \$1.9 million in 2005 and \$5.7 million in 2006. These revenue projections were based on the application of the levy to all residual solid waste set out for collection, which would have been adjusted from time to time as recycling increased. However, the inclusion of a policy by City Council that establishes a waste reduction target – the Jenkins’ Resolution -- at which point the levy is reduced to zero, has substantially impacted the revenue projections. As a result, the original, approved revenue projections will not be realized.

Approval of the Revised Implementation Plan will result in a projected net revenue of (\$0.1) million in the 2005 Approved Operating Budget of SWMS in 2005 and a projected net revenue of (\$3.3 million) in 2006. The 2006 net increase will be included in SWMS’ 2006 Budget submission.

Given that the 2005 Approved Operating Budget includes the net revenue increase of \$1.9 million, every effort will be made through cost containment measures to off-set the revenue change between the original approved revenue estimate and the revenue arising from the Revised Implementation Plan. If SWMS is unable to fund the anticipated 2005 year-end over-expenditure through various cost containment measures, an appropriate year-end recommendation from the Chief Financial Officer will be forthcoming.

SWMS’ projected 2005 capital cost of \$1.1 million will be offset within SWMS’ 2005 Capital Budget by projected underspending.

In addition, approval of the Revised Implementation Plan will result in a projected net expenditure increase of \$0.14 million for By-law Enforcement in 2005 and \$1.9 million in 2006. Municipal Licensing and Standards (“MLS”) will make every effort to offset the increase through cost containment measures during 2005. If MLS is unable to fund the anticipated year-end over-expenditure the Deputy City Manager and Chief Financial Officer will submit an appropriate year-end recommendation. The 2006 net increase will be included in MLS’ 2006 Budget Submission.

MLS’ projected 2006 capital cost of \$0.53 million will be included in MLS’ 2006 Budget submission.

Under the revised implementation plan, the project costs have increased mainly due to:

- (i) the need to utilize a metering process to accurately record the collection of residual solid waste and recyclable materials, on which invoices will be based. The metering process is a combination of the Automated Vehicle Location (“AVL”) and Radio Frequency Identification (“RFID”) technologies; and
- (ii) the requirement to hire sixteen by-law enforcement officers and two associated administrative support and two supervisory staff as of December 1, 2005, to provide a one-month training phase before the implementation of the levy on January 1, 2006.

Tables 1 through 5, presented below, provide summaries of the levy program's operating and capital expenditures, combined expenditures, revenue projections and a summary table identifying the original projections (i.e. total expenditures, total revenues and deficit/surplus), with those projected under the revised implementation plan. Costs associated with the AVL pilot project have not been included as they can be accommodated in the 2005 Approved SWMS Operating and Capital Budgets.

Table 1. Comparison of Original Projections and Revised Implementation Plan Projections \*

	Original Projections (\$000's)		Revised Projections (\$000's)	
	2005	2006	2005	2006
Gross Operating Expenditure	1,579.0	2,524.7	525.3	869.8
Total Revenue**	(3,479.2)	(8,197.0)	(500.0)	(2,250.0)
<b>Net Expenditure/(Revenue)</b>	<b>(1,900.2)</b>	<b>(5,672.3)</b>	<b>25.3</b>	<b>(1,380.2)</b>
Capital Expenditure	0.0	0.0	1,112.1	941.2
<b>Net Expenditure/(Revenue)</b>	<b>(1,900.2)</b>	<b>(5,672.3)</b>	<b>1,137.4</b>	<b>(439.0)</b>

\* Details of the revised projected expenditures and revenues are provided in Table 6, enclosed in Appendix A.

\*\* Revenue projections include a \$500,000 grant in 2005 and 2006 (total of \$1 million) from Waste Diversion Ontario to assist with program promotion and communications.

Table 2. Operating Expenditures

<b>Program</b>	<b>Activity</b>	<b>2005 (\$000's)</b>	<b>2006 (\$000's)</b>
<b>Gross Expenditure - SWMS</b>	Waste Disposal Savings*	(106.5)	(3,330.0)
	Increased Recycling Costs	48.0	1,480.0
	Metering Technology (AVL/RFID)	20.6	123.4
	Other SWMS	428.0	676.0
	Revenue	0.0	(1,750.0)
	WDO Funding	(500.0)	(500.0)
	<b>Sub-total</b>	<b>(109.9)</b>	<b>(3,300.6)</b>
<b>Gross Expenditure- MLS</b>	By-law Enforcement	135.2	1,920.4
<b>Net Expenditure/ (Revenue)</b>		<b>25.3</b>	<b>(1,380.2)</b>

\* A surplus is generated within SWMS' costs in 2006 because of the shift from waste disposal to recycling creating a positive budget impact due a per tonne cost of \$90 to dispose and a per tonne cost of \$40 to recycle (net of revenue and Waste Diversion Ontario subsidy).

Table 3. Capital Expenditures\*

<b>Program Component</b>	<b>2005 (\$000's)</b>	<b>2006 (\$000's)</b>
MLS: By Law Enforcement	0.0	526.7
AVL/RFID (Levy related)	1,112.1	0.0
Other SWMS Costs	0.0	414.5
<b>Total Capital Expenditure</b>	<b>1,112.1</b>	<b>941.2</b>

Table 4. Combined Operating and Capital Expenditures\*

<b>Program Component</b>	<b>2005 (\$000's)</b>	<b>2006 (\$000's)</b>
Operating	25.3	(1,380.2)
Capital	1,112.1	941.2
<b>Total Expenditures</b>	<b>1,137.4</b>	<b>(439.0)</b>

The projected Capital costs in 2005 linked to the Revised Implementation Plan can be accommodated by projected underspending in the following SWMS Capital Accounts:

- CSW-352 Transfer Stations Asset Management 2005 (\$550,000)
- CSW-004 Waste Diversion Facilities (\$600,000).

As a result of the need to engage metering technology to accurately measure increases in waste diversion, this report recommends that staff be authorized to issue a sole source contract to Prudential Consulting Inc. (“Prudential”), for one year with two one year options to renew. The proposed sole source contract with Prudential will include the implementation of both AVL and RFID on all vehicles that will be collecting waste from multi-unit residential buildings, for collection tracking and invoicing purposes. The funds related to these expenditures are contained in the revised estimates for implementing the levy.

Prudential has been recommended for the sole source contract as this firm is currently engaged in SWMS’ AVL pilot implementation program and due to time constraints associated with the implementation of the levy.

In addition, SWMS has been operating a pilot project to test the AVL technology and is seeking authority to expand it to additional vehicles. This will require that a sole source contract in the amount of \$147,100 be awarded to Prudential (current supplier), to accommodate the additional costs of the expanded pilot.

Costs associated with the expansion of the AVL pilot can be accommodated in the 2005 Approved SWMS Operating and Capital Budgets (Operating Budget – Collection Service contains \$113,400 for all monthly service fees associated with the continued monitoring of the SWMS vehicles; and Capital Works Program --Transfer Stations Asset Management Project (Account CSW352) contains \$200,000).

In summary, the General Manager, SWMS, is seeking authority through this report to:

- (i) extend Prudential's contract to continue the current AVL pilot program;
- (ii) further extend Prudential's contract by expanding it to include additional service vehicles; and
- (iii) engage Prudential to provide metering technology to measure and track waste collection in connection with the levy.

The Chief Financial Officer has reviewed this report and concurs with the financial impact statement.

Recommendations:

It is recommended that:

- (1) in order to provide a sufficient time period to operationalize metering technology for collection tracking and invoicing purposes and hire and train By-law enforcement staff in connection with the introduction of the Multi-unit Waste Reduction Levy, City Council adopt the plan described in the body of this report as the "Revised Implementation Plan", which would result in:
  - (a) the initiation of solid waste collection tracking on or about November 1, 2005 with mock-billing provided until December 31, 2005; and
  - (b) the implementation of the Multi-unit Waste Reduction Levy, with billing initiated on January 1, 2006, as opposed to the September 1, 2005 implementation date previously authorized by City Council;
- (2) the Waste Reduction Target, which when reached by a multi-unit residential building would result in a zero waste reduction levy charge, be set at 80 percent of the available Blue and Grey Box recyclable materials in a multi-unit residential buildings waste stream (i.e. combined recycling and residual solid waste);
- (3) the Waste Reduction Levy be set at \$30 per tonne (the City's cost of collection) for residual solid waste collected in excess of the limit provided through the Waste Reduction Target, and, further, that the Waste Reduction Levy be structured as an escalating charge, to a maximum of \$90 per tonne (the City's cost of collection, transfer, haulage and disposal), linked to residual solid waste generation, as described and cited in the body of this report;
- (4) the Waste Collection Chapter of the Municipal Code applying to multi-unit residential properties and the Fees Chapter be amended as necessary to provide for the recovery of fees related to the waste reduction levy as described in the body of this report;

- (5) the General Manager, Solid Waste Management Services, be authorized to require each multi-unit residential building receiving solid waste management services from the City of Toronto to provide pre-payment equivalent to three months estimated cost under the Multi-unit Waste Diversion Levy;
- (6) the General Manager, Solid Waste Management Services, be authorized, if so required, to issue a request for proposal for single stream processing capacity (i.e. combined Blue and Grey Box recyclable materials) due to the forecasted increase in recyclable materials received by the City of Toronto due to the implementation of the waste diversion levy in multi-unit residential buildings;
- (7) the General Manager, Solid Waste Management Services, be authorized to negotiate with current single stream processors under contract to the City of Toronto and other processors, including municipalities, for temporary single stream processing capacity until additional long-term capacity can be attained, if so required, through a request for proposal call;
- (8) Capital Funding of \$1,112,100 be reallocated from Capital Accounts CSW-352 Transfer Stations Asset Management 2005 (\$550,000) and CSW-004 Waste Diversion Facilities (\$600,000) to CSW-004 Waste Diversion Facilities – Collection Vehicles, to fund the capital component of the Revised Implementation Plan in 2005, and that Solid Waste Management Services' 2005 Capital Budget be adjusted accordingly;
- (9) if Solid Waste Management Services is unable to off-set the 2005 revenue shortfall of \$1.8 million arising from the Revised Implementation Plan through various cost containment measures within its 2005 Approved Budget, the Chief Financial Officer submit an appropriate year-end recommendation;
- (10) in order to provide program education and enforcement of the City of Toronto's waste reduction levy and the Mandatory Recycling By-law;
  - (a) the Executive Director of Municipal Licensing & Standards be authorized to hire sixteen by-law enforcement officers, two supervisors, and two administration service persons and purchase support equipment at an estimated cost of \$135,200 in 2005 and \$2,447,100 in 2006;
  - (b) the estimated cost of \$135,200 for the hiring of By-law Enforcement Staff in 2005 be accommodated within the Municipal Licensing Services 2005 Approved Budget; and
  - (c) if Municipal Licensing and Standards is unable to fund the anticipated 2005 year-end over-expenditure of up to \$135,200 through various cost containment measures within its 2005 Approved Budget, the Chief Financial Officer present an appropriate year-end recommendation;

- (11) the General Manager, Solid Waste Management Service, and the Executive Director, Municipal Licensing and Standards be directed to include the appropriate funding for the Multi-unit Waste Reduction Levy and the associated By-law Enforcement in their 2006 Capital and Operating Budget submissions;
- (12) due to the timelines associated with the implementation of the multi-unit waste reduction levy, Recommendation 1 and Recommendation 2 contained in Works Committee Report 3, Clause 2a considered by Council at its Special meeting on May 4, 2005 be superseded by the following recommendations:
  - (a) the City of Toronto enter into a sole source agreement with Prudential Consulting Inc. for the provision of Automated Vehicle Location and Radio Frequency Identification System hardware and reporting services for a one (1) year period commencing July 1, 2005 to June 30, 2006 with the option to renew for two (2) additional one (1) year periods, July 1, 2006 to June 30, 2006, subject to the availability of funds in subsequent years, or until such time as a City wide policy for the use of Automated Vehicle Location technology has been implemented;
  - (b) the General Manager, Solid Waste Management Services be delegated the authority to negotiate and approve any Terms and Conditions of the agreement referred to in Recommendation a), to his satisfaction and in a form satisfactory to the City Solicitor;
  - (c) following approval by the General Manager, Solid Waste Management Services and the City Solicitor of the Terms and Conditions in accordance with Recommendation (b), the General Manager, Solid Waste Management Services, be authorized to instruct the Purchasing and Materials Management Division to issue a sole source Blanket Contract to Prudential Consulting Inc. in the amount of \$147,100.00, including full GST, (accommodated in Solid Waste Management Services' 2005 Approved Operating and Capital Budgets) for a one (1) year term commencing July 1, 2005 until June 30, 2006, subject to the availability of funds in subsequent years, or until a City wide policy for the use of Automated Vehicle Location technology has been implemented for the expansion and the ongoing reporting requirements of the Automated Vehicle Location pilot program;
  - (d) pursuant to Recommendation (c), providing a new Corporate Automated Vehicle Location policy is not in place, the General Manager, Solid Waste Management Services, in co-operation with the Purchasing and Materials Management Division, review the option to renew for two additional one year periods, July 1, 2006 to June 30, 2008, subject to the availability of funds, with respect to functionality to meet the City's needs and satisfactory performance in the previous year; and
  - (e) provided that there is a favourable review, in accordance with Recommendation (d), the General Manager, Solid Waste Management Services, be delegated authority to exercise the options on the terms and conditions set out above and be authorized to instruct the Purchasing Agent to process the necessary Purchase

Orders to a maximum of \$118,450.00, including full GST, for the period July 1, 2006 to June 30, 2007, and \$122,000.00, including full GST, for the period July 1, 2007 to June 30, 2008, subject to the availability of funds in subsequent years;

- (13) in order to provide required metering technology to measure and track waste collection, including the attainment of the Waste Reduction Target:
- (a) following approval by the General Manager, Solid Waste Management Services, and the City Solicitor of the Terms and Conditions in accordance with Recommendation 12 (b), the General Manager, Solid Waste Management Services, be authorized to instruct the Purchasing and Materials Management Division to issue a Blanket Contract to Prudential Consulting Inc. in the amount of \$1,132,670.00, including full GST, comprised of \$20,570.00 Operating Costs (not accommodated in Solid Waste Management Services' 2005 Approved Operating Budget) and \$1,112,100.00 Capital Costs (accommodated in Solid Waste Management Services' 2005 Approved Capital Budget), for a one (1) year term commencing July 1, 2005 until June 30, 2006, with an option to renew for two (2) additional one (1) year periods, July 1, 2006 to June 30, 2008, at the discretion of the General Manager, Solid Waste Management Services, in co-operation with the Purchasing and Materials Management Division, provided that a new Corporate Automated Vehicle Location policy is not in place, the functionality continues to meet the City's needs and performance in the previous year was satisfactory; and
  - (b) provided that there is a favourable review, in accordance with Recommendation 6 (a), the General Manager, Solid Waste Management Services, be delegated authority to exercise the options on the terms and conditions set out above and be authorized to instruct the Purchasing Agent to process the necessary Purchase Order to a maximum of \$137,250.00, including full GST, for the period July 1, 2006 to June 30, 2007 and \$141,000.00, including full GST, for the period July 1, 2007 to June 30, 2008, subject to the availability of funds in subsequent years;
- (14) in order to enhance the City of Toronto's current outreach and consultation programs regarding service provision to multi-unit residential buildings:
- (a) the General Manager, Solid Waste Management Services, be requested to facilitate the formation of the Tenant Environmental Advisory Group, whose purpose would be to provide practical advice through a focus group style format concerning the implementation of new waste diversion programs in multi-unit residential buildings and improvements for existing waste diversion programs; and
  - (b) the formation of the Tenant Environmental Advisory Group be undertaken in consultation with the Source Separated Organics Sub-Committee of Works Committee, including selection and approval of its membership, which would be comprised of up to thirty (30) persons;

- (15) Works Committee's advisory body working under the current name of "Apartment Working Group", be formally changed to "Multi-unit Residential Advisory Working Group";
- (16) the General Manager, Solid Waste Management Services, report on an annual basis evaluating the operation of the Multi-unit Residential Waste Diversion Levy as recommended in this report; and
- (17) the appropriate City officials be authorized and directed to take the necessary action to give effect thereto.

### Public Notice

On January 1, 2002, the *Municipal Act 2001* came into effect. As under the previous Municipal Act, the new Act includes provisions and authority related to imposing fees for services provided. Further, Ontario Regulation 244/02 under the new Act provides specific procedures for imposing fees for a number of services, including waste management services.

To begin the process of amending fees for the City's waste management system under the new *Municipal Act, 2001*, the City must follow the procedures set out in Regulation 244/02. The Regulation dictates that any fee imposed may not exceed the cost of providing the service, that the fee must be established by a by-law, and that the by-law expires on December 31 of the year following the year in which the by-law was passed. Before passing a by-law imposing a fee, the Regulation requires that the City hold at least one public meeting and ensure a minimum of 21 days notice of the public meeting.

Notice of a public meeting to meet this statutory requirement was given on June 8, 2005. The public meeting will be held on Wednesday June 29, 2005 beginning at 9:30 a.m. in Committee Room No. 1, Toronto City Hall. This notice period meets the 21-day minimum notice provision. Works Committee is considered a public meeting under the Act and deputations will be allowed.

The Regulation also dictates that any fee imposed may not exceed the cost of providing the service. The impact of the proposed fee change will not recover fully the net cost of providing the solid waste management service. The 2005 Base Operating Budget of SWMS to provide the waste management system is \$161 million on a net basis.

### Background:

Multi-unit residential buildings (apartments, condominiums, co-operatives and townhomes) are recovering just 20 percent of recyclable items. Over 100,000 tonnes of recyclable items are shipped to Michigan each year from multi-unit residential buildings for disposal, which requires over 3,000 truck trips.

In order to create a financial incentive to reduce waste, the levy was introduced as part of the 2005 Budget process, with an implementation date of September 1, 2005.

At the time of the approval of the Solid Waste Management Services Budget, a number of resolutions linked to the introduction of the levy were adopted by City Council (Policy and Finance Report No. 30, Multi-residential Waste Reduction Levy, adopted, with amendment, by Toronto City Council at its Special Meetings on February 21, 22, 23, 24, 25, 28 and March 1, 2005).

Works Committee subsequently added to the direction provided by City Council by adopting a series of additional related resolutions at its meeting of April 21, 2005, which were forwarded (Works Committee Report No. 4) to City Council's meeting on May 17, 2005. City Council deferred its consideration of Works Committee's report until its meeting of June 14, 15 and 16, 2005. At that meeting City Council adopted without amendment Works Committee's resolutions of April 21, 2005. Staff's responses to these resolutions are provided below in the "Comments" section of this report and Appendix C.

A number of resolutions were also adopted concerning single-family homes. A separate report, also listed on the Works Committee agenda, addresses those resolutions. This report focuses on those resolutions that concern multi-unit residential buildings.

#### Comments:

In the initial budget proposal, the levy was to be applied to all residual solid waste (i.e. garbage) set out by a multi-unit residential building for collection. However, one resolution, from Councillor Jenkins, has a significant impact on the design of the program and its revenue forecast. The resolution states:

Amending the structure of the Waste Reduction Levy to provide that, when a building achieves waste reduction targets, the charge would be zero.

The levy program has been designed incorporating the Jenkins Resolution and other resolutions adopted by City Council and Works Committee (in anticipation of their adoption by City Council). As a result of the Jenkins Resolution, the original and approved 2005 budget estimate will not be achieved.

#### Proposed Multi-unit Waste Reduction Levy Program Summary

Under the revised levy program, each building would be given a fixed amount of free waste volume per week/year based on the amount of waste the building should produce if it were to recover 80 percent of the available Blue and Grey Box recyclable materials, which would result

in the addition of 37,000 tonnes per year of recyclable materials, for a total of 71,000 tonnes per year.

The Waste Reduction Target of 80 percent is based on 90 percent of the tenants/residents participating and recycling 90 percent of their recyclable materials (i.e.  $0.9 \times 0.9 \times 100 = 81\%$  -- rounded to 80%).

If a building stays within the free waste limit there is no levy. If the volume is exceeded, a levy is paid on the excess waste, based on an escalating scale to penalize poor recyclers.

A graphic presentation of the waste reduction target recommended in this report and the conversion of tonnes to cubic yards (mass to volume), which is how waste and recyclables are measured in bulk bin collection (that is the predominant form of collection for multi-unit residential buildings) is enclosed as Appendix B.

### Metering Technology

Automated Vehicle Location (“AVL”) technology is a monitoring system that utilizes global positioning system (“GPS”) satellites and cellular wireless technology to locate and track assets, monitor movement and provide location history reports. This technology is currently used in Fire Services, Emergency Medical Services and Transportation Services.

A review of the AVL technology by SWMS staff identified opportunities to improve customer service, including our customer service responses to missed pickups, improve routing capabilities, including the ability to accommodate new subdivisions as they are developed and contract management by monitoring contractors activities and performance.

For the purposes of the implementation of the levy, the amount of waste and recyclable materials each building sets out for collection will be measured and recorded using a Radio Frequency Identification System (“RFID”) in conjunction with AVL technology. RFID “transponders” will be affixed to every container that the City will be collecting under the levy program. SWMS will be able to download via the cellular network detailed bin, address and collection frequency information from the transponders at each collection point. All information will be downloaded into a database to generate invoices.

This technology will provide SWMS with the ability to track a building’s improvements in recycling and make on-going adjustments in the amounts invoiced. Under the initial budget proposal, a building would have been invoiced based on a set number of bins, which would have been adjusted from time to time as less waste was generated due to increased recycling. That system did not require the tracking and reporting technology recommended in this report.

### Responses to City Council and Works Committee Resolutions

Staff’s responses to the specific resolutions adopted by City Council and Works Committee regarding the introduction of the levy are provided in Appendix C.

Conclusions:

The introduction of a financial incentive to reduce waste and increase recycling has been found by many municipalities to be beneficial. Some examples where waste diversion levies have been introduced are Seattle, Washington and Peel Region, Ontario.

The introduction of a waste diversion levy for multi-unit residential buildings in the City of Toronto was recommended through the submission of Solid Waste Management Services' recommended 2005 SWMS Operating Budget in the form of revenue generation projections. City Council adopted the direction provided through the budget process with a number of significant amendments that have been addressed in this report.

In particular, the introduction of a waste reduction target, which when reached would reduce levy charges to zero – the Jenkins Resolution – has significantly impacted the revenue generation projections contained in SWMS' 2005 Operating Budget and required the introduction of metering technology to ensure accurate collection records on which billing will be based.

While revenue projections have been impacted, the introduction of the levy, even on a reduced basis, will have a beneficial impact in the form of reduced waste and improved recycling. The Waste Reduction Target has been recommended to be set at 80 percent of the Blue and Grey Box recyclable materials available in a multi-unit residential building. It is based on 90 percent of the tenants/residents participating and recycling 90 percent of their recyclable materials (i.e.  $0.9 \times 0.9 \times 100 = 81$  percent – rounded to 80 percent). This is an achievable goal if a waste reduction program is efficiently operated, managed and promoted.

The introduction of the waste diversion levy has the potential to add 37,000 tonnes of recycling per year to the City's waste diversion programs for multi-unit residential buildings, for a total of 71,000 tonnes. Expressed another way, it will result in a reduction of 1,100 trucks hauling waste to Michigan every year and boost the City's waste diversion rate by 4 percent to 40 percent. From the perspective of waste diversion in relation to waste diversion, the introduction of the levy represents a significant potential gain at a management cost several magnitudes below the cost of some new and emerging technologies.

In order to provide sufficient time to roll-out the metering technology across the City, carry out the communications program, and hire By-law Enforcement staff, this report has recommended that the waste reduction levy be implemented on January 1, 2006, as opposed to the September 1, 2005 implementation date identified in the 2005 Budget approval process.

The goal of staff would be to introduce the metering technology on or about November 1, 2005, in order to generate mock invoices that would show waste generation and recycling rates. On January 1, 2006, the levy would be formally introduced with By-law enforcement in place.

The budget implications of the introduction of the waste reduction target and the recommended

January 1, 2006 implementation date have been identified and reviewed in the Financial Implications section of this report.

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Deputy City Manager

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Table 6. Original Program Projections compared to Revised Implementation Plan Projections

	Original Projections (Combined Operating and Capital )		Revised Implementation Plan Projections (Combined Operating and Capital )	
	2005 (\$000's)	2006 (\$000's)	2005 (\$000's)	2006 (\$000's)
<b>Expenditure:</b>				
<b>MLS: By-law Enforcement *</b>			135.2	2,447.1
<b>AVL Technology/RFID System (Levy only)</b>			1,132.7	123.4
<b>Other SWMS Costs:</b>				
Waste Disposal Savings			(106.5)	(3,330.0)
Increased Recycling Costs			48.0	1,480.0
Recycling Bins/Carts & Delivery - District 1			0.0	575.5
Promotion	100.0	100.0	100.0	50.0
Database Management/ Billing System/Mailing	600.0	600.0	120.0	180.0
Casual Staffing	185.0	185.0	208.0	135.0
Bad Debts	694.0	1,639.7	0.0	150.0
Sub-total			369.5	(759.5)
<b>Total Expenditure</b>	<b>1579.0</b>	<b>2524.7</b>	<b>1,637.4</b>	<b>1,811.0</b>
<b>Revenue:</b>				
Waste Reduction Levy	(3,479.2)	(8,197.0)	0.0	(1,750.0)
WDO Funding	0.0	0.0	(500.0)	(500.0)
<b>Total Revenue</b>	<b>(3,479.2)</b>	<b>(8,197.0)</b>	<b>(500.0)</b>	<b>(2,250.0)</b>
<b>Net Expenditure/(Revenue)</b>	<b>(1,900.2)</b>	<b>(5,672.3)</b>	<b>1,137.4</b>	<b>(439.0)</b>

\* Components of the MLS By-law Enforcement Program

Year 2005 (Combined Capital and Operating Costs )

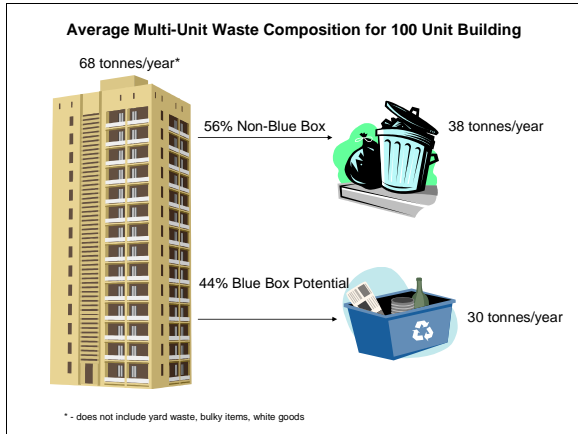
Program Component	Cost (\$000's)
Salaries (month of December)	\$135.2
Total	\$135.2

Year 2006 (Combined Capital and Operating Costs)

Program Component	Cost (\$000's)
Salaries (12 months)	\$1,670.9
Computers, workstations, and uniforms	\$140.0
Fuel	\$13.7
Fleet Contribution	\$67.8
Computer maintenance, uniform replacement	\$28.0
Pick-up Trucks	\$526.7
Total	\$2,447.1

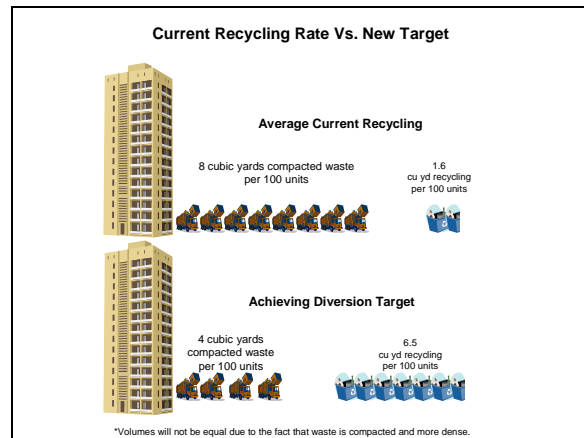
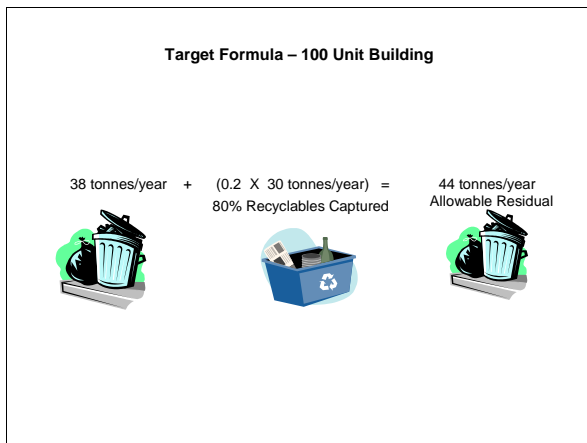
Appendix B.

Graphic Presentation of Calculation of Waste Reduction Target



**Cubic Yards Allowed**

# units	Compacted Cubic Yards	Uncompacted Cubic Yards
50	2	4.6
100	4	9.2
150	6	13.8
200	8	n/a
250	10	n/a
300	12	n/a
350	14	n/a
400	16	n/a
450	18	n/a
500	20	n/a



- Mass to Volume Assumptions**
- Current Residual - 62 tonnes/year/100 units
    - Current Field Density of Compacted Waste 140 kg/yd<sup>3</sup>
      - 8 yd<sup>3</sup>/per 100 unit current
    - Current Field Density of Uncompacted Waste 46 kg/yd<sup>3</sup>
      - 26 yd<sup>3</sup>/per 100 unit current
    - Current Bag Limit (based on 42 kg/yd<sup>3</sup> and 77 litre standard bag → 4.6 kg/bag)
      - 2.5 bags/week
  - Post-Levy Allowable Residual 44 tonnes/year/100 units
    - Expected Post-Levy Density for Compacted Waste 210 kg/yd<sup>3</sup> (1.5 times)
      - 4 yd<sup>3</sup>/per 100 unit post-levy limit
    - Expected Post-Levy Density for Uncompacted Waste 92 kg/yd<sup>3</sup>
      - 9 yd<sup>3</sup>/per 100 unit post-levy limit
    - Expected Bag Limit (based on 42 kg/yd<sup>3</sup> and 77 litre standard bag → 4.6 kg/bag)
      - 1.8 bag/week
  - 24 tonnes/year/100 units Recycled Through the Blue Box Program
    - Waste audit composition data was used to determine percentages of paper, plastic, metal and glass in the waste stream uncompacted density for these various materials of paper (81.7 kg/m<sup>3</sup>), plastic (64 kg/m<sup>3</sup>), metal (320 kg/m<sup>3</sup>) and glass (194 kg/m<sup>3</sup>) to calculate the volume.
    - Assumed 80% recycling capture rate
    - 6.5 yd<sup>3</sup>/100 units/week

**Levy Calculations – Compacted Waste**

Based on higher compaction of 210 kg/yd<sup>3</sup> and \$30/tonne ONE yd<sup>3</sup> would cost \$6.30

Scenario: Building does not increase recycling but does increase compaction to 210 kg/yd<sup>3</sup>

6 cubic yards of residual waste per 100 units is set out

Building is 2 cubic yards over the limit.

2 yd<sup>3</sup> X \$6.30 = \$12.60/100 units/week = \$655.20 per year  
\$6.55/unit/year

Staff Updates and Responses to the Direction Provided By City Council Arising from Budget Meeting Held on February 21, 22, 23, 24, 25, 28 and March 1, 2005, Regarding the Introduction of a Multi-Residential Waste Reduction Levy

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee by:

- (4) amending Recommendation (30) of the Policy and Finance Committee by adding the words “and the Works Committee hold public meetings prior to the implementation of these programs”, so that Recommendation (30) now reads as follows:

(30) Prior to the implementation of a Waste Reduction Levy for Multi-unit residences or a Diversion Incentive Surcharge for single family homes, the Acting Commissioner of Works and Emergency Services report to Council, through the Works Committee, on all facets of the implementation of each program city-wide, inclusive of all types of pick-up situations, and the Works Committee hold public meetings prior to the implementation of these programs.

Staff Response:

This report provides implementation details of the levy for multi-family buildings. As noted earlier in this report, a separate staff report (also included on Works Committee’s agenda) addresses the potential implementation of a diversion incentive surcharge for single family homes.

Public consultation regarding the introduction of the levy has been addressed through Works Committee’s Apartment Working Group, which has undergone an expansion in its membership due to the pending introduction of the levy. The membership of the Apartment Working Group is comprised of the following bodies:

- Greater Toronto Apartment Association
- Canadian Condominium Institute
- Association of Condominium Managers of Ontario
- Minto Management Limited
- Del Property Management
- Toronto Community Housing Corporation
- Toronto Environmental Alliance
- Federation of Metro Tenants’ Associations

- Tenant Advocacy Group
- Greater Toronto Home Builders' Association
- Local 416 Representative
- Toronto Home Builders' Association
- Waste Solutions Group Inc.
- University of Toronto (attending Professor)
- Apartment Resident

and the following parties from the City of Toronto:

- Works Committee Chair
- Mayor's Office representative
- SWMS
- Development Engineering, WES
- Urban Development Services
- Community & Neighbourhood Services
- Public Health, South Region
- Toronto Fire Services, WES.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee by:

- (5) Amending the structure of the Waste Reduction Levy to provide that, when a building achieves waste reduction targets, the charge would be zero.

Staff Response:

The implementation of a waste reduction target – the “Jenkins Resolution” – as recommended in this report is based on the City's provision of Blue and Grey Box programs to residents in multi-unit residential buildings. This report has recommended that the waste reduction target be set at 80 percent of the available Blue and Grey Box materials available for recycling.

In an average multi-unit residential building, of 100 units the waste composition is comprised of the following:

<b>Material Type</b>	<b>Tonnes Per Year</b>	<b>Percentage</b>
Blue and Grey Box Materials	30	44
Residual waste	<u>38</u>	<u>56</u>
Total	68	100

Based on this waste composition, the identification of the waste reduction target in tonnes is arrived at through the following formula:

$$(0.8 \times 30 \text{ tonnes/year}) = 24 \text{ tonnes/year of Blue and Grey Box recyclables}$$

The identification of the allowable residual solid waste is arrived at through the following formula that identifies non-recyclable residual waste plus the 20 percent of recyclables not captured:

$$38 \text{ tonnes/year} + (0.2 \times 30 \text{ tonnes/year}) = 44 \text{ tonnes/year of allowable residual}$$

A multi-unit residential building would then be charged at an escalating rate starting at \$30 per tonne for each tonne of waste that it is above its waste reduction target. If it reached or exceeded its waste reduction target there would be no charge.

A graphic presentation of the waste reduction target recommended in this report and the conversion of tonnes to cubic yards (mass to volume), which is how waste and recyclables are measured in bulk bin collection (that is the predominant form of collection for multi-unit residential buildings) is enclosed in Appendix B.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to say:

- (6) a) That the City of Toronto request the Ontario Ministry of the Environment to enforce the Provincial 3Rs Regulations, which require multi-unit residential buildings to operate a recycling program.

Staff Response:

A letter from the General Manager, Solid Waste Management Services has been sent to the Ministry of the Environment identifying the City's request that Provincial 3Rs Regulations be enforced.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to say:

- (b) That the City of Toronto apply to the Federation of Canadian Municipalities' Municipal Green Fund to assist with the cost of retrofitting multi-unit residential buildings.

Staff Response:

SWMS has submitted a letter of intent to FCM for a project titled "Feasibility of New Systems for Three Stream Collection of Solid Wastes from the Residential Sector". The project entails comparing different on-site handling and storage systems for collecting source separated organic materials from residents in multi-unit residential buildings. If it proceeds, the project will produce information on the quantity and overall rate of recovery of recyclable and organic materials from multi-family residential buildings of different types using a variety of existing and new on-site storage and handling systems for waste material streams. In August 2004, approval was received to move forward with a full application process and project description.

SWMS staff acted on the direction of City Council to seek assistance with retrofitting costs with FCM staff. We have been advised that we can amend our original submission to focus on the multi-residential sector, and are proceeding to do so. However, no new project submissions are being accepted by FCM until it has undergone a review of its award criteria and has received clarification from the Federal Government that it is mandated to continue with its management of the Green Enabling Funds.

The revised project proposal will be re-submitted to FCM. A final decision is scheduled for October 2005.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to say:

- c) "That the Toronto Community Housing Corporation (TCHC) be requested:
  - (i) not to pass the Waste Reduction Levy for multi-unit residential buildings on to its residents.
  - (ii) to join the Apartment Working Group."

Staff Response:

A representative of TCHC has begun to attend meetings of the Apartment Working Group. A letter from the General Manager, SWMS, has been sent to the head of the TCHC to ensure that Council's direction is formally communicated.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to say:

- d) That the City Solicitor also report to the Works Committee on mechanisms available to ensure that the Waste Reduction Levy costs are not passed to the tenants, when the report on the Waste Reduction Levy in multi-unit residential buildings, as referred to in Recommendation 30 of the Policy and Finance Committee, is presented to the Works Committee.

Staff Response:

The proposed levy is a fee to recover the costs of residual solid waste collection. It will be calculated on the basis of the volume of residual solid waste (measured in cubic yards) collected from the building, and charged against the owner of the building.

The Municipal Act does not give municipalities the jurisdiction to govern the contractual relationship between landlords and tenants. The province exercises its jurisdiction over landlords and tenants through the *Tenant Protection Act*. In the case of the waste reduction levy, that legislation does not, at least at the present time, allow the levy to be passed on to the tenant as an additional rent increase.

The *Tenant Protection Act* defines “rent” to include “any services and facilities...that the landlord provides for the tenant in respect of the occupancy of the rental unit, whether or not a separate charge is made for services and facilities...” and the definition of “services and facilities” includes “garbage facilities and related services”.

Rent cannot be increased above the guideline established in accordance with section 129 of the Act. This increase is published each year in the *Ontario Gazette*.

Landlords are allowed to apply to the Ontario Rental Housing Tribunal for approval of a rent increase above the guideline where there is “an extraordinary increase in the cost of municipal taxes and charges or utilities or both for the whole residential complex.” An increase is extraordinary if, as set out in s.138(2), “it is greater than the percentage increase set out for the corresponding cost category recognized in the Table referred to in subsection 129(2).” As an example, the Table amount for 2005 for municipal taxes and charges or utilities is 2.57 percent. The cost of the waste reduction levy is small (estimated at \$3.43 per year per apartment, or \$0.29 per month), so it would not constitute an extraordinary increase and could not be passed on to tenants as an additional rent increase.

Staff of the City’s Legal Division were engaged in the writing of this response.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to say:

- e) “That the Acting Commissioner of Works and Emergency Services be requested to distribute, during 2005, an information brochure to each unit in multi-unit residential buildings throughout the City explaining the following:
  - (i) the new fees for waste collection imposed by the City on the multi-unit residential sector; and
  - (ii) detailed information on the City’s recycling program and how multi-unit residential residents can participate;

and the Acting Commissioner of Works and Emergency Services be requested to seek sponsorships to absorb the costs of producing this brochure.”

Staff Response:

A communications plan, including regional information and education meetings for superintendents and condominium managers is being organized for the summer of 2005. It will include distribution of educational literature to residents living in multi-unit residential buildings that will explain why a levy is being applied and detailed information on the City’s recycling program and how to participate.

Funding has been granted to the City from Waste Diversion Ontario to provide support for the design, development, communication and implementation of the levy. Of the minimum \$1 million awarded (\$500,000 in 2005 and \$500,000 in 2006), \$100,000 (\$50,000 in 2005 and \$50,000 in 2006) has been budgeted for promotion and communications. Additional sponsorship will be sought from other potential sponsors. Funds have not been provided for the requested communications plan in the 2005 Operating Budget.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to say:

- (g) “That the Acting Commissioner of Works and Emergency Services be requested:
  - i) to report to the Works Committee on:
    - (1) ways to structure the Waste Reduction Levy in order to reduce the levy on a quarterly basis for those buildings that are achieving reductions;

- (2) a plan to allocate half of the revenue from the Waste Reduction Levy for Multi-unit residences to create a program to assist buildings with the cost of retrofitting their system;
- (3) the issue of incinerating garbage.

Staff Response:

- (1) Measurement of waste reduction will be undertaken on an ongoing basis and will be reflected in the billing process.
- (2) As the projected revenue stream from the levy will be significantly reduced due to the introduction of the Waste Reduction Target, staff do not recommend that the revenue stream, or a portion of it, be allocated for a retrofit program. It is suggested that building owners that want to introduce retrofits to support recycling utilize the cost savings they will realize due to the Jenkins' Resolution.
- (3) Incineration, as a potential waste management technology for the City, will be addressed as part of the City's Environmental Assessment ("EA") of a long-term residual waste management system.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to request SWMS:

- (iii) To develop design templates that would assist multi-unit residential building owners to organize collections within multi-unit residential buildings.

Staff Response:

Information regarding the collection of recyclable materials in multi-residential residences will be provided to building owners. Where possible, technical information on design templates will be provided, including information on private sector providers.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to request SWMS:

- (iv) To prepare a manual with suggestions for handling and storage of materials in multi-unit residential buildings.

Staff Response:

A superintendents waste management manual is posted on the City's website and can be downloaded. The manual is undergoing an update to include the City's new waste reduction levy. Copies of the manual will be printed and available to superintendents and building managers.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to request SWMS:

- (v) In consultation with the Commissioner of Urban Development Services, to recommend by-law changes that might be required to permit multi-unit residential buildings to be retrofitted with exterior collection chutes.

Staff Response:

A review of the proposal to permit the construction and operation of exterior collection chutes on multi-unit residential buildings was undertaken by staff of SWMS and Urban Development Services. Currently, the City permits a wide-range of collection technologies, from simple resident drop-off bins to more complex technologies, such as tri-sorters on each floor. The inclusion of the option of retrofitting a building with an exterior collection chute has not been recommended because:

- from a safety standpoint an external chute would represent a fire hazard that would be difficult to manage in the event of a fire;
- from a maintenance standpoint the chute could pose significant problems. For example, blockages would be difficult to rectify, particularly during winter months;
- the requirement to have a receiving bin could create external noise problems as materials (such as glass) enter the bin after a lengthy drop and introduce other problems such as displacement of parking spaces or extension of driveways and access points for collection trucks to reach the bin;
- should the bin overflow prior to the arrival of a collection truck it could result in blowing litter and spillage of materials outside of the bin;
- if the receiving bin was covered in a housing there are additional construction costs involved and the need to set specifications to permit storage and collection; and
- there is the potential for aesthetic impacts on the exterior of buildings.

For the reasons cited above, staff counsel against proceeding with by-law amendments to permit the construction of external collection chutes.

City Council amended the Program Budget of Solid Waste Management Services recommended by the Policy and Finance Committee to request SWMS:

- (vi) To make provision for individual building meetings or apartment area meetings, where deemed useful, to assist with the introduction of multi-unit residential recycling within a building or apartment area, and this be funded by either absorbing it within the Solid Waste Management budget or through Corporate sponsorships.

Staff Response:

SWMS staff will respond to requests for presentations on the introduction of the levy from individual buildings or apartment area meetings following the establishment of the City's policy regarding the implementation of the levy. As there are some 5,000 apartments, condominiums, co-operatives and townhouse complexes serviced by the City, the number of requests may be beyond the available staff resources. In that event, we will engage volunteers with the City's Toronto Environmental Volunteers (co-ordinated by WES' Public Consultation and Community Outreach unit), in order to respond to as many presentation requests as possible.

Direction Provided by Works Committee Regarding the Multi-unit Waste Reduction Levy at its meeting of April 21, 2005 and adopted by City Council at its meeting of June 14, 15 and 16, 2005.

- (2) That the Co-operative Housing Federation of Toronto be invited to become a member of the Apartment Working Group.

Staff Response:

A letter dated April 27, 2005 has been issued to Mr. Tom Clement, the Executive Director of the Co-operative Housing Federation inviting his organization to become a member of the Apartment Working Group (subject to City Council adoption of Works Committee's resolution).

Direction Provided by Works Committee Regarding the Multi-unit Waste Reduction Levy at its meeting of April 21, 2005 and adopted by City Council at its meeting of June 14, 15 and 16, 2005.

- (A) The General Manager, Solid Waste Management to report to the Works Committee for its meeting on May 26, 2005:
- (1) on the details of the proposed Multi-unit Residential Levy, including scenarios for budgeted costs as a result of the gap between the original budget proposal and the current identification of revenues due to the recommendations adopted by Council during the budget process; and that the report include a response to all the outstanding report requests made by Council during the 2005 Operating Budget process.

Staff Response:

This response is sub-divided into: levy application; introduction of Automated Vehicle Location technology; and Materials Recovery Facility capacity requirements. Detail regarding the establishment of the waste reduction target and budget impacts has been presented earlier in this report. A separate report will be submitted that provides a response to all outstanding report requests made by Council during the 2005 Operating Budget process.

Levy Application

As per the provisions of By-law 844 (Waste Collection, Residential Properties), the levy will apply to multi-unit residential buildings under the following criteria:

- a multi-unit residential building (either rental or condominium) receives waste collection services provided by the City of Toronto or its contracted agent;
- eight or more units are serviced by containerized collection (i.e. front end/rear end or automated cart);
- or, service is provided in the form of a compound/pile (including a public right of way and private lanes).

Multi-unit residential buildings that are serviced through bulk bin collection will have their residual waste and recyclable materials metered by transponders. Details of the implementation of the transponders are provided below. Locations where service is provided in the form of a compound/pile will be metered as part of a bag tag system that will be the subject of a further report to Works Committee.

### Implementation of Automated Vehicle Location Technology

City Council, at its meeting on May 4, 2005, had before it a report from the Acting Commissioner of Works and Emergency Services titled “Review of Automated Vehicle Location (“AVL”) and Management Control System Pilot Project in Solid Waste Management Services.” That report provided a summary of the SWMS pilot project using AVL technology. Prudential Consulting Inc. (“Prudential”) was awarded the contract for the pilot project through a request for proposal call issued by the City.

SWMS has worked extensively with Prudential throughout the pilot project to develop a variety of reports specific to the solid waste operation. These include: exception reporting (i.e. when vehicles are at a transfer station for a specified time, the appropriate staff are notified via an e-mail), route maps and trails (i.e. able to generate ‘cookie-crumbs’ of the vehicles’ routes for a given time period) and other operation specific data including speed, forklift activation, and number of stops.

In addition, that report indicated that there were opportunities for future use including the ability to bill customers. Due to the success of the pilot and opportunities to expand the technology to include billing customers under the levy, that report recommended that:

- (1) staff be authorized to initiate a competitive bid process to continue monitoring 75 vehicles in Solid Waste Management Services that are equipped with Automated Vehicle Location (AVL) hardware and the Acting Commissioner of Works and Emergency Services, in conjunction with the Purchasing and Materials Purchasing Management Division, be authorized to negotiate with the preferred proponent(s) and award the contract in accordance with Purchasing guidelines;
- (2) staff be authorized to initiate a competitive bid process to expand AVL technology to other vehicles in the Solid Waste fleet, as operationally required, and the Acting Commissioner of Works and Emergency Services, in conjunction with the Materials Management Division, be authorized to negotiate with the preferred proponent(s) and award the contract in accordance with Purchasing guidelines.

Council subsequently referred the report to Works Committee and e-City Committee and requested the City Manager to “report to the Works Committee on the implementation of a coordinated effort across the Corporation, including the City’s agencies, boards and commissions, on the Automated Vehicle Location and Management Control System Pilot Project, and such report to be submitted to Council for consideration at its meeting of June 14, 2005”.

On this same agenda, Works Committee has before it the report from the Chief Corporate Officer entitled “Automated Vehicle Location (AVL) Systems Pilot for Solid Waste”. That report recommends the endorsement of the Solid Waste Division’s request to add up to 35 vehicles to their AVL pilot.

SWMS is currently reviewing the use of Radio Frequency Identification System (“RFID”) in conjunction with the Automated Vehicle Location (“AVL”) system currently in use within SWMS. RFID tags will be affixed to every container that the City will be collecting under the levy. Using the RFID system in conjunction with the AVL system, SWMS will be able to download via the cellular network detailed bin, address and collection information from RFID tags at each collection point. All information will be downloaded into a database to generate invoices.

Prudential (the program vendor) has provided a proposal to link the current AVL functionality used within SWMS with RFID technology and is currently engaged in an initiation phase using four collection vehicles and forty RFID tags that will be tested on a variety of containers. Assuming a successful review, the RFID/AVL program would be ready to be rolled out on or about November 1, 2005, and will be able to provide an accurate accounting of the bins collected at each multi-unit residential building. However, due to the time constraints associated with the rollout of the levy, it has been recommended in this report that staff be authorized to issue a sole source contract for one year with two one year options to renew to Prudential.

The sole source contract with Prudential will include the implementation of both AVL and RFID technology on all vehicles that will be collecting waste from multi-unit residential locations and the provision of all appropriate RFID tags for every bin that will be monitored as part of the program. The contract will also provide staff with access via the internet for all data collected.

A sole source with the current AVL vendor will ensure that we continue utilizing AVL technology to its fullest and will ensure that we are able to implement a billing system for a minimum one-year time period, while the City reviews its options for the implementation of a co-ordinated AVL effort across the Corporation. The provision of option years will ensure that the system is not interrupted in the event a corporate policy has not yet been adopted.

The following table summarizes the estimated costs associated with the levy program.

	<b>Capital Expenses<sup>(1)</sup> (\$ Estimated)</b>	<b>Operating Expenses<sup>(2)</sup> (\$ Estimated)</b>	<b>Total Annual Cost</b>
2005 (Nov. – Dec.)	\$ 1,112,100	\$ 20,570	\$1,132,670
Year 2	\$ 0	\$ 127,100	\$127,100
Year 3	\$ 12,000	\$ 131,000	<u>\$143,000</u>
<b>Total Estimated Cost</b>			<b>\$1,402,770</b>

<sup>(1)</sup> Equipment and hardware expenses include all equipment required for collection vehicles including RFID readers and installation, antennas, AVL hardware and installation, for up to 25

vehicles, ruggedized transponders for containers and software integration with AVL technology (2006 and 2007 capital costs have been included for transponders for new developments).

(2) Maintenance expenses includes maintenance of equipment, telecommunication charges, licensing, training and access to data and reports (annual operating costs include an estimated inflationary rate).

In addition, given that we will be accessing the AVL website provided through Prudential to download the RFID data using the specialized reports, it would be prudent to continue monitoring the seventy-five vehicles currently equipped with AVL technology through the existing system and expand the AVL system, as required, operationally.

Please note that these costs are not associated with the levy and are not included in those associated projections.

The following table summarizes the estimated costs associated with the expansion of the current pilot project by a further 10 vehicles.

	<b>Capital Expenses<sup>(1)</sup> (\$Estimated)</b>	<b>Operating Expenses<sup>(2)</sup> (\$ Estimated)</b>	<b>Total Annual Cost</b>
2005 (July to Dec.)	\$ 30,400	\$ 58,340	\$88,740
Year 2	\$ -	\$ 116,700	\$116,700
Year 3	\$ -	\$ 120,200	<u>\$120,200</u>
<b>Total Estimated Cost</b>			<b>\$325,640</b>

(1) Equipment and hardware expenses include all equipment AVL hardware and installation.

(2) Maintenance expenses include maintenance of equipment, telecommunication charges, licensing, training and access to data and reports (annual operating costs include an estimated inflationary rate).

Between both the levy and the expansion of the AVL pilot, up to thirty-five (35) additional vehicles will be equipped with AVL technology. These additional expansions have been endorsed as part of the recommendations in the report from the Chief Corporate Officer entitled “Automated Vehicle Location (AVL) Systems Pilot”.

#### Additional Materials Recovery Facility Capacity Requirement

The introduction of the waste reduction levy will increase the amount of recyclable materials received by the City. The current processing capacity available to the City through its contracted

processing suppliers will be insufficient to deal with increased quantities. This can be addressed by adjusting existing contracts through negotiations to add additional capacity, through such mechanisms as adding an additional shift, or contracting with additional suppliers for processing capacity on a temporary basis. The projected shortfall can also be addressed through a request for proposal call for long-term processing capacity. This report carries recommendations for both of these avenues to correct the shortfall in processing capacity that would otherwise exist following the implementation of the levy.

At this time the budget impact of acquiring additional processing capacity cannot be quantified until the results of the request for proposal are received, evaluated and accessed. A follow-up report will provide a detailed financial analysis when the data is available.

Direction Provided by Works Committee Regarding the Multi-unit Waste Reduction Levy at its meeting of April 21, 2005 and adopted by City Council at its meeting of June 14, 15 and 16, 2005.

- (2) In consultation with appropriate officials, [report] on:
  - (c) a levy fee structure reward program for landlords who work towards improving diversion targets.

Staff Response:

The levy has been structured so that charges are reduced as diversion increases and a building moves to its waste diversion target.

In addition, the levy has been structured so that an escalating charge – or ‘sliding scale’-- is introduced for waste generation above the amount provided under the waste reduction target. This will provide an additional financial incentive for waste reduction in buildings that have a consistently poor waste diversion rate.

The levy is structured to charge \$30 per tonne for the first three cubic yards over the limit and \$60 per tonne for the second three cubic yards over the limit and \$90 per tonne for the remaining cubic yards over the waste limit. \$30 is the City’s cost of collection. \$90 is the City’s cost of collection, transfer, haulage and disposal.

Cubic yards over limit during week	Payment Schedule per cubic yard over the limit	Per Tonne Price
1	\$6.30	\$30.00
2	\$6.30	\$30.00
3	\$6.30	\$30.00
4	\$12.60	\$60.00
5	\$12.60	\$60.00
6	\$12.60	\$60.00
7	\$18.90	\$90.00
8	\$18.90	\$90.00
9	\$18.90	\$90.00

The following table presents the cost per tonne under the levy, including the financial impact of the escalating fee, based on the example of a 100-unit building. A 100-unit building will be allowed up to 4 cubic yards of compacted waste per week at no charge. If this building were to set out 5-7 cubic yards of waste, the levy would be applied to the additional tonnes at the base rate of \$30 per tonne (\$6.30 per cubic yard). For waste beyond this amount, the levy would rise to \$60 per tonne (\$12.60 per yard) for the next 3 cubic yards, and finally to \$90 per cubic yard) for any additional tonnes.

<b>100-Unit Building Example Weekly Payments</b>		
Cubic yard set out	Cubic yards over the limit	Building Pays
1	0	\$0
2	0	\$0
3	0	\$0
4	0	\$0
5	1	\$6.30
6	2	\$12.60
7	3	\$18.90
8	4	\$31.50
9	5	\$44.10
10	6	\$56.70
11	7	\$75.60
12	8	\$94.50
13	9	\$113.40

Direction Provided by Works Committee Regarding the Multi-unit Waste Reduction Levy at its meeting of April 21, 2005 and adopted by City Council at its meeting of June 14, 15 and 16, 2005.

- (3) [To report] On the establishment of a 30-person group, comprised of residents of multi-unit buildings, citizens and property managers, to work on green bin/blue box issues; that this group be selected through an advertising and application process; and that the membership be approved by the SSO Sub-Committee and Works Committee.

Staff Response:

The Apartment Working Group is currently undergoing an expansion in its membership to include tenant associations and other stakeholders. A list of the current membership has been provided above in the response to item (4). The initial meeting of the Apartment Working Group took place in 2003 and was organized at the direction of Works Committee, following a review of a staff report regarding the management of organics in multi-unit residential buildings. Three meetings have been held to date in 2005 (January 31, March 7 and April 8). The next scheduled meeting is May 27. The major items reviewed by the Apartment Working Group in 2005 are as follows:

- multi-year Solid Waste Business Plan initiatives related to multi-residential dwellings;
- single-stream recycling;
- organic collection pilot;
- mandatory recycling by-law;
- “as convenient as waste” definition for new development requirements;
- waste reduction levy: defining “multi-residential”; threshold concept; survey of existing equipment; billing systems; fees; and education for building managers.

Therefore, the engagement of tenants’ representatives at a policy level is taking place. However, advise from tenants on practical matters regarding the implementation of new waste diversion programs and the improvement of existing waste diversion programs would benefit from the formation of a new advisory group comprised of tenants to provide focus group style feedback.

This report has therefore recommended that a “Tenants Environmental Advisory Group” be formed to provide practical advice on the implementation and improvement of waste diversion programs. The formation of the Tenants Environmental Advisory Group would be undertaken in consultation with Works Committee’s Source Separated Organics Sub-Committee. Both of these bodies would review and approve the membership of the new advisory group.

Direction Provided by Works Committee Regarding the Multi-unit Waste Reduction Levy at its meeting of April 21, 2005 and adopted by City Council at its meeting of June 14, 15 and 16, 2005.

- (B) That the Apartment Working Group report to the Works Committee on a regular basis.

Staff Response:

Staff will assist with the facilitation of reporting out by the Apartment Working Group to Works Committee.