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Item No. 3

**Halifax Regional Council
July 7, 2009**

TO: Mayor Kelly and Members of Halifax Regional Council

A handwritten signature in black ink, appearing to read "Mike Labrecque".

SUBMITTED BY: _____
Mike Labrecque, Director Transportation and Public Works

DATE: June 19, 2009

SUBJECT: 2008-2009 Winter Works Review

INFORMATION REPORT

ORIGIN

Municipal Operations Staff

BACKGROUND

The "Winter Works" operation season spans from November to April each fiscal year. This past year's program ran from November 14, 2008 to April 11, 2009.

DISCUSSION

Winter Works comes into effect on the second Friday in November each year, and is comprised of three (3) levels of priority tasks. Priority 1 entails all Snow and Ice removal and control activities for streets and sidewalks; Priority 2 activities include regular (non-snow related) streets, roads, and sidewalk maintenance; Priority 3 activities are those performed by Municipal Operations staff on behalf of areas outside of their reporting structure (i.e., Halifax Forum and Metro Transit).

Priority 1

Priority 1 Winter Works tasks include all activities involved with the direct handling and removal of snow and ice from HRM's streets, sidewalks, crosswalks, parking lots and bus stops.

The winter of 2008/2009 resulted in fewer events than the previous winter of 2007/2008; however, these events were more severe in intensity and the extreme conditions they produced. On four (4) occasions we were challenged with very cold temperatures, followed by a rain and snow mix, again followed by hard freezes leading to very heavy ice conditions.

Weather Events	Budget	Actuals for 2006/07	Actuals over budget 2006/07	Actuals for 2007/08	Actuals over budget for 2007/08	Actuals for 2008/09	Actuals over budget 2008/09
Major snowfalls (over 15 cms)	4	2	-2	8	4	8	4
Average snowfalls (5-15cms)	8	6	-2	13	5	6	-2
Minor snowfalls (1-5cms)	9	14	5	12	3	5	-4
Freezing rain	3	4	1	8	5	5	2
Salting events (black ice, runoffs,)	40	46	6	43	3	19	-21

Cost Analysis

The budget for the 2008/2009 Winter Works Season was \$16,035,366 with gross expenditures of \$24,098,591; which represented an \$8,063,225 deficit. The principal cause of the over expenditure was the number and severity of the major events. It was also the first winter in four (4) years that necessitated major snow removal operations in capital districts and residential streets to facilitate on-street parking. In summary, the expenditures for winter works is broken down as follows:

Priority 1 Tasks - snow and ice operational	\$21,554K
Previous Years Deficit Sidewalk Area Rate	+ \$ 1,214K
Priority 1 Total Cost	\$22,768K
Priority 1 Total Cost	\$22,768K
Priority 2 and 3 Tasks - non snow (wages only)	+ \$ 1,330K
Total SNIC Expense	\$24,098K

A more comprehensive breakdown is available within Attachment C.

The following table indicates snow and ice removal costs (Priority 1) for 2008/2009 as compared to previous years:

Year	Priority 1 Costs
2008/2009	\$22,768,455
2007/2008	\$21,582,710
2006/2007	\$11,060,822
2005/2006	\$9,350,450
2004/2005	\$13,237,258
2003/2004	\$13,203,694
2002/2003	\$13,626,403
2001/2002	\$11,251,157

Service Standards

There were 14 (out of a total of 26) events for which service standards reports were produced for this season.

Street standards were met in 95% of the events with most of the deficiency centered around “cut throughs” on residential streets. (i.e., Event 2 November 18th 35cms of wet snow). Staff made a concerted effort to maximize efficiencies of resources. In doing so, staff were mindful not to over service the standards, thereby creating an artificial expectation for snow clearing.

Sidewalk standards were met 85% of the time. Two major snow, rain and freeze events (accompanied with rain) including a freezing rain event from January 28th to February 19th lead to very heavy ice conditions on the sidewalks. The resulting conditions required repeated applications of salt/sand and re-scraping to get down to bare surface. The extreme nature and duration of this event created conditions that overtaxed resources. Given the short period of time temperatures were above freezing following the snow rain event, and the lengthy duration of sub-zero temperature, a Priority 1 standard would not have allowed sufficient time to remove wet snow and slush from sidewalks prior to freezing.

See Attachment A - Current Approved Service Standards

See Attachment B - 2009/2010 Sidewalk Snow and Ice Clearing Budget by Route

Seniors and Persons with Disabilities Snow Removal Assistance Program

This program has been operating for 11 years receiving a major increase in funding in 2005 from \$60,000 to \$360,000. The program provides for snow removal to qualifying residents for walkways, front and back steps, path to the oil tank, and sidewalk (where applicable).

Year	Number of Clients
2002/2003	77
2003/2004	95
2004/2005	166
2005/2006	193
2006/2007	311
2007/2008	430
2008/2009	533

The requests for service are greater than the funds allocated for this service resulting in 210 clients remaining on the waiting list for the 2008/2009 season. The current available funding for 2008/2009 was \$360,000.00.

With increased costs projected for the 2009/2010 season it is estimated that there would be an increased cost of \$40,000.00 to serve the 533 currently receiving service. The average cost per client to provide this service is expected to be approximately \$750.00 per season. The total cost to include all (210) clients on the list is projected at an additional \$157,5000.00 .

Staff are not increasing the \$360,000 budget for the program.

Covenco Report

HRM commissioned an external report on its Winter Works Operations, which was completed in June 2008. The report involved validating and measuring various cost drivers associated with the winter's operations and identifying progress that has been made since the 2004 report. The report identified continued areas for improvement. The following areas were implemented in the 2008/2009 season:

1. ***Improvements in use of performance measures.***

Staff developed theoretical salt target amounts based on the number of lane kms in each area allowing for different types of weather events. This information is used to identify areas where salt management and effectiveness required improvement. Staff also initiated pre and post storm analysis on major and average events to measure actual performance against planned deployment of resources.

Utilized on a timely basis these performance measures will assist the management team to effectively measure performance in both a quantitative and qualitative method. This approach also establishes "Best Practices" by allowing feedback and reflection on areas of service performed well, and opportunities for improvement. This serves Municipal Operations efforts to pro actively maintain and improve service delivery strategies.

2. ***Salt Management***

Improving the effective use of road salts will always continue to be a challenge for winter operations. Superintendents, supervisors and operators all received specialized salt management training for the 2008/2009 winter season. The impact of this initiative resulted in a 28% decrease in salt used from the previous winter. While conditions this year were more extreme, the effective use of salt in response to each specific storm event resulted in an overall reduction in salt used.

3. ***Use of contracted equipment***

Performance based sidewalk contracts were extended to all regions to include all sidewalks not serviced by the HRM in-house programs. Despite difficult conditions through the winter, the contractors fulfilled their obligations in meeting the service standards where required for most of the events. Post winter evaluations were held with all contractors to assess performance and outline areas that require improvement. On occasion (as necessary) staff conducted meetings with contractors to reinforce service standards and expectations as per the performance contract language.

Next Steps

Tenders for hourly rate street contracts are facing renewal for the 2009/2010 season. Staff has prepared tenders that are flexible so as to adjust to decisions proposed and approved in future with regard to performance based streets contracts. Staff is currently researching options to present to Council for the 2010/2011 season with a view to test the market for this service. Staff is preparing options for consideration that will include, but not be limited to, trials in specific areas to determine feasibility of this approach.

Operations staff will continue to train supervisors in the area of performance contract management to ensure conditions of performance contracts are met and dealt with effectively, to ensure the service

delivery and service standards are achieved.

Priority 2 and Priority 3 Tasking

Priority 2 tasks are the regular (i.e., non snow related) street, sidewalk, parks and sport field related maintenance activities that continue throughout the winter months. Generally speaking Priority 2 tasks include leaf pick up, asphalt patching, litter pick up, fencing repairs, road shoulders, graffiti removal, street cleaning, playground and trail maintenance and all other maintenance activities for which Municipal Operations is responsible. Due to the increased demands for Priority 1 tasking on snow and ice, less time was spent on Priority 2 tasks as compared to 2007/2008.

Work Order Breakdown - Priority 2 & 3 Tasking (2 year comparison)		
Task	2007/2008 (hours)	2008/2009 (hours)
Capital District	N/A	2,160.00
Asphalt Work	11,349	11,175.50
Flood Control	2,344	2,167.00
Litter	12,520	7,016.50
Grading	N/A	611.50
Graffiti	806	670.00
Guardrail	132	241.25
Horticulture	1,689	2,611.00
Ice Testing	902	1,348.25
Public Gardens	N/A	661.50
Washouts	1,604	1,520.75
Sign shop	0	348.00
Sport Fields/Sport Courts	3,125	3,827.75
Trails/ Walkways	2,024	1,543.25
Playgrounds	1,926	1,595.25
Parks	3,036	3,994.25
Leaf Collection	7,106	7,363.00
Other ROW maintenance	875	164.00
Training/Sick Leave/Vacation	25,360	22,257.00
Total	74,836	67,448.00

BUDGET IMPLICATIONS

There are no budget implications associated with this report.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ATTACHMENTS

Attachment A - Current Approved Service Standards

Attachment B - Budget Costs/ Status of Performance Based Contracts for 2009/2010 Sidewalk Snow Removal

Attachement C - Cost grouping breakdown of Snow and Ice Program.

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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Report Approved by: Peter Verge, Manager Municipal Operations, 490-4673

Snow & Ice Control Service Standards

Updated Dec 04/07

Introduction

The Transportation & Public Works is responsible for all aspects of the Snow & Ice Control Program. It is a seasonal operation that has significant impact on HRM during winter conditions.

It is the intent of this document to identify the Service Standards which will be maintained by HRM. At the same time, it is not the intent to identify how the Snow & Ice Control Program will be managed.

The goal is to set an attainable standard which align the levels of service with the financial constraints of the HRM budget.

Objectives

The key objectives of the Service Standards are:

- To reduce the hazards of ice and snow conditions to motorists and pedestrians
- To minimize economic losses to the community and industry
- To facilitate the handling of emergencies by fire, hospitals and police officials.

Classification of Routes

In order to set effective priorities for snow and ice activities within the region, the routes must be classified as to their impact on the overall transportation system.

For the purpose of these standards the HRM has classified all of the routes and will service them (salt, sand and plow) in the following order of priority:

Class 1 - First Priority

Includes:

- Arterials
- Serve as connectors/collectors between areas and routes
- Serve as emergency routes to hospitals and fire equipment
- Serve as snow routes in major hilly terrain during weather situations
- Transit - for major bus routes

Class 2 - Second Priority

Includes:

- Medium to low volume of traffic including residential and rural routes

Other Surface Types

HRM will regulate the maintenance of the other surfaces, mirroring the priorities given to the adjacent routes unless specified differently for a particular activity. Items within this classification include:

- Bus stops
- Walkways and overhead crosswalks
- Parking lots
- Handicap parking
- Private roads and lanes provided winter maintenance under agreement

Street Clearing Standards

The Snow & Ice Program will endeavor to ensure the following levels of service.

Road Classification/ Priority	Typical	Service Level After Operations	Start Times and Frequency	Time to Completion from End of Snowfall
Priority 1 Main Arterials	Robie Street, Sackville Street, Portland Street	Bare pavement driving lanes	After 2 cm of snow, 3 hour turnaround	12 hours to full driving lanes
Priority 1 Transit Routes Collector Roads	Parkland, Caledonia Road, Metropoliitian Ave	3m centreline bare	After 2 cm of snow, 3 hour turnaround	12 hours
Priority 1 Residential Street with greater than 10% slope that serve as snow routes	Vestry Street, Joffre Street, Lindsay Hill	Centreline bare	After 4 cm of snow, 3 hour turnaround	12 hours to 2 lane width
Priority 2 Residential Streets	Cork Street, Anderson Street, Chandler Drive	Snow Covered, Passable	After 10 cm of snow *	24 hours to 2 lane widths
Priority 2 Gravel Roads	Confederation Drive, Flandrum Hills	Snow Covered, Passable	After 10 cm of snow	24 hours
Priority 2 Private LANes	Myers Lane	Snow Covered, Passable		24 hours

- In snowfalls greater than 30 cm, or in blizzard conditions, service levels may not be achieved.
- In multiple snowfalls where all roads have not been fully cleared, priority will be given to the first 2 priority classifications.
- During significant snow events "cut throughs" will commence after 10 cm on residential streets to allow single lane access.*

Sidewalk Clearing Standards

The Snow & Ice Program will endeavor to ensure the following levels of service for sidewalks that are area rated and maintained by the HRM.

Sidewalk Priority Classification	Materials Used	Start Time	Duration Until Cleared
Priority 1 Main Arterials Capital District	Salt or Salt/Sand mixture	After 5 cm of snowfall	12 hours from end of snowfall
School Routes	Salt or Salt/Sand mixture	After 10 cm of snowfall	18 hours from end of snowfall
Residential Streets/ Walkways	Salt or Salt/Sand mixture	After completion of first 2 priorities	36 hours from end of snowfall
Intersections (Peninsula Halifax)	Salt or Salt/Sand mixture	After sidewalks are complete	72 hours from end of snowfall

- While the objective is to maintain sidewalks to a bare condition, many factors are key to achieving success. Wet snow packed to ice, freezing rain and sudden freezes after rain can produce a heavy ice build-up on sidewalks. Sand will be applied to provide a degree of traction.
- Standards apply only to sidewalks that are area rated and maintained by the HRM. In other areas, sidewalks are the responsibility of the abutting property owner, and subject to regulations set out in By-Law S-300.
- In the case of multiple snowfalls, where there has been insufficient time to complete all sidewalks, operations will return to the highest priorities and start over.
- During late winter/ early spring, sidewalks are subject to runoffs from melting snow during the day and re-freeze overnight. Spot sanding may take place during regular,

Attachment B

Budget Costs for 2009/2010 Sidewalk Snow Removal

Route #	Contractor	Length	Cost per km	Annual cost	Years Remaining
SWP1	Ocean Contracting	31.94	\$7407.47	\$236,565	1
SWP2	Provincial Paving	21.16	\$7000	\$148,120	1
SWP3	Provincial Paving	39.71	\$8800	\$349,448	1
SWW1	Provincial Paving	13.361	\$5180	\$69,209	3
SWW2	Provincial Paving	15.361	\$4898	\$75,238	3
SWW3	Provincial Paving	9.6	\$4600	\$44,160	3
SWW4	Provincial Paving	8.86	\$4898	\$43,396	3
SWW5	Provincial Paving	10.3	\$5345	\$55,053	3
SWW6	Provincial Paving	14.75	\$4899	\$72,260	3
SWW7	Provincial Paving	16.578	\$5098	\$84,514	3
SWW8	Provincial Paving	17.522	\$5274	\$92,411	3
SWW9	Timberlea Bottle	8.613	\$5850	\$50,386	1
SWW10	Timberlea Bottle	41.965	\$6280	\$263,540	1
	West Contracted Total			\$1,584,100	
SWC1	Teak Tree	34.286	\$5887	\$201,841	3
SWC2	Curb Appeal	10.243	\$5100	\$52,239	3
SWC3	Teak Tree	37.764	\$5790	\$218,653	3
SWC4	Cutting Edge	22.253	\$5186	\$115,404	3
	Central Contracted Total			\$588,137	
SWE1	Eco Tech	11.805	\$5850	\$69,059	1
SWE2	EcoTech	27.48	\$4880	\$134,102	3
SWE3	Eco Tech	27.92	\$4970	\$138,762	1
SWE4	Provincial Paving	11.862	\$5779	\$68,550	3
SWE7	Cutting Edge Const	27.339	\$5998	\$128,736	3
SWE8	Provincial Paving	49.039	\$4510	\$221,165	3
SWE9	Provincial Paving	29.779	\$5998	\$178,614	3
SWE10	Cutting Edge Const	25.136	\$5448	\$116,020	3
SWE11	Provincial Paving	17.587	\$5900	\$103,527	3
	East Contracted Total			\$1,158,535	
	In-house West	39.5	*\$10,675	\$421,682	
	In- house East	71.6	*\$10,675	\$764,330	
	HRM Total	693.313		\$4,516,784	

*--- based on 2008/2009 costs

Attachment C - Cost grouping breakdown of Snow and Ice Program

P1 Plowing Costs		
	Actual Budget	
Compensation and Benefits	4,816,099	4,405,210
Office	10,199	3,000
External Services (Contracts)	845,912	815,199
Supplies	13,593	16,900
Materials (Salt/Sand)	3,416,412	1,563,900
Building Costs	3,376	1,000
Equipment & Communications	5,402,197	1,588,044
Vehicle Expense	41,928	33,000
Other Goods & Services	99,537	131,200
Interdepartmental (Fleet Vehicle Charges)	1,739,437	1,565,246
Total Expenditures \$	16,388,690	\$ 10,122,699
P1 Sidewalk Costs		
Compensation and Benefits	921,071	1,279,567
Office	1,723	2,800
External Services (Contracts)	3,703,088	1,694,500
Supplies	6,888	12,500
Materials (Salt)	36,808	352,500
Building Costs	25	-
Equipment & Communications	68,841	1,019,500
Vehicle Expense	7,975	3,000
Other Goods & Services	25,598	67,500
Interdepartmental (Fleet Vehicle Charges)	393,749	266,800
Total Expenditures \$	5,165,765	\$ 4,698,667
Summary		
P1 Operational Costs 2008/09	21,554,455	14,821,366
Other Fiscal (Previous year deficit)	1,214,000	1,214,000
Total P1 Charges \$	22,768,455	\$ 16,035,366
P2/3 Operational Costs 2008/09 (Costs are identified separately budget budgeted within P1)	1,330,136	-
Total Snow and Ice Costs 2008/09 \$	24,098,591	\$ 16,035,366