

COUNCIL - OCTOBER 15, 2001

WINTER MAINTENANCE UPDATE

Recommendation

The Commissioner of Development Services and Public Works, in consultation with the Executive Director of City Engineering and Public Works, and the Director of Public Works, recommends that this report be received for information.

Purpose

To provide Council with an update on winter maintenance issues, and to provide information with respect to future needs.

Background - Analysis and Options

As a result of the two severe winter storms in December of 2000, Council requested staff to report on what could be done to improve the delivery of service to the residents. The following comments address the major issues that were raised by Council at the time, and address some of the future needs and concerns relating to winter road and sidewalk maintenance

Windrow Snow Clearing

At the time of the two snowstorms, a total of 10 windrow units were used to cover 14 residential road ploughing routes in the western portion of the City, and a total of 9 windrow units were used to cover 15 residential plough routes in the east portion of the City. As a result of more plough units than windrow clearing units, there was a significant time lag between the road ploughing operation and the windrow clearing operation.

In order to reduce the delay between the two operations, Council approved the hiring of additional windrow clearing units. As a result, each road ploughing route now has a dedicated windrow clearing unit. This will result in a more efficient service to the public for the upcoming winter season.

Road Ploughing

Although there were significant snow falls to contend with last winter, there was a concern raised as to the time it took to complete the road ploughing operations. The anticipated level of service that we provide to residents, with an average snowfall, is that all primary roads would be ploughed within 4 hours after the cessation of the snowfall, and that secondary roads will be ploughed within 12 hours after the cessation of the snowfall.

As the snowfall that fell within the three day period in December was more than 10cm above the monthly average (total of 44 cm), significant amounts of snow were ploughed off the roads. Although the equipment complement was sufficient to handle average snowfalls, additional equipment would have made the ploughing operations more efficient during those heavy storms. At our request, the City's contractors both agreed to provide additional road ploughing equipment, and the City itself added a plough truck to the complement of equipment. In total, 10 more road ploughing units are in place for the winter of 2001-2002.

Supervision

There are currently two non-union Supervisors in the Roads Section, and two union Assistant positions. Due to the number of pieces of ploughing and windrow equipment, and the

geographical distance to be traveled during a ploughing operation, direct “on the road” supervision of the contractor is lacking. One of the strategies to improve supervision was to recruit additional temporary staff to assist with the supervision of this work. At the time, there were no external experienced people available; however, staff will still keep this option open for this winter season. In order to increase the supervision of in-house and contracted work on a year round basis, additional permanent supervisory positions are required.

GPS – Vehicle Tracking

For 2001-2002, technology will assist staff in monitoring our contracted workforce through the Global Positioning System (GPS). In the early part of 2001, Council approved the purchase of 80 GPS units to track and monitor winter equipment movements. This number of units will ensure each salt truck, plough truck, and windrow unit, can be tracked remotely through GPS technology. To date, 13 GPS units have been installed in City owned vehicles. The remaining units will be installed once the equipment arrives for the upcoming winter season.

Staff are working with the vendor of the technology to ensure that the system is “tweaked” to provide the type of information that will be required to properly monitor the winter maintenance equipment for the upcoming season. The system is “web-based”, and the goal is to have the winter maintenance operations (salting, road ploughing and windrow clearing), available to the public, via the internet, during a storm event. This would allow residents to see where the equipment is working, and approximate how long it will be until the plough comes down their street. This information should reduce the number of phone calls that staff handle, and will provide residents with a better understanding of how the winter snow clearing operations work.

Additional computer equipment may be required in order for supervisory staff to monitor the activities from their vehicles. The cost for this equipment is estimated to be \$15,000

Communications

In order to reduce complaints and provide better information to our residents, we have undertaken a number of initiatives.

For those who tend to use the phone, a winter snow clearing update option is available on the Public Works general phone number. Residents who use this option can easily learn when our winter maintenance operations have started, and what the estimated time is for completion. This recorded message is updated every few hours during a storm event.

For those who tend to use the internet for information, the complete set of road and sidewalk ploughing maps will again be posted on the City’s web site, along with “Frosty’s Facts”, a section which contains relevant snow and windrow clearing information. With the introduction of the GPS vehicle tracking system, residents should soon be able to log on and see where the road plough and windrow clearing unit is working in their respective areas.

Staff are also investigating the production of a winter maintenance brochure for residents. The purpose would be to inform residents of the City’s current level of service, as well as inform them who to contact with respect to certain complaints and/or concerns. Public Works staff are often contacted regarding waste, Blue Box, transit, ambulance, police, and fire services during a storm. A brochure detailing who to call and when, could reduce unnecessary calls to both Council and administrative staff. Although not specifically budgeted for in the 2001 budget, there should be sufficient funds available to produce and deliver this material.

Staff will continue to explore other mediums of communications, such as radio and cable television, in order to inform residents as to the City’s winter maintenance operations.

Internal communications will continue to consist of regular e-mails with snow clearing updates to the Mayor and Members of Council and their Assistants, the Senior Management Staff, and the Director of Corporate Communications. These e-mails are designed to provide information to assist in responding to residents' calls about timing of ploughing and windrow clearing.

Other Requirements

A) – Additional Operating Locations For Winter Activities

Currently, the windrow clearing units operate from the Woodbridge Works Yard, and the rear parking area at the Civic Centre, and the road ploughs operate from the JOC and the rear parking area at the Civic Centre. All salting and sanding operations are run from the Joint Operations Centre (JOC), located on Rutherford Road. Two salt storage domes at the JOC house approximately 12,000 tonnes of material, or just over one half of the City's winter sand/salt requirements.

Due to the growth of the City, increasing traffic volumes and the resulting congestion on the roads, salt trucks often take an hour or more to reach the Woodbridge and Thornhill areas after leaving the JOC. Given that each truck makes a number of trips to complete a salting/sanding route, there are numerous hours of productive time lost in traveling. In order to increase efficiency, and reduce lost time, a salt storage area is required in the western portion of the City to service the Woodbridge and Woodbridge expansion areas, and an additional site will be required in the eastern portion of the City.

The capital cost to construct a salt storage facility would be approximately \$300,000 - \$400,000. This figure is based on prices obtained by staff to construct a dome similar to those in use at the JOC, with added costs for project management and engineering fees. The actual cost cannot be determined until soil tests have been performed to determine the suitability of the soil for load bearing purposes, and formal tenders have been submitted. In addition, hydro servicing is required for lighting and vehicle "plug-ins".

In reviewing the original plans for the Woodbridge Works Yard, space was allocated for a sand storage facility and a salt storage facility, neither of which was built. Staff of the Building Standards Department, have indicated that approval from the Toronto and Region Conservation Authority would be required before a salt storage facility could be erected on the property. Staff currently are meeting with TRCA staff to determine if this site can be used. If this site is found to be not acceptable, land will need to be leased or bought in order to house a salt storage facility to properly service the Woodbridge and Woodbridge expansion areas.

Staff have also identified the former Greenwood Transformer station lands that are owned by Hydro Vaughan Distribution Inc. as a potential site for servicing the east portion of the City. Located on Dufferin Street, a salt storage and operating facility built on these lands would be ideal for servicing the eastern portion of the City.

B) Additional GPS Units for Sidewalk Snow Ploughing Units

When staff recommended using a Global Positioning System (GPS) to track the movements of the contractor's vehicles, the sidewalk snow ploughs, operated by City employees, were not considered in the total unit count. Should Council agree that tracking of these units is equally as important as tracking contracted road ploughing vehicles, approximately 40 additional GPS units will be required, at an estimated cost of \$60,000 for the equipment, and \$32,000 for operating charges.

C) Snow Storage Area

With the demand for more snow removal from residential streets and public laneways, adequate space is required to dump the snow. The Ministry of the Environment indicates that disposal of snow on properly selected land sites, is preferable to direct disposal into watercourses. Direct disposal to a watercourse is an option, if there are no other suitable locations available, and approval from the Ministry is received. With the continued interest in upstream water protection, direct disposal of snow to a watercourse does not appear to be a viable option for Vaughan.

For the past few years, the City has dumped all of the snow removed from cul-de-sacs, business areas and lanes, on a piece of City owned property located on McCleary Court in the Concord area. Snow is hauled to this location and stockpiled with a front-end loader. When the snow melts in the Spring, crews go on-site to collect the litter and debris that was collected with the snow.

This piece of land has accommodated all of the City's needs up to now. However, once this piece of land has been sold, alternate locations will need to be found and approved. With the continued growth of the City, additional snow storage space will be also required in the western portion of the City.

The Town of Richmond Hill recently approved \$2.2 million for the construction of a permanent snow dump that is to be built next to their works yard. The intent is to make the site a multi-purpose, hard surfaced site, to be used for snow disposal in the winter months, and perhaps basketball courts, or other recreational purposes, in the summer months.

D) Transit Stops

Snow from transit stops was cleared by the City's windrow clearing contractors, as well as Parks staff. Although transit is no longer a local municipal operation, the bus stops will continue to be cleared by the City's windrow clearing contractor for the 2001-2002 winter season.

When the windrow clearing contracts expire at the end of the 2001-2002 winter season, the responsibility for clearing of transit stops should then become the responsibility of the Region of York. This will allow the Region to set its own service levels and standards of maintenance, and will not create any conflicts with the City's winter maintenance programs.

Conclusion

Through the deployment of additional resources, the road ploughing and windrow clearing operations should be done within the time frame established for handling an average winter snowstorm.

Staff will again attempt to recruit additional temporary staff to assist with the supervision of the City's various winter contractors; however, additional permanent staff are required to properly manage the City's rapidly expanding road maintenance needs.

Communication strategies will continue to be reviewed, to ensure both the public and Members of Council, are kept up to date during winter storm events. This includes the possibility of a brochure to the residents, as well as updating the information on the City's web site.

With the continued growth of the City, additional salt storage and operating facilities will be required in order to deliver services to the public in a timely fashion. Consideration should also be given to obtaining land in the western portion of the City to be used as a snow storage area to improve the efficiency of snow removal operations.

The purchase of additional GPS vehicle tracking units for the sidewalk snow ploughs would ensure that all winter maintenance vehicles can be tracked during a storm event, should Council decide that the costs are not prohibitive.

Attachments

N/A

Report prepared by:

Brian T. Anthony,
Director of Public Works, Ext. 6116

Robert Meek,
Manager of Works Operations, Ext 6100

Respectfully submitted,

FRANK MIELE
Commissioner of Development Services
and Public Works

Bill Robinson
Executive Director of City Engineering
and Public Works