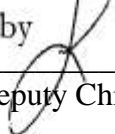


Item No. 11.1.9
Halifax Regional Council
December 10, 2013

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original signed by 

Richard Butts, Chief Administrative Officer

Original Signed by 

Mike Labrecque, Deputy Chief Administrative Officer

DATE: November 7, 2013

SUBJECT: Paving of Flandrum Hill Road, Flandrum Court, Braeside Avenue,
Belvedere Avenue and Patterson Road – Cow Bay

ORIGIN

This report originates from the following motion tabled at Halifax Regional Council on May 1, 2013:

“Motion passed that Regional Council requests staff prepare a report recommending whether or not to proceed with the paving of Flandrum Hill Drive, Flandrum Court, Braeside Avenue, Belvedere Avenue and, at the request of Councillor Hendsbee, Patterson Road and where the Local Improvement Charges will apply.”

LEGISLATIVE AUTHORITY

Section 104 of the Halifax Regional Municipality Charter allows Council to make by-laws to impose charges for lying out, opening, constructing, repairing, improving and maintaining streets, curbs, sidewalks, gutters, bridges, culverts and retaining walls.

RECOMMENDATION

It is recommended that Halifax Regional Council approve in principle the gravel road paving of Flandrum Hill Road, Flandrum Court, Braeside Avenue, Belvedere Avenue and Patterson Road – Cow Bay pursuant to the approved Local Improvement Policy – 1997, and that the scheduling of paving of these streets be prioritized through the normal budget process.

BACKGROUND

Flandrum Hill Road, Flandrum Court, Braeside Avenue, Belvedere Avenue and Patterson Road are gravel roads located in Cow Bay. Each street has been surveyed for paving a number of times from 2003 to 2013. The most recent survey was initiated on April 3, 2013 and concluded the following:

- Flandrum Hill Road – property owners having a total of 52% of the recoverable frontage were not in favour of the paving;
- Flandrum Court – property owners having a total of 50% of the recoverable frontage were in favour of the paving;
- Braeside Avenue – property owners having a total of 79% of the recoverable frontage were not in favour of the paving;
- Belvedere Avenue – property owners having a total of 76% of the recoverable frontage were in favour of the paving; and,
- Patterson Road - property owners having a total of 79% of the recoverable frontage were not in favour of the paving.

Project Approval

The Local Improvement Policy – 1997 report states the following: “This report proposes two levels of project approval with respect to local improvements namely, Council and the affected property owners. This report recommends approval from property owners receiving the local improvement, who collectively own a minimum 50% of the total frontage, be required prior to the project going to tender. Council may initiate or proceed with a project without this approval, if Council determines it is required based on consideration of HRM’s best interests and the local improvement charges will still apply.”

DISCUSSION

Municipal Operations (MOPS) maintains all HRM owned gravel roads through the road grading program. Each year MOPS expends an average of \$13,200 per km (or roughly \$1.47 per sm (square meter)) for the routine maintenance of HRM owned gravel roads. Routine maintenance includes spring and fall grading, rolling, the addition of necessary aggregates and magnesium chloride application (for dust control) as well as sanding during winter operations (Note: This number does not include snow removal). During the summer season, response to service requests is on an as required basis.

MOPS has indicated three of the five roads noted above deteriorate at a greater rate than other locations, and the department has reported challenges with respect to maintaining them in a state of good repair due to a number of site related variables, funding levels and competing responsibilities. Flandrum Hill Road, Braeside Avenue, and Belvedere Avenue are categorized as high maintenance while Flandrum Court and Patterson Road are categorized as low. The criteria used to distinguish between high and low are based on existing roadbed conditions, traffic volumes, slope, ice and winter management, drainage problems, etc. The unit price of \$1.47 sm is an average cost, and at this time, specific costs are not available for each street identified above. It is believed though the streets categorized as high maintenance would have a higher unit cost.

HRM staff reviewed the cost to maintain these roads as gravel in contrast with the upfront capital cost to pave and maintain them as asphalt. As outlined above, the annual average maintenance costs for HRM owned gravel roads are in the order of \$1.47 sm. In contrast the initial total capital cost to pave these streets would be roughly \$38 sm. Pursuant to By-law S-400 and the LIC Policy, the cost to pave gravel roads is cost shared between the municipality and the property owners with each paying 50% of the total construction costs (or in this particular example \$19 sm, respectively). Assuming a 50 year life expectancy with multiple micro and thin overlay applications (once every 10 years) to maintain the surface distress index, the combined HRM portion of the capital and preventive maintenance costs would be approximately \$1.63 per sm per year. Therefore the unit cost to pave and maintain the roads as asphalt (\$1.67 sm per year) is only slightly higher than the cost to maintain them as gravel (\$1.47 sm per year).

It is noted HRM's pavement management system aids in prioritizing the paving capital program each year. The scheduling of long-term paving upgrades though is not known as it is based on future funding availability and overall priorities. At this time a commitment cannot be made to micro and overlay these streets every 10 years, thereby illustrating some uncertainty with respect to the unit prices provided above. Additionally, each gravel road has unique variables that can influence cost, and unit prices for maintenance and capital cost upgrades can vary from year-to-year. However the determination of the unit costs noted above is a realistic approach at this point in time.

As part of the review HRM staff also conducted a traffic survey of several sections of streets within the subdivision. Below is a summary of the ADT (Average Daily Traffic) counts:

- Flandrum Hill Road (between Braeside Avenue and Belvedere Avenue) – 101 vehicles per day
- Braeside Avenue – 399 vehicles per day
- Belvedere Avenue – 150 vehicles per day
- Patterson Road – 85 vehicles per day

Generally speaking the greater number of vehicles utilizing a road, the faster it will deteriorate. One particular study performed in the United States indicates researchers recommend from an economic viewpoint, that a jurisdiction should begin planning the investment to pave or upgrade a road when traffic volumes reach 100 vehicles per day, and conduct the upgrade before the growth reaches 200 vehicles per day. These numbers are guidelines but represent a useful tool when reviewing this particular parameter. It is noted traffic counts were not conducted on Flandrum Court, and it is believed the number would be significantly less than 100 vehicles per day. The property owners though have voted 50% in support of the paving which is the minimum requirement under the Local Improvement Charge (LIC) Policy to move forward with the improvement. Patterson Road also has less than 100 vehicles per day as noted above; however, staff believes the benefits of paving this street outweigh maintaining it as gravel. Benefits associated with the paving of gravel roads include: reduction in dust and noise, provides for a smoother and safer surface, improves the rideability for motorists and cyclists, decreases maintenance costs to vehicles, reduces icing problems, and promotes improved drainage. Of note, gravel road surfaces typically require greater winter maintenance attention than asphalt roads. Icing problems on gravel roads tend to be longer lasting and more problematic to manage than asphalt roads that have a smoother surface and an ability to absorb the sun's heat (thus aiding in the thawing process).

In summary, there is no national standard to support the decision to pave or maintain a gravel road. The decision is based on several factors some of which include relative costs, traffic counts, budgets and safety/design parameters. Staff did review the streets for possible safety issues, and have concluded there is no negative impact or increased safety concerns if upgraded to pavement. Overall HRM staff believes there are greater benefits to pave these roads rather than to maintain them as gravel for reasons outlined above.

If the recommendation is approved by Council, each street will be evaluated based on a set of criteria and prioritized against other roads being considered for future capital budget planning. Below is an estimated cost of paving each street:

Street Name	Length in meters	Estimated cost (assuming a 6.4 meter wide road at \$38 sm)
Belvedere Avenue	222	\$54,000
Braeside Avenue	205	\$50,000
Flandrum Court	120	\$29,000
Flandrum Hill Road	869	\$211,000
Patterson Road	250	\$61,000
Total		\$405,000

As previously mentioned, the cost to pave gravel roads is cost shared between the municipality and the property owners with each paying 50% of the total construction costs.

FINANCIAL IMPLICATIONS

There are no financial implications at this time. If Council approves the recommendation these roads will be prioritized based on a set of criteria and considered for future capital budgets.

COMMUNITY ENGAGEMENT

A meeting was held at Fisherman's Cove on April 3, 2013 for all interested residents within the affected subdivision to discuss the paving option. Information regarding paving of gravels roads, the HRM Local Improvement Policy, By-law S-400 and the surveying process were presented at the meeting.

ENVIRONMENTAL IMPLICATIONS

Implications not identified.

ALTERNATIVES

Council could choose to pave only the roads where the survey results were in favour of paving; however, staff does not recommend this for reasons identified in the report.

ATTACHMENT

Subdivision Map

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

Report Prepared by: David Hubley, P.Eng., Manager, Design & Construction Services 490-4845

Report Approved by: _____
Chris Mitchell, Manager, Municipal Operations at 490-4673

Report Approved by: _____
David Hubley, P.Eng., A/ Director, Transportation and Public Works at 490-4855

DH/rch.

