

CITY OF ANN ARBOR SNOW REMOVAL PROTOCOL

INTRODUCTION

Purpose

Snow removal is a high priority for the City during the snow season and the purpose of this protocol is to establish procedure and goals for the City of Ann Arbor regarding snow and ice control. During the winter months, a reasonable effort using the appropriate resources will be directed toward the removal of snow and control of ice conditions on City streets using the protocol outlined herein. The protocol includes maintaining road surfaces for traction conditions and not for bare pavement.

Snow and ice control operations fall under the jurisdiction of the Public Services, Field Operations Unit. Field Operations will take the lead as it pertains to establishing and implementing the snow and ice control operations and is responsible for the overall city-wide coordination and strategy. Field Operations does coordinate with AATA, public schools, local police agencies and the Michigan State police.

The City performs a variety of street maintenance operations depending upon the amount of snow and ice conditions. Generally, the categories are related to the severity of winter weather conditions and are described as "light snow", "heavy snow", and "snow emergency". In addition to City crews providing snow removal from major and local streets, the City is dependent upon its citizens to provide snow removal for the sidewalks and sidewalk ramps which abut their property.

Responsibilities of the Public Services Field Operations Unit

The Field Operations Unit maintains a command center during all snow and ice control activities. A professional weather forecasting service is retained to give adequate advance warning of an approaching storm. Field Operations has a variety of snow plowing equipment at its disposal, including snow plows, salt/sand trucks, 4 x 4 pickups and front end loaders.

During winter months, regular street maintenance crews provide coverage across two operational schedules Monday through Friday. Schedule #1 is 6am to 2pm, and Schedule #2 is 10pm to 6am. During heavy snow events, the schedules can be extended up to 12 hours providing around the clock coverage for snow removal operations.

In heavy snow events and in snow emergencies, crews across Field Operations will be brought into assist in snow removal and ice control. Close and continual coordination across the various work areas in Field Operations occurs during a storm. On occasion, crews that are assisting in storm response may be called away to address other critical issues, such as water main breaks or sanitary sewer backups.

SNOW AND ICE CONTROL RESPONSE

Light Snow

When there is light snow or ice on road surfaces, approximately 98 miles of major streets are cleared with chemical de-icing agents. There are eight salt routes within the City. During periods when salting is required and extra personnel are available, more than one unit may be assigned to a route or trouble spots. The street maintenance crews may use between 200 and 500 tons of salt in conjunction with plowing efforts to control a snowfall of up to four inches on major streets. There are several considerations used to determine the best application of our chemical de-icing agents including total amount of snow or ice expected, time frame, temperatures, etc. The major streets include high volume streets, bridges, signalized intersections, and selected streets with curves or intersections with stop signs. The response starts when it begins to snow and takes four to five hours to complete after the snow has stopped.

When the major streets are cleared of snow and ice, street maintenance crews move into residential areas with additional traction agents, such as sand, to provide better traction at hills, stop signs, and intersections. It takes up to 200 tons of sand per storm in the residential areas when and where road conditions warrant sanding.

Heavy Snow

When a snowfall of four inches or more occurs, street plowing begins, utilizing all salt/plow trucks and staff available in Field Operations, including the street maintenance, solid waste, utilities and parks areas in a coordinated effort to clear all streets in the City. While the regular street maintenance crews focus on clearing the public major streets, the other crews begin plowing on residential streets, beginning with the routes next scheduled for refuse pick-up if containers are not already out. A variety of smaller trucks and equipment is used to clear dead ends and cul-de-sacs in the residential areas once the through streets have been cleared. When the street maintenance crews have completed the major streets, crews and equipment are sent to assist in the residential areas.

All snow removal equipment is staffed on a 24 hour per day schedule (12-hour shifts) until all City-maintained streets are cleared. Our goal is to clear all major and residential streets within 24 hours of an "average" 4 inch snowstorm.

All schools and privately owned areas provide for their own de-icing and plowing.

Citizens are encouraged to remove cars from curbside parking to allow for effective street plowing.

SNOW EMERGENCY

During a snow emergency, special parking restrictions go into effect for all streets in the City.

City Code (Chapter 126, Section 10:143) empowers the City Administrator to declare a "snow emergency" during a severe winter storm. Where street parking is normally permitted, restrictions go into effect to allow curbside access to City crews to clear the street surfaces. "Snow emergency" streets must be kept clear of parked cars at all times during the "snow emergency." If a vehicle is parked on a "snow emergency" street, it may be ticketed and towed.

All emergency requests will be directed to the Police Department and/or other specialty agencies which might serve the community while City personnel continue in their snow removal efforts. When police, fire, or rescue assistance is called upon to respond to an emergency, snow removal crews will provide necessary assistance such as opening a street or driveway to give access to the emergency crews.

If the high need event is of such a magnitude that the City forces cannot be expected to sufficiently maintain the streets in a timely manner, private contractors may be contacted to provide the City with additional specialized pieces of equipment. The contractors' equipment is of a heavy duty nature and would be valuable in providing snow removal services where the City equipment is not sufficient.

SNOW PLOWING PRACTICES

Each snow event requires that the operation varies in the amount of service performed and the personnel and equipment needed. For example, if the potential for freezing conditions existed a salting operation would be initiated to melt snow or ice accumulated in depth less than approximately 1 inch, or to prevent the bonding of packed snow to the pavement. If the snow and ice accumulation continues, and if the de-icing of major streets ceases to be effective, then we change from a de-icing configuration to a snow plowing and snow removal operation. A plowing operation would be initiated if a snow accumulation of approximately 4 inches or more existed. Upon notification of an impending snowstorm, a decision is made to implement operations for clearing City streets. Back to back snow events less than 4" may cause the need for plowing, even though the events individually would not have warranted plowing.

During plowing operations it is an unavoidable consequence that snow will be moved into driveways as it is pushed by the plows. At times, sidewalks that are close to road edge may also receive deposits of snow from plowing. During major events Field Operations maintains an On-line snow desk to assist property owners in tracking the progression of snow removal.

During an event, the emphasis is to keep the major streets opened and passable to traffic. Once the snow or ice event ceases, then efforts continue with the plowing of

major streets, sometimes followed immediately by the application of additional de-icing materials, and then will shift into a program of plowing residential streets.

The goal is to have all streets clear within 24 hours of the end of an “average” 4” snow or ice event. Other follow-up activities include the treatment of intersections, hills, curves, and other critical areas on residential streets, both in response to historical problems and new problems as they are called in. Snow removal efforts are prioritized as follows:

Priority One - Major Streets

Major streets are those arterials that are considered to be the minimum network that must be kept open to provide a transportation network connecting hospitals, fire stations, police stations and rescue squad units.

After the major street system is secure, the emphasis shifts to the local street network.

Priority Two - Local Streets (Residential Streets)

The City currently contains 197 miles of local streets (residential). Local streets are the streets that typically serve the residential needs of the community and provide residential access to the majority of the citizens. The normal time required to open the priority two streets is twenty-four hours after the end of an average snowstorm.

Dead end streets and cul-de-sacs maybe plowed open as the through streets are plowed. Finish plowing of dead end streets and cul-de-sacs will occur after the through streets are cleared.

For plowing the residential streets, a rotation is used which schedules snow plowing according to the next scheduled refuse pickup day. In this manner solid waste services can continue unaffected by the snow plowing operation, and the citizens of the community can be assured that the pickup of refuse will not be curtailed due to normal snow fall events.

A standing exception to the starting rotation based on refuse pickup days is local plow sections 20, 21 and 22. These sections include streets such as: Pemberton, Waldenwood, Fox Hunt, Larchmont, Wolverhampton, Windmere, Bluett, Georgetown, Placidway and the Foxfire Subdivisions. These sections have a high density of cul-de-sacs and dead end streets. The equipment such as large loaders that are suited to clean the cul-de-sacs and dead ends are not productive on normal streets. Thus when snow removal is started on local streets, the cul-de-sacs and dead ends in sections 20, 21 and 22 will be serviced early in the event providing the best overall productivity. The through streets in these section maybe plowed following the normal refuse day rotations. If there are other emergency needs within the City, the loaders may not start in these sections at the beginning of a snow event.

Priority Three - Sidewalks

Whenever there is a snowfall accumulation, the sidewalks immediately adjacent to public buildings, pedestrian walkways, median crosswalks and pedestrian refuge island will be cleared of snow after major and local streets are under control. City properties adhere to the same requirements as private property.

DE-ICING PRACTICE

The City does not follow a bare pavement practice, but rather attempts to provide increased traction where needed. This typically includes the treatment of all intersections, bridges, curves, and hills along local streets with sand.

The City uses a sand/salt mix when appropriate to minimize the environmental impacts. Since 1991 the City has recognized the impact of salt use on the Huron River.

The primary response to all snow and ice events is the spreading of de-icing agents on the major streets. This is done in an effort to keep the arterial and collector street network of the community open and passable to motorists. The intent is to apply de-icing agents during the early hours of a snow and ice event.

When de-icing agents are applied, a chemical brine solution can be created between the pavement layer and the snow layer. This brine solution has a reduced freezing point that results in a melting of the overlying ice and/or snow allowing easier mechanical removal. This has been shown to be an effective balance between environmental and safety concerns.

Snow Desk

During heavy and emergency snow events, Field Operations activates the snow desk which remains active throughout the event until snow removal is completed.

The snow desk is comprised of a dedicated and staffed phone line in addition to on-line posting on the City's website noting the progress of snow removal efforts on snow routes throughout the City. Information is update periodically (minimally hourly) with time stamps to assist residents in planning and coordination of such items as removal of vehicles from streets, and clearing of sidewalks and driveway approaches.

In the event a snow emergency is declared, the City will have announcements on CTN, the City Website and local radio stations advising residents to remove vehicles from public streets.

During the 2011/2012 snow plowing season, The City will be implementing a web based application that will allow citizens to view snow plow locations. This web application is being roll out with its own publicity campaign.

SIDEWALK CLEARING PROGRAM

Field Operations is responsible for removing snow from 58 miles of City-maintained bicycle paths and sidewalks fronting City owned properties. Schools and privately owned properties provide for their own de-icing and snow removal. Owners of private and commercial property adjacent to sidewalks are responsible for the removal of snow and ice from those walkways. Any snow and ice that accumulates before 6:00am must be removed from commercial properties before noon of the same day and within twenty-four hours from sidewalks abutting residential properties to insure the safety of pedestrians. This helps ensure that pedestrians are able to safely use the public sidewalks.

Property owners or occupants must remove accumulations of snow and ice greater than one inch from their sidewalks after the end of each snow and ice event (see attached standards for removal). Residents may pick up at no charge, surface treatment (sand mix) from the City at (address to be inserted) for traction application on public walks.

Community Standards staff enforce the City's sidewalk ordinance with an approach that is primarily complaint driven. After receipt of a complaint of non-compliance with the ordinance, staff inspects the reported address to determine whether notice is appropriate. Staff then inspects all addresses within the "100 block" (e.g. addresses 1700 to 1800). If an address is found to be in violation of the ordinance a "Sidewalk Snow Removal Notice" is issued. The notice serves as a reminder and gives the resident or property owner an additional 24 hours to correct the situation. If, upon re-inspection, the necessary action has not been taken, the City may clear the sidewalk and bill the property owner. Violations of the City Ordinance can result in fines of up to \$500.