

# **WINTER MAINTENANCE OPERATION**

## TRANSPORTATION SERVICES DIVISION NORTH YORK DISTRICT

### **GENERAL**

The winter maintenance operation in North York District consists of salting and/or sanding the roads for snow and ice control, the ploughing of roads (including the clearing of residential driveway windrows), the ploughing and sanding of sidewalks, bus stops and the clearing of crosswalks. This road winter maintenance operation is essential to maintain public safety, road capacity, to reduce vehicle travel times and to reduce fuel consumption.

The operation is conducted with different pieces of equipment that maintain the arterial roads, minor arterial roads, collector roads, local roads, laneways and sidewalks. The equipment includes truck ploughs, salt trucks, graders with wings and sno-rids, front end loaders, blowers, sidewalk tractors, skid steer loaders and mobile and in-ground snow melters which are activated when needed between the months of November and April.

Activities for any particular storm involve the selection of the most appropriate tactic to respond to the storm including the selection of tasks and the precise timing of each task, as well as monitoring the performance of activities as the storm continues. Each storm is different and therefore, tactics will vary to suit the characteristics of the storm. Field patrol personnel direct the contractors' crews so that no activities commence without authorization. Management staff authorizes the escalation of the operation to a sidewalk and/or road ploughing operation.

Storms are categorized according to the amount of snow that falls. The categories are shown in the attached Table No. 3.2.2.

### **WHAT'S NEW THIS YEAR**

Transportation Services recently awarded (7) seven-year winter maintenance contracts requiring contractors to maintain GPS/AVL devices in all salt trucks/combo units, sidewalk machines and bus stop machines and road ploughing and windrow machines. This will elevate our level of monitoring any of the above operations by being able to pinpoint the progress and the exact location of the equipment during any of our winter maintenance operations.

## **COMMUNICATION**

### **Snow Advisory**

The Customer Service clerks and councillors' assistants will receive a snow advisory update via electronic mail. The advisory will provide information on the conditions and status of the work in progress. This information will assist them with the calls that are received during and after a snowstorm.

When winter operations are underway, the Snow Advisory is sent out and updated whenever equipment is deployed. In the event of a full blown snow ploughing operation for all local roads, an updated advisory is provided by the Communication Centre every three hours and continued up until the time ploughing is completed or until such time the complaints subside.

## **CUSTOMER SERVICE LINES**

A new City wide phone number **311 or 416-338-SNOW (7669)** is to be given to the public to assist them with inquiries relating to the winter maintenance operations.

The 416-338-SNOW (7669) will provide up to date script on the status of the road snow ploughing operation when a Storm Type 2 and up is occurring. The script is updated every 3 hours. In addition, support services staff (phone clerks) will staff this number during the full ploughing operation and prioritize calls relating to emergencies, complaints or inquiries required follow-up.

The customer inquiry lines are extremely busy during and after a snowstorm and as a result, additional support services staff are assigned to this function for better service delivery. The support services staff will receive and record all calls relating to transportation issues for the North York District and direct the calls to the appropriate City representative for investigation and action.

Any serious emergency calls will be fast tracked to the Road Operations staff for investigation and action.

All calls such as icy roads or sidewalks, roads not ploughed, blocked driveways as a result of the road ploughing activity, etc. should be referred to the above mentioned phone numbers. On an average, it takes 5 – 6 hours to salt the local roads (Blue and Green roads), 14 – 18 hours to plough the local roads and 12 – 15 hours to plough the sidewalks. On arterial roads (Red roads), the completion time is faster ie. 1 to 2 hours to salt and 5 to 6 hours to plough. Residents should be advised of these time requirements prior to calling about the winter maintenance status.

## **DISTRICT COORDINATION CENTRE**

### **Storm Type 2 and Up, Requiring Ploughing**

A North York District coordination centre will be activated for a Storm Type 2 (5 to 15cm snow) and up. Storm Type 2 would require the activation of the road ploughing equipment. The coordination centre will be responsible for data collecting and updating the script at 338-SNOW. The centre will also be staffed with Road Operations employees during this period to respond to emergency and councillor inquiries.

## **SALTING ROADS**

The salting of the roads is conducted in a timely manner by field personnel who utilize the information from a weather forecast service (The Weather Network) and the actual road conditions.

### **RED ROADS – Arterial Roads and Minor Arterial**

All of the arterial and minor arterial roads are salted. During a storm, the goal is to maintain all arterial pavements in a safe, bare-pavement condition. Salting is initiated when snow has accumulated to the extent that roads will soon become slippery and salting is repeated as required to maintain bare pavements. It takes approximately 2 to 3 hours to apply one round of salt.

### **BLUE ROADS – Main Collectors, Bus Routes and Local Streets with Steep Hills**

These roads are marked in blue on the ward maps, which comprise of minor arterial, collectors, bus routes and steep hills. All these roads are salted when icy conditions prevail to achieve a centre bare condition. Salting is initiated when snow has accumulated to the extent that roads will soon become slippery and is repeated as required to maintain the goal of centre bare conditions. It takes approximately 4 to 6 hours to apply one round of salt.

### **GREEN ROADS – Local Collector, Local Streets That Are Flat and Some with Moderate Hills**

These roads are marked in green on the ward maps and comprise of local collector, local streets that are flat and some with moderate hills. These roads are salted to achieve a safe and passable condition. It takes approximately 8 to 12 hours to apply one round of salt.

## **Salt Management Plan**

A summary of the City's Salt Management Plan is available at:  
<http://www.toronto.ca/transportation/snow/salt.htm>

## **Snow Ploughing and Windrow Clearing**

Road snow ploughing is initiated at a Storm Type 2 and up (5cm to 15cm) when the weather conditions are such that the salting operation is no longer effective. The salting operation is discontinued and ploughing operation is initiated and continues for the duration of the storm.

In conjunction with the roadway ploughing operation, the driveway windrow clearing is initiated this activity can take approximately 16 to 18 hours to complete.

## **RED ROADS – Arterial and Minor Arterials**

For arterial and minor arterials, the operation will commence after a snow accumulation of 5cm and still falling. The continuous ploughing operation blocks driveways and parking bays with snow. Council approved policy to complete this operation within 6 – 8 hours after the end of a 5 – 15cm snowfall (Storm Type 2).

Residential driveway windrow clearing is activated after the last round of ploughing is completed and typically driveways start to be open within one hour after the end of the ploughing and it would take approximately 4– 6 hours to complete. If further ploughing is required following the **cessation of a storm**, such as moving snow from curb lanes into boulevards, **any cleared driveways filled with snow** will be **unblocked by the contractor at your request**. Following the conclusion of the storm, all roads are maintained at bare pavement condition.

During ploughing, it is intended that **snow on arterial roads not be placed onto sidewalks**. Should this occur we will have the contractor remove the snow. As a result of ploughing operations, snow accumulates at the edge of the pavement as windrows. When the windrows reach a volume that creates a nuisance or hazard to pedestrians and motorists, or to maintain capacity for subsequent snowfalls, the snow will either be trucked away or melted in place with one of the mobile snow melters. This operation can take up to two weeks to complete.

The goal of the service is to open the windrow to the extent that a car may pass safely (ie: to a width of about 3 metres). The program does not clear snow down to the pavement surface or across the entire driveway width. This is intended to minimize damage to driveways and adjacent boulevards. Accordingly, there is some residual snow left in the driveway that residents have to clear.

## **BLUE ROADS – Main Collectors, Bus Routes and Local Streets with Steep Hills**

For Blue roads, the operation will commence after a snow accumulation of 5 to 8cm. The ploughing operation removes the majority of the snow piles or windrows that accumulate in front of the driveways, on all Blue roads. This is achieved by using two graders equipped with a wing and a sno-rid, in tandem. The lead grader with a wing ploughs the roadway. This clears the road for through traffic. However, it also inevitably results in snow being piled along the curb or windrows, including the front of driveway entrances. Therefore, the second grader follows closely behind, and uses a sno-rid to clear the windrows from the driveways onto the boulevard. The equipment being used is capable of clearing a 6.1m (20ft.) wide driveway at each property. A small amount of snow may be left behind by the sno-rid.

The sno-rid follows an hour or so behind the lead grader. Once the amount of snow on the road exceeds 10cm (4 inches), the windrows become so high or too wide that there is a considerable amount of spillage from the sno-rid. The sno-rid can only remove the first 1.0m (3') width of the windrow.

Driveways that are missed due to parked cars are not the contractor's responsibility to clear. The City will inspect these driveways on a complaint basis and make arrangements to clear them within 24 hours **AFTER** the snow storm.

The front-end loaders and snow blowers are used in cul-de-sacs/dead ends and should not leave windrows in driveways. However, every attempt is made to remove and relocate the snow evenly on the road allowance fronting the residential property.

The graders will attempt to open up the cul-de-sacs; however, the front-end loaders will be responsible for the clean up operation.

Council approved policy to complete this operation within 8 – 10 hours after the end of a 5 – 15cm snowfall (Storm Type 2).

## **GREEN ROADS – Local Collector, Local Streets That Are Flat and Some with Moderate Hill**

The operation for the Green roads is similar to the Red roads; however, the Council approved policy to complete this operation within 14 – 16 hours after the end of a 5 – 15cm snowfall (Storm Type 2).

## **SIDEWALK PLOUGHING AND SANDING**

Most sidewalks in the North York District are cleared. Tractors with blades are used routinely for the most majority of snow events. Sidewalk snow blowers and ploughs are used for heavy snowfalls and large snowdrifts.

During the months of December and March, the sidewalk equipment is called out when the snow build-up is 8.0cm (3 inches) and still falling. However, during the colder months of January and February, the sidewalk equipment is called out when the snow build-up is 5.0cm (2 inches) and still falling. The standard procedure for sidewalk clearing after a snowstorm is to plough on the first day and if required, apply a 20/80 sand/salt mixture on the second day. Severity of the storm may affect this schedule, forcing us to plough a second time before applying the sand/salt mixture.

A sand/salt operation is also activated when icy conditions prevail. The sand/salt mixture is comprised of 20/80 sand/salt.

The sidewalk snow clearing operation does leave a small windrow of snow in the driveways. However, the residents are responsible for removing the above windrow. Each sidewalk ploughing route is completed in about 12 – 15 hours.

### **BUS STOPS AND CROSSWALKS**

Bus stop loading areas, crosswalks and bridge sidewalks are cleared of snow as required and salt or sand is applied for ice control. An initial opening at the bus stops is conducted at the same time when the tractors are clearing the sidewalk. However, a more thorough clearing is conducted within 1 – 3 days after the storm.

### **NO PARKING BY-LAW**

On September 19, 1988, the former North York Council passed By-law No. 30662 (attached) to prohibit the parking of motor vehicles on all public highways within the jurisdiction of the former City of North York between the hours of 2:00 a.m. to 6:00 a.m. from December 1 to March 31. The by-law (brochure attached) is still in effect and allows the ploughing of problem roads during these hours, after normal snow plough has been completed.

### **SENIOR CITIZENS (FOUR SEASONS CONNECTIONS – 416- 447-5074)**

There is a program called “Four Season Connections” that assists seniors and disabled adults in finding people who may be hired to do outdoor maintenance such as snow shovelling driveways, lawn mowing, leaf raking and yard work. These people are usually high school students and adult workers who live in the area.

The fee for this service is \$10.00 per hour for students (12 – 17 years) and \$15.00 per hour for adult workers (18 years and over), and \$20.00 per hour for workers that provide their own equipment.

Although the majority of the sidewalks are cleared in the North York District, there are areas particularly on areas post amalgamation boundaries within the former East York, York and Toronto where mechanical sidewalk clearing is not feasible. Transportation Services provides sidewalk snow clearing services to residents and/or tenants of one or two family dwellings where:

1. Residents/tenants are 65 year of age or older and where there are no members of the same household under 65 years of age; or
2. Residents/tenants are 65 years of age or older and where a member of the same household under 65 years of age is determined by a physician to be disabled; or
3. Residents/tenants are under 65 years of age and are determined by a physician to be incapable of removing snow from the sidewalks adjacent to their home without endangering their health, without an able-bodied member of the same household under 65 years of age residing on the premises.

The work is generally carried out by manual shovelling, assisted by light mechanical equipment, where feasible and is usually completed within 36 to 72 hours after the end of a storm. Last year in the order of 1,000 residents were provided this service in the southern area of the North York District. For this free service, an application form must be completed annually and signed by the requesting person. In the case of applicants with temporary or permanent physical disabilities, a doctor's certificate confirming their inability to clear snow is required, eligible residents may call (416) 392-7768 to register for the service.

## **SNOW REMOVAL**

For Storm Type 4 with an accumulation in excess of 25cm, snow removal will be initiated in accordance with the Snow Management Plan, and based on a priority sequence.

## **PUBLIC LANEWAYS**

The current policy for winter maintenance on laneways was adopted by Council through approval of the March 24, 1999 report to the Urban Environment and Development Committee entitled "Winter Operations – Road De-Icing and Ploughing".

The established level of service for winter maintenance on laneways is to de-ice as necessary to maintain passable condition. In addition, as part of the City's snow removal plan, snow removal in laneways can begin when accumulations have exceeded 30 centimetres.

There have been a several newly constructed residential developments throughout the City where the inclusion of public rear laneways has been adopted by builders and developers as an alternative development standard. These laneways are typically wider than traditional laneways but still present the same challenges from both snow storage and snow removal perspective. Unfortunately the inability to plough laneways in these new developments, although in keeping with the level of service afforded traditional laneways, has not been clearly explained to residents by developers. This has resulted in significant confusion and numerous inquiries form both residents and councillors with respect to the winter level of service provided in laneways.

### **ON STREET BIKE LANES**

Designated on-street bike lanes receive a priority level of winter service. During a storm, ploughing of main roads, where most of the bike lanes are located, is commenced at accumulations of 5cm and continues until the snow fall stops. In accordance with he Council policy, ploughing of these routes is completed within 8 to 10 hours of the end of a storm.

With large snowfalls, the windrows are significant, easily approaching 2 meters in width. In locations where on street parking occurs, the presence of these hardened windrows commonly results in vehicles parking several feet from the curb often obstructing the bike lanes.

Once a snow removal operation is initiated, bike lanes receive priority removal, generally being completed in the first week of the operation.