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Item No. 10.1.8

Committee of the Whole
May 13, 2008
Halifax Regional Council
May 27, 2008

TO: Mayor Kelly and Members of Halifax Regional Council

A handwritten signature in cursive script, likely belonging to Dan English.

SUBMITTED BY:

Dan English, Chief Administrative Officer

A handwritten signature in cursive script, likely belonging to Wayne Anstey.

Wayne Anstey, Deputy Chief Administrative Officer - Operations

DATE: April 28, 2008

SUBJECT: By-Law S-308, Amendments to Streets By-Law S-300

ORIGIN

HRM staff, as a result of required amendments to the Streets By-Law mainly to address issues related to the creation of the new Water & Wastewater Utility and issues related to the impact of street cuts on pavement life.

RECOMMENDATION

It is recommended that Halifax Regional Council approve in principle and begin the formal process for the adoption of By-Law S-308, Amendments to Streets Bylaw S-300 "By-Law Respecting Streets".

BACKGROUND

This report outlines amendments to the Streets By-Law mainly to address two issues, namely the impact of street cuts on pavement structures and the re-defining of the responsibility for street maintenance arising from work by the new Water and Wastewater Utility in Municipal streets.

Water & Wastewater Utility

The Streets Bylaw governs the operation of utilities within HRM streets. This includes provision for routine operations and permit requirements for street construction.

Regional Council has approved the creation of a new Water & Wastewater Utility to be responsible for the provision of sewer and water services in HRM. The establishment of this new Utility necessitates amendments to the Streets By-Law because the current By-Law only references the Water Utility. In addition, it is proposed that the responsibility for the maintenance of these street cuts by the Utility be re-defined.

Pavement Impact

HRM faces difficult challenges regarding the condition of the pavement infrastructure and the associated rising costs for street rehabilitation. Currently it is estimated that approximately 800 kilometres of streets and roads require some form of rehabilitative upgrade at an estimated cost of \$275 million. With an annual paving renewal, resurfacing and surface treatment capital plan ranging from \$17 to \$21 million over the next five fiscal years it is imperative that the life expectancy of rehabilitative work be maximized to its fullest.

It is clear, and studies have confirmed, that when a pavement structure is cut, its integrity is negatively impacted and the life span of the pavement is reduced. Multiple cuts will result in a dramatic decline in the pavement life span. It is not feasible to expect that streets will not be disturbed over time. However, modifications are required to the non-refundable fee that is charged when a street is excavated to reflect the real costs of a reduced life span of the pavement structure.

Housekeeping Amendments

As amendments to the By-Law are proposed, a few housekeeping amendments are also included.

DISCUSSION

Water & Wastewater Utility

The current Streets By-Law references the water utility but not wastewater as sewer operations have previously been internal to HRM.

The By-Law regulates the water utility by providing for an Annual Street & Services Permit for water service emergencies and routine water service maintenance. The non refundable maintenance fee is not required for annual permit work but currently the water utility retains responsibility for maintenance of the street cut until such time that the street is repaved.

It is proposed that all other water works in the street would require a separate Street & Services Permit and the water utility or its contractor pays the non refundable maintenance fee with HRM assuming responsibility for any future maintenance of the cut.

The amended By-Law includes reference to the new water & wastewater utility and provides for an annual permit for routine and emergency works. However, the system where the utility retains responsibility for street cuts under the annual permit has proven cumbersome and the new utility should not be involved in pavement maintenance. Therefore, the amended By-Law requires that the new utility pays the non refundable maintenance fee with HRM assuming responsibility for any future maintenance of the cut.

Pavement Impact

HRM owns and maintains approximately 1700 kilometres of streets and roads. As part of the HRM asset management system, staff assesses and evaluates all streets and roads utilizing pavement management software that ultimately assigns a Surface Distress Index (SDI) to each street within the municipality. The SDI is an indicator of the condition of the asphalt, and plays an integral role in the pavement management strategy, and in the development of the annual capital program. The range of the SDI rating system is from 0 (worst condition) to 10 (best condition). Based on HRM's current rating system, there are approximately 165 kilometres of streets that have an SDI of 0-4, 270 kilometres that rate between 4-6, and 280 kilometres between 6-7.5. Currently it is estimated that 800 kilometres of streets and roads require some form of rehabilitation upgrade at an estimated cost of \$275 million. With an annual paving renewal, resurfacing and surface treatment capital plan ranging from \$17 to \$21 million over the next five fiscal years it is imperative that the life expectancy of rehabilitation work be maximized to its fullest.

A primary purpose for which pavement is constructed is to provide for the efficient transport of persons and goods in a smooth, comfortable and safe manner. When a particular pavement structure has been cut, the integrity is negatively impacted and the SDI is reduced. Multiple cuts will have implications on the efficient transport of goods and persons, and will create a dramatic decline in the SDI. Therefore, in staff's opinion, the non-refundable fee that is charged for the opening of the street should be increased to reflect the anticipated costs for a reduced life span of the pavement structure.

HRM is no different from many other municipalities in that the street right-of-way accommodates numerous underground infrastructure components (sewer, water and gas mains, laterals, utility conduit, etc). When work is required on this underground infrastructure, often, the asphalt must be

disturbed. Research has confirmed that the failure rate is accelerated once the asphalt is impacted and the life expectancy is reduced. This phenomenon is observed even in instances where roads have been subsequently resurfaced after the original reinstatement by the contractor. Under current HRM regulations, when work is contemplated within the right-of-way, the contractor must first obtain a permit and pay a non-refundable maintenance fee. The intent of the fee is to recover some of the costs as a result of the shortened life span of the pavement structure. The current fee is based on 15% of the surface restoration costs or \$250, whichever is greater.

Staff has reviewed the level of compensation relative to other municipalities and is of the opinion that an increase is warranted to the non-refundable fee. An extensive analysis was conducted by S.Q.S Lee and K.A. Lauter on the Ottawa-Carlton road system. Their findings suggest that utility trenching shortens the life cycle of urban pavements by approximately 8% when the trenching impacts are spread over the pavement surface area of the entire urban road system. The study recommends that a sliding scale approach to the non-refundable fee is quantifiable and fair. The results of the study indicated that road sections with longer life cycles tend to lose a higher percentage of their life when utility trenching occurs. It can also be postulated that utility trenching will still impact on failed roads but there is a relatively smaller impact even if these roads are resurfaced (as a holding strategy pending reconstruction). Further analysis suggests that utility trenching not only affects the areas within the trench reinstatement but also areas extending beyond the limits of the actual trench. These numbers may vary from one municipality to another depending on the amount and type of utility work conducted within the paved travelled areas.

Additionally nondestructive pavement deflection testing results indicate that utility trenching has a significantly negative impact on the fatigue structural carrying capacity of the pavement within the trenched areas. The cost to restore the fatigue loading carrying capacity of the trenched areas back to the same level as the non-impacted areas are the largest component of the total costs attributed to the utility trenching.

For simplicity of administration, the sliding scale quantifies the costing of trench impacts using the surface distress index (SDI) as depicted in Attachment 2 of this report. The sliding scale approach from the Ottawa-Carlton study based their non-refundable numbers on the costs associated with:

1. The reduced pavement life cycle equivalent to a specific percentage of the cost of one lift of asphalt to compensate for the reduction in the pavement rehabilitation life cycle;
2. Additional base repair;
3. Additional asphalt strengthening requirement within the trench area; and
4. The area impacted beyond the trench area (zone of influence).

While Ottawa-Carlton utilized the age of pavement relative to a trenching fee, HRM is proposing to incorporate the SDI and correlate the non-refundable fee amount with a percentage of the reinstatement cost. The non-refundable costs from both municipalities are determined to be similar, and are subject to change as a result of the varying unit prices experienced from year to year. As mentioned the current fee is 15% of the restoration costs or \$250, whichever is greater. Staff is recommending the fee table as shown in Attachment 2 be incorporated for asphalt street and road

surfaces, and be renamed as the Pavement Impact Charge. However, the current fee structure is to remain in place for reinstated concrete, sod areas, and other disturbed areas. As a note, the revised pavement impact charge structure would apply to all internal/external departments, agencies and organizations that disturb the pavement.

Housekeeping Amendments

The minimum depth of underground facilities (section 15(f)) is amended to no less than 30 inches (.75m) under pavement areas or otherwise no less than 24 inches (0.6m) from the surface grade of the street. This reflects current practice for shallow utilities such as power and telecom conduits and natural gas pipelines.

Section 18 and 23 are amended to clarify that any working upon a street or installation or repair of any facility on a street as requiring a Street & Services Permit.

Section 25(1) and (5) are amended to include “the natural gas utility” with referenced utilities.

Additional housekeeping amendments include:

- Unless otherwise directed by the Engineer, no cut will be permitted to a newly paved street for two years. Newly paved streets include resurfacing, reconstruction and surface treatment rehabilitations.
- In keeping with recent changes to the warranty period of capital projects, all work completed under streets and services permits will be warrantied for two years. The refundable \$1000 deposit will be held with the municipality for this duration.
- The current future settlement fee of 15% of the restoration cost or a minimum \$250, whichever is greater, will continue to apply to all required restoration outside of the pavement area.

BUDGET IMPLICATIONS

The Pavement Impact Charge should result in increased revenue which will be directed to an account to be used solely for pavement management purposes.

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.

ALTERNATIVES

There are no recommended alternatives.

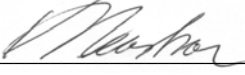
ATTACHMENTS

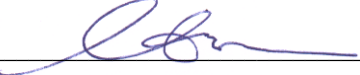
Attachment 1: By-Law S-308

Attachment 2: Amendment to Administrative Order 15

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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**HALIFAX REGIONAL MUNICIPALITY
BY-LAW NUMBER S-308**

RESPECTING STREETS

BE IT ENACTED by the Council of Halifax Regional Municipality that By-Law S-300 Respecting Streets be amended as follows:

1. Clause 3 (q), is amended to add the words “wastewater services, stormwater services” immediately following the word “water” in line 1 thereof.
2. Clause 15 (f) is deleted and replaced to read as follows:
 - (f) underground facilities shall be constructed no less than 30 inches (0.75m) below grade under paved surfaces or otherwise no less than 24 inches (0.6m) below the surface grade of the street.
3. Section 18 is amended to add the words “or works upon” immediately following the word “opens” in line 1 thereof.
4. Subsection 23 (1) is amended by adding clause (d) as follows:
 - (d) “install or repair any facility on a street.”
5. Subsections 1 to 4 inclusive of section 24 of said By-law S-300 are repealed and the following substituted therefor:
 - (1) Where there is an excavation within the street, the application shall include:
 - a) a security deposit as specified in Administrative Order 15, and
 - b) for excavations within pavement areas, a non-refundable pavement impact fee as specified in Administrative Order 15, and
 - c) for excavations in areas outside the paved portion of the street, a non-refundable maintenance fee in the amount of 15% of the total restoration cost based on current unit prices.
 - (2) The security deposit shall be retained as a guarantee that the applicant will properly perform and complete the work for which the permit is granted, and restore and keep the surface of the street when such work is done, to a good condition and to the satisfaction of the Engineer, for a period of twenty-four months after the works are accepted by the Municipality.
 - (3) If the Engineer is of the opinion that the work is not being properly performed, or the surface of the street is not kept in good condition, he may, with notice, perform such work in respect of the work or street as he considers necessary and the cost shall be

deducted from the deposit, and the balance, if any, returned upon the expiry of the twenty-four month period referred to in subsection (2). If the cost of such work exceeds the deposit, the balance may be recovered from the applicant by action.

6. (1) Subsection 25(1) is deleted and the following substituted therefor:

The Engineer may grant a periodic or annual Street and Services Permit to a utility for the purpose of the installation of poles and supporting appurtenances; water, wastewater, stormwater or natural gas service emergencies and routine water, wastewater, stormwater or natural gas service maintenance including pavement patching related thereto which require the excavations in municipal streets, subject to such conditions as the Engineer may determine, and, without restricting the generality of the foregoing, any such permit shall require that the Engineer be informed of the location, contractor and time of such work prior to its commencement and that the contractor provide liability insurance in accordance with subclause 28 (h)(i).

- (2) Subsection 25 (5) is deleted and the following substituted therefor:

The water, wastewater and stormwater utility and the natural gas utility shall be responsible to keep records and inform the Engineer of excavations made in the roadway portion of the street by the utility for any works undertaken pursuant to the issuance of an annual permit and shall pay the Pavement Impact and Maintenance fees specified in Section 5(1).

7. Section 28 shall be amended by renumbering clause (j) as clause (k) and inserting a new clause (j) as follows:

(j) Unless otherwise authorized by the Engineer, pavement cuts shall not be permitted for two years on streets which have been resurfaced, reconstructed or have received a pavement treatment; and

Done and passed in Council this ___ day of _____, 2008.

MAYOR

Municipal Clerk

I, Jan Gibson, Municipal Clerk for the Halifax Regional Municipality, hereby certify that the above-noted by-law was passed at a meeting of the Halifax Regional Council held on _____, 2008.

Julia Horncastle, A/Municipal Clerk

Notice of Motion:

First Reading:

Notice of Public Hearing - "Publication":

Second Reading:

Approved by Service Nova Scotia and Municipal Relations:

N/A

Effective Date:

**HALIFAX REGIONAL MUNICIPALITY
AMENDMENT TO ADMINISTRATIVE ORDER NUMBER 15**

Respecting License, Permit and Processing Fees

BE IT ENACTED by the Council of Halifax Regional Municipality that Administrative Order 15 Respecting License, Permit and Processing Fees be amended by adding Section 18 as follows:

18.	<u>By-Law #</u>	<u>Short Title</u>	<u>Section</u>
	S-300	Streets	24

Where there is an excavation within the street, the application shall include:

- a security deposit in the amount of \$1,000.00,
- a Pavement Impact Charge based on Surface Distress Index (SDI) of street pavement surface.

SDI	Fee (percentage of pavement reinstatement cost)
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8.5 - 10.0	30%
7.0 - 8.5	25%
6.0 - 7.0	20%
4.0 - 6.0	15%
0.0 - 4.0	5%

Done and passed in Council this ___ day of _____, 2008.

MAYOR

Municipal Clerk

I, Jan Gibson, Municipal Clerk for the Halifax Regional Municipality, hereby certify that the above-noted Administrative Order amendment was passed at a meeting of the Halifax Regional Council held on _____, 2008.

Jan Gibson, Municipal Clerk

Amendment No 18

Addition to schedule

(Security deposit and Pavement Impact Charge)

Notice of Motion:

Approval:

Effective Date: