

NO: R220

COUNCIL DATE: October 18, 2010

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **October 15, 2010**

FROM: **General Manager, Engineering**

FILE: **5400-45**

SUBJECT: **Winter Street Maintenance Preparedness**

RECOMMENDATION

The Engineering Department recommends that Council receive this report as information.

INTENT

The purpose of this report is to provide Council with information with respect to the City's preparedness for public street snow and ice control for the 2010/2011 winter season.

BACKGROUND

Council is aware of the challenges that the City experienced with the unusually high amounts of snowfall and long duration of the snow-related events of the 2008/2009 winter season. These challenges included, among other things, issues related to around-the-clock deployment of the City's snow clearing equipment on priority routes (arterial, collector and transit routes) and the high demand for sand and salt resources to keep the City's streets functioning as effectively as possible.

Weather predictions for the coming winter season indicate that it will be colder than normal with significant wet weather including the potential for heavy snowfalls similar to those experienced during the 2008/09 winter. Following the 2008/2009 winter season, Council approved several enhancements to the City's snow removal capabilities that are now fully incorporated into the City's annual streets program.

The current Snow and Ice Policy reflects a cost effective approach to equipment and staffing levels for most storm events that the City experiences. However, there will be infrequent severe storm events that result in a reduced level of service for short periods of time.

DISCUSSION

Enhancements to the City's Snow and Ice Control Policy and Procedures

The following sections discuss enhancements that have been incorporated in the City's snow and ice control policy and related procedures.

General Communications:

The Engineering Department proactively communicates with the City's residents by way of advisories in the local newspapers and on the City's website. The advisories are posted on the website and in the local newspapers on a regular recurring basis over the course of the winter season starting in late October. These advisories include:

- the City's policies with respect to snow and ice control;
- the residents' responsibilities in relation to snow and ice control (e.g., clearing of sidewalks, etc.); and
- steps that residents can take to minimize the impacts that snow and ice cause in relation to daily routines, including a list of resources that residents should keep on hand to deal with winter conditions (i.e. snow shovels, salt and de-icers, etc.).

A draft public advisory for the upcoming winter has been prepared to remind Surrey residents to install snow tires in advance of the winter conditions setting in.

Responding to Inquiries and Service Requests

During severe snow events of 2008/09 winter the capacity of the City's staff and telephone system were not able to handle customer calls during peak periods. The capacity of the telephone system has been expanded so that peak period demands as evidenced in prior years can now be managed. Additional staff resources will be dedicated during storm events to receive telephone calls and answer questions from the public.

List of Contractors for Snow Clearing

A list of contractors has been compiled that will be available for hire by residents on a direct pay-for-service basis for clearing snow from private driveways, sidewalks, parking areas, etc. The information will be placed on the City's web site by way of a "bulletin board" list.

Additional Equipment

Additional equipment has been purchased to enhance the City's ability to address snow and ice conditions. Three (3) new brine units have been added to the fleet this year which brings this component of the fleet to a total of 9 brine units which will allow crews to apply a water/salt brine solution to the surfaces of all of the major arterial roads in advance of forecasted snow/ice conditions subject to dry pavement conditions in advance of storm events. Several sections of the City's street system have been added to the Priority 1 routes based on the additional capacity that the new equipment provides. The brine application dries on the road with the residual salt taking effect immediately when snow begins to fall or when frost begins to form (i.e., activated by the moisture). This approach effectively reduces the accumulation of snow and ice on treated pavement surfaces. By using this technology, City crews have an increased window of time to effectively mobilize regular snow and ice services and provide enhanced coverage when heavier snow events occur. This process has proven to be very effective; however, brine application is dependent on dry weather conditions preceding a snow/cold weather event.

Six (6) new one-tonne sanders and plows have also been added to City's snow clearing fleet since the 2008/09 winter season, which further increases the City's ability to respond quickly to snow events on the City's priority routes. Faster service on priority routes also allows enhanced capabilities to address other problem areas after the priority routes are cleared.

The City now has a total of 44 pieces of snow clearing equipment available to respond to storm events during the 2010/11 winter season. This includes 3 contracted graders to address steeper sections of road. This additional equipment represents a 33% increase in the number of pieces of snow and ice control equipment available for use in comparison to the equipment that was available during 2008/09 winter season.

Additional Drivers and Operators:

The addition of equipment creates a need for more trained drivers and operators. The City currently has 66 drivers, equipment operators and mechanics that will allow the operation of 26 pieces of large equipment on a 24-hour a day basis for consecutive days when responding to major snow events. The remainder of the equipment (1 ton trucks) will be operated by area maintenance staff or auxiliary drivers, which are being hired as “call ins” when they are needed during longer or more intense snow events.

Level of Service

The City provides a relatively high level of municipal snow and ice removal service in comparison to other lower mainland municipalities with respect to the types of roads that are included as priority roads during snow clearing operations.

The following is a breakdown of the current Surrey road network categorized by snow and ice control priority:

Priority 1:	Arterial roads, major collectors, bus routes, roads with steep grades and school access roads	1,400 lane kms
Priority 2:	Secondary roads in residential areas and access roads to long term care facilities	950 lane kms
Priority 3:	All other local roads	1,600 lane kms
	Total Road Network	3,950 lane kms

Priority 1 roads are cleared ahead of Priority 2 roads. Priority 3 roads are generally not cleared except for emergency medical service. Based on the roads in the Priority 1 and 2 categories, the City currently snow clears 59% of the total lane kms in the City.

Snow Clearing on Local Residential Streets

Issues related to on-street parking, storage of plowed snow, public safety, effectiveness of snow plows at low speeds and costs were determining factors in relation to the development of the City’s current snow and ice control policy and procedures.

Salt Storage

A road salt storage building is being completed that will provide storage for up to 14,000 tonnes of salt for the coming winter season. During the winter of 2008/09 the City used approximately 17,000 tonnes of salt, which far exceeded normal usage and is now considered a benchmark. The City will have between 17,000 and 21,000 tonnes of salt on hand at the beginning of the 2010 winter season to address snow and ice control.

Funding Requirements

Costs related to snow and ice control operations continue to increase. This relates to increased costs for sand and salt, the increased size of the snow and ice control fleet and increased street cleaning costs in the spring (sweeping and flushing of sand accumulations on City streets). The Snow and Ice Removal budget is proposed to be increased for 2011.

An Emergency Reserve Fund is in place and is drawn upon to supplement the regular snow clearing budget in years when above average snowfall occurs. In years during when the annual snow clearing budget is not fully expended, some of the residual funds are deposited in the Emergency Reserve Fund.

CONCLUSION

Predictions for the upcoming winter season suggest that it could be similar to the winter of 2008/09. With increases to equipment, other resources and manpower that have been put in place since the 2008/2009 winter season, the City is in sound condition to respond to storm events this coming winter. As in previous years, staff will ensure that the public is notified through regular media releases and website information about the City's policy and procedures related to snow and ice control, resident responsibilities related to snow removal and ice control and how they can prepare for winter so as to minimize its impacts on their lives.

Vincent Lalonde, P.Eng.
General Manager, Engineering

VL/GMc/brb