

Department Note: As MS4 Permittees demonstrate compliance differently and MS4 Permittees may have different MS4 permit conditions, the following written program procedure is intended to provide ideas on various formats. Therefore, please note the provided example may not be appropriate, as is, for your community. Additionally, the following is a written program procedure that has been submitted to the Department by a MS4 Permittee. However, the MS4 Permittee name have been removed to keep them anonymous.

City of ABC's Snow & Ice Control Policy

Updated: Dec. 2012 / Oct. 2014 / Oct. 2016 / Oct. 2018 / Nov. 2019 / Nov. 2021

General

The ability to react promptly and decisively to varying winter weather conditions with regard to snow removal and ice control on City streets is recognized to be an important and necessary function of government for the safety and well-being of the public. The following Policy has been established to provide information for the public and establish guidelines for Public Works staff to follow in order to ensure consistent practices for snow and ice control during winter storm events. The Department's goal is to have all public roadways, parking lots and publicly maintained sidewalks passable within a reasonable amount of time after a given winter event. Plowing priorities reflect a commitment to ensure that key roads are kept open to serve critical facilities. Each decision to mobilize City forces for the clearing and control of snow and ice is a judgment call based on the particular weather conditions combined with past experience along with the resources available at the time, and therefore may not adhere strictly to this general policy. The City does not have a "bare pavement policy". This means that secondary roadways, some collectors and alleys are not salted to the degree that an arterial roadway is and may during winter months have sections of roadway and alleys that are not clear to pavement.



Background

The City of ABC maintains approximately 59.3 centerline miles of street (149.2 lane miles, excluding parking lanes), 13.1 miles of alley, 9 (5.76 acres) public parking lots and 4.2 miles of public sidewalks in front of publicly owned property. (Property owners are required through

ordinance to remove snow & ice from the sidewalk in front of their property within 24 hours of the end of the event.) Snow and ice control is accomplished with 11 public works units that maintained streets, alleys, public parking lots and sidewalks. In order to reasonably meet the public's expectations the following Policy will apply:

Equipment

As of 2015 the Public Works Department has been purchasing “roll-off” type truck bodies for its patrol trucks. The roll-off allows the truck chassis to be interchangeable very quickly from a dump body to a Brine tank to a salter. All large truck chassis shall be purchased to accommodate the roll-off type truck body. At least 5 trucks shall be equipped with belly plows.

Minimum snow removal & de-icing equipment requirements:

- 6 (six) - 5-6 ton patrol truck (straight blade) ~~(5 ideal)~~
- 4 (four) - 5-6 ton patrol truck (roll-offs) with salter, ice-scraper (belly plow) & wing, that have the ability to fit the Brine tank & equipment
- 1 (one) dedicated 5-6 ton patrol truck with salter and front plow and belly plow
- 3 (three) - Brine tank & applicator roll-off
- 6 (six) - Pick-up trucks for alleys & Parking Lots all equipped with poly blades for parking lots & alleys with pavers
- 2 (two) - Kubota (UTV) or other large sidewalk removal equipment
- Snow blowers for sidewalks & municipal buildings
- Large Snow Blower Loader attachment for downtown clearing
- 2 (two) Front End Loaders ~~(2 ideal)~~
- Brine making equipment

Salt Storage Facility

Salt Barn - 5133 S. Whitnall Ave.	Capacity	1700 tons
Old Transfer Site - 5631 S. Pennsylvania (Brine Making)	Capacity	200 tons

Winter Preparation

The DPW Superintendent normally has the responsibility to see that all equipment and personnel are ready for winter street maintenance and that sufficient quantities of salt and de-icing material are available.

- Prior to May 1st of each year the DPW Superintendent shall enter into a contract to purchase road salt. Although the intent is to keep the salt storage facility full, the intent on the sizing of the salt storage facility is to be able to purchase salt when it's cheap and delay purchasing it when there are shortages that drive the cost up. Minimum road salt purchase shall be based on the average salt usage over the past 5 years less what remains in the salt barn.
- Prior to September 1st the DPW Superintendent shall have the City's salt shed filled with the entire contract amount. The City should not rely on seasonal fill.
- In late September-October, the Department shall conduct a behind the wheel refresher plow agility course as part of the "Annual Driver's Training Program". Each employee shall be trained on the policy and salt application. More is not better.
- In late October – all salting equipment, including new equipment shall be calibrated by field method so the rate registered equals that of the amount the salt spreader is set for. Calibration shall only be done by those certified to calibrate the equipment.
- In late October all Brine application equipment including pre-wetting tanks shall be maintained and tested.
- Prior to November 1st the Department shall begin making Brine
- Prior to November 15th the department should have salt Brine made and storage tanks full.
- Prior to November 25th, the DPW Superintendent shall assign personnel to a plow route. Personnel shall be assigned based on skill level, difficulty of route, and ability to use a given piece of equipment safely and efficiently. The DPW Superintendent shall meet with the crew and go over the routes and assignments along with the classroom portion of the "Driver's Annual Training Program".
- Prior to December 1st, all DPW employees assigned to a route should check out his/her route and become acquainted with it. Each employee should report any road obstacles such as high manholes to the DPW foreman for temporary ramping.
- Prior to December 1st the Police Department shall establish a procedure and enforce the overnight parking regulations.
- Prior to November 15th the DPW Superintendent shall verify that the head mechanic checked all equipment, mounted spreaders and tested said spreaders. All trucks, snow blowers, loaders and any equipment used for snow and ice control shall be in proper working order prior to November 25th and shall remain in good working order as much as practical throughout the winter season. After mounting and checking, the spreaders may be removed but should be placed in a ready-to-mount position along with plows.
- Plowing equipment used in parking lots and alleys with pervious pavers shall be equipped with rubber blades.

Road Salt Application

About 75% of the City's storm water discharges directly into Lake Michigan. In addition, the City provides its drinking water from Lake Michigan. Chlorides and other de-icing material are harmful to Lake Michigan and compromise the drinking water resource. It is the City's intent to minimize the impact of de-icing material through limited & sensible application of these materials. Therefore, the City's does not provide "bare pavement" driving conditions at all times and at all locations during the winter season. City wide application of road salt will generally be done, however, salt applications will be held to a minimum, as determined by the Director of Public Works based on the type of storm, roadway conditions, temperature, effectiveness of application and seasonal reserves.

Salt shall be applied to local and collector roadways as follows:-Supervisor shall make decision on salt application rates per storm. Supervisor shall have leeway to decide continuous salt rates on main streets and side streets. (ie: 250 lbs/mi on main streets while 150 lbs/mi on side streets)

Areas deemed to be more hazardous, such as arterial roadways, hills, curves, railroad crossings, controlled intersections and the portion of the street bordering the main entrance to a public school will be given salt applications in an attempt to reach a "bare pavement" condition.

Pre-wetting the mixture with liquid Brine is required to make the application more effective, place the salt where needed, minimize salt from bouncing and keep salt usage to a minimum . A liquid de-icing solution such as Calcium Chloride to aid with the effectiveness of the salt shall be utilized when air temperatures and/or pavement temperatures warrant. Use of accelerants shall be kept to a minimum as these products are very corrosive to the environment and should only be used when authorized by the Superintendent of Public Works or Director of Public Works.

It is ultimately the responsibility of the motor vehicle operator to use care and common sense while driving on City streets when snow or ice conditions exist.

When snow-plowing, there shall be at least one salt truck per route as the lead truck applying salt while plowing. However, during major heavy snow events, salt application shall be halted until the snow event is diminishing. Salt loses its effect under heavy snow conditions so it is better to continuously plow during the heaviest snow and delay salting until much of the precipitation has fallen.

Salt Brine Application – Pre Storm

Pre-storm Brine application shall be done when weather & pavement conditions warrant. When to apply Brine or blended pretreating will be determined by the DPW Superintendent and the foreman per event. The decision is dependent on the air temperature and the pavement temperature. Pavement temperature shall be verified from the gauges on the newer trucks. It shall be understood that applying Brine during certain winter



weather conditions or applying Brine that is not the correct formula can be disastrous. Brine shall be made by a select few in the department who are trained on the Brine making machine. The Brine making machine shall be cleaned for every 30,000 gallons of Brine made.

Two anti-ice units will be run through the city 24 to 28 hours before the storm during normal work hours. On both arterial and secondary roadways, driving lanes will have continuous application. Application rates will be labeled in each truck. Secondary roadways will be done first and then arterial roadways. The logic behind this application is that tires from heavy traffic use will remove the dried salt material from the roadway so the longer the Brine is on the roadway the more traffic has time to remove it.

City sidewalks and parking lots shall also receive Brine when the application on the roadways is being done. Brine shall not be applied to alleys.



Use of Magnesium Chloride

The use of Magnesium Chloride as a de-icing agent is prohibited within the limits of the City of ABC and will not be used by Public Works.

Salting during October to November

There may be periods when snow & ice falls during the months of October & November. Typically, pavement temperatures are warm enough to melt the snow. Unless conditions warrant were crashes are occurring a small amount of salt will be used on arterial roadways only. Secondary roadways will not receive salt application until after leaf collection is over. The leaves are hauled to a facility that uses them for compost & agricultural purposes. Leaves contaminated with salt will not be accepted and leaves picked up after salt application will have to be disposed of at the land fill which is an economic burden.

Curb to Curb Policy

The City does not have a curb to curb policy. Salt application will be limited to the driving lanes on arterials and intersections on secondary roadways. The Department of Public Works will try to plow curb to curb where and when practical. Due to the proximity of the public sidewalk and the lack of snow storage area on the parkway (area between the curb and sidewalk) the decision not to plow curb to curb will be made by the Director of Public Works. The City's plowing equipment is not designed to push snow outward and upward. The plowing equipment has been designed to push snow downward to protect pedestrians from injury due to flying snow, reduce damage to buildings and parked vehicles and decrease the amount of snow placed on the public sidewalk. Given this, it becomes very difficult to plow snow up against the curb or onto parkways during heavy snow events.

Salting Routes

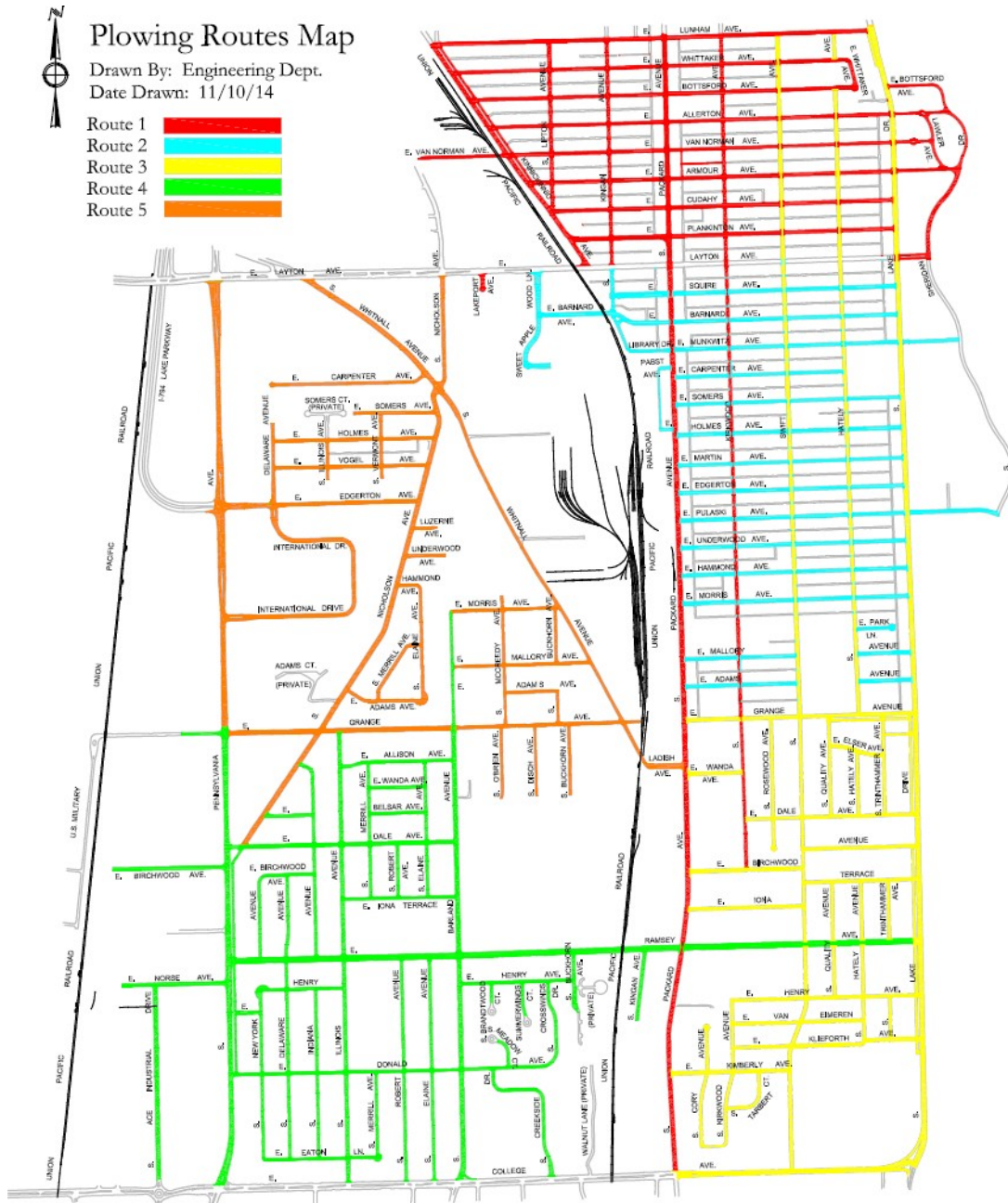
City is divided into three salting routes. DPW Superintendent dispatches three salt trucks to the following routes. Route maps included at end of policy text. Arterial roadways get the first priority.

- East Side – Mains
- West Side – Mains
- East-West Streets

Snow Plowing Routes

City roadways are divided into-5 plowing routes. With the exception of Pennsylvania Avenue (STH 794) each of the street routes has two units each in tandem; one plow/salter as a lead and a gutter truck. Pennsylvania Avenue has three trucks in tandem preferably with 3 salter units.

Alleys and parking lots are plowed with 2 pick-up trucks. City owned sidewalks & bus stops will be done within 24 hours of the completion of the event. Route maps included at end of the policy text.



Plowing Priority

Priority 1 – Arterials & Major Collectors

these roadways will get continuous salt

- Pennsylvania
- Lake Dr.
- Packard
- College Ave – Packard to Lake Dr.
- Nicholson
- Whitnall/Ladish
- Ramsey
- KinnickKinnic
- Grange
- Swift
- Kirkwood

Priority 2 – Roadways in front of Public Schools, City Hall, & Fire Stations

these streets will get continuous salt and will be done before 7:00 a.m.

- Salting & plowing should not be done during school arrival or school departure.

Priority 3 - Secondary Roadways

Priority 4 - Alleys

Priority 5 - Parking Lots

Priority 6 - Sidewalks

Within 24 hours following the end of the event

Priority 7 - Bus Stops

When staff is available

Staff Workload Limits

In an effort to protect the public and the City's DPW staff against harm, the Common Council accepted a policy in 2011 requiring an 8 hour rest period for the DPW staff after 16 hours working. This policy of 16 hours max followed by 8 hours of rest was initiated based on the acceptable practices of other statewide agencies and our insurance carrier. The Department will make every effort to abide by the requirement however, there may be an extreme event where following the requirement could put the public safety at a greater risk than following the requirement. When extreme conditions warrant the decision to work beyond the 16 hours maximum will be made by the Director of Public Works with consultation from the Mayor, Police Chief and Public Works Superintendent.

PROCEDURE

Pre-storm

- “Anti-icing” with salt Brine – The department currently has equipment to make salt Brine. Placement of salt Brine on pavement before a snow or icing event reduces the use of salt thereby reducing the pollutant to Lake Michigan.
- The DPW Superintendent shall determine whether to place Brine on the streets prior to the forecasted event.
- Two anti-ice units shall be run through the City 24-48 hours before the storm during normal work hours. Driving lanes will have continuous application throughout. Application is labeled in each truck.
- Salt will be pre-treated with City salt Brine or blended with Calcium Chloride depending on temperature. Pre-wetting helps the salt activate and keeps the salt within the traveling lanes.
- All trucks shall be fueled up and in proper working order. Plows should be affixed as soon as practical, but no later than the evening before the snow event.
- Where the City maintains the sidewalk – the sidewalk shall also get an application of liquid Brine

Notification of Road Conditions

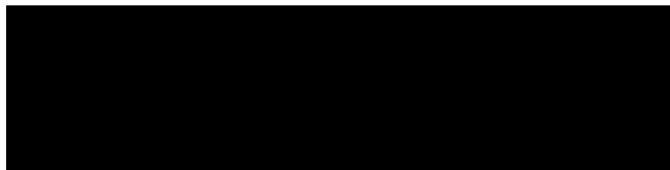
Normal Working Hours - Street conditions will be monitored during the Department of Public Works normal working hours (7:00 a.m. to 3:00 p.m.) by the DPW Superintendent or his/her designee.

Non-Working Hours – During non-working hours the Police Department will monitor changing weather conditions and will promptly notify the DPW Superintendent or his/her designee of icy conditions or snow accumulation causing slippery conditions.

Notification Order: (last updated November 2021)

Superintendent:

DPW Foreman:



Depending on the severity of the situation an appropriate number of trucks (minimum 3) will be dispatched to begin salting operations.

Standard Ice Control & Snow Plowing Procedures

- The DPW Superintendent shall, after being notified by the Police Department and reviewing the necessity for ice control or plowing, call by telephone the necessary personnel and give them instructions. If the assigned route personnel are not available, alternates from DPW and the Water Utility shall be called in order to provide the minimum coverage per route.
- For Salting – minimum is 3 units
- For Plowing – a salting operation will go to plowing after an accumulation of 2”. Minimum plowing operation 12 units, Full scale is 14.
- The City personnel normally involved in snow plowing and ice control operations includes the DPW Superintendent, mechanic and DPW personnel. Those individuals who are normally not required to be available but are considered secondary alternates are the water utility distribution workers. If needed members of the engineering department will be assigned to non-CDL vehicles for plowing.
- Crews will begin salting and/or plowing based on priority listing.
- Salters will be calibrated. Salting will be done using a 200lbs p/lane mile setting. Anything higher will be determined by the supervisor per event.
- Brine or blended pretreating will be determined by the supervisor per event dependent on the temperature and our ground temp gauges from the new trucks. Snow plows shall be used when snow or slush begins to accumulate to a depth of 1” or more on the pavement during the salting operation.
- Snow plowing: Generally arterial roads will be open and cleared first followed by collector & arterial roadways. If sufficient personnel are available a crew will be assigned to alleys & parking lots. Sidewalks and bus-stops will be done within 24 hours after the storm is finished.
- Plow routes /drivers will be offered by sign-up sheet. When an employee sign-ups for a route they are expected to be available to plow an event. Final route/driver assignments will be determined by supervisor and Director of Public Works.

- Plow routes will be assigned with a center plow truck and a gutter plow truck. These routes will work in tandem. No splitting up. NO EXCEPTIONS. Plows with salters will be in the center and salting intersections while gutter truck follows behind plowing to the curb.
- NO windrows. If the amount of snow limits the driver from getting to curb then driver must back off his/her cut and make a third pass.
- Straighten blade through intersections to minimize the windrow height at intersection crossing.
- City hall lot shall be completed by 7AM. Library lot by 9AM. All other lots at the completion of alleys. Alley crew will plow parking lots.
- If plow routes are done and alley crew hasn't started city lots the plow route driver's will help on lots.
- Alleys will be plowed once per snow event. After the snow event is completed crews will go through the alleys once. Crews will not go back after the snow event and "clean-up" plow the alleys after the residents have cleared the snow from their private property by pushing the snow back into the alley.
- Plow routes /drivers will be offered by sign-up sheet. When you sign-up for a route you are expected to be available to plow an event. Final route/driver assignments will be determined by supervisor and Director of Public Works.
- Plow routes will be assigned with a center plow truck and a gutter plow truck. These routes will work in tandem. No splitting up. NO EXCEPTIONS. Plows with salters will be in the center and salting intersections while gutter truck follows behind plowing to the curb.
- No crew will leave until all routes are complete. Help each other when needed. (Exception is sidewalks).
- Snow removal (after hours) will be determined by the Director of Public Works. This will be assigned using the overtime sign-up sheet.
- 16 hour maximum working shift. This would pertain to plowing and water leaks.
- All truck issues/malfunctions from a plow/salting event shall be written on the whiteboard on mechanic's door. Keep it short. Truck # and issue.
- After a snow plow event keep plows on trucks and park them accordingly. Mechanic will check plows with trucks the next working day.
- If a snowstorm begins in the late afternoon or early evening, the main arterial streets will be kept open and citywide plowing/salting operations will be started later in the evening when traffic volumes have decreased.

- Snowplowing procedures in the downtown business district will vary depending on the amount of snow accumulations:
 - The downtown district is as follows:
 - Packard Ave – Plankinton Avenue to Holmes
 - Side streets off Packard between Plankinton & Holmes from the alley just east of Packard to alley just west of.
 - Library Drive – Packard to RR tracks
 - Layton Ave. – Nicholson to alley just east of Packard.
 - After a heavy snowfall, snow removal will usually be done in two phases: snow will be plowed near the curb but not onto the sidewalk. During night-time hours (10: p.m. to 7:00 a.m.) when weather conditions and manpower needs permit, the plowed snow will be loaded onto trucks and hauled out of the area. No guarantee is made that snow will be removed within a specific time period.
 - A lighter snowfall (1” to 6”) will usually be plowed to the curb. Successive plowings of lighter snowfalls may result in sufficient accumulations next to the curb to warrant removal. In this case, the snow will be hauled away in the same manner as with a heavy snowfall.
- It is impossible to prevent snow from being pushed into driveways when the streets are plowed. Due to limited parking restriction and enforcement, the Department of Public Works needs to make several passes down a street over a several day period in order to get the snow to the curb. Failure to get the snow to the curb can result in narrowing of the roadways and an increase of flooding potential when the snow melts.
- In order to avoid damage to the curb-side mail boxes, snowplow trucks must keep a safe distance away. It is expected that property owners will have to clear around mailboxes.
- The City DPW will not remove snow from cross-walk radiuses and handicap ramps. This is the responsibility of the abutting property owners.
- The City DPW will remove snow from bus stops.
- The City DPW will not remove snow from fire hydrants as this is the responsibility of the fire department.

Snow Emergency Procedure

The purpose of a snow emergency is to enable the Department of Public Works to clear snow as practically as possible to the curb or road edge following a heavy snow event without the intrusion of parked vehicles or other barriers within the roadway.

In an event of a major snowstorm or other weather conditions which impair the movement of public safety, medical or other essential service vehicles, a snow emergency will be declared by

the Mayor or Police Chief. The snow emergency shall be in effect until the streets have been made reasonably safe for public travel.

Due to limited off street parking the snow emergency limits traffic to one side. The snow emergency states that no person shall park any vehicle or load or unload any merchandise, freight, truck or vehicle on the incorrect side of any street within the City of ABC during the period designated as a snow emergency. The correct side of the street shall be designated during the snow emergency. Declaration of a snow emergency means that all vehicles need to be parked on the designated side (one-side) only during the period specified. Unlike alternate side parking that only requires a person to park on a specific side during nighttime hours a snow emergency may require a person to park on one side during daytime & night time hours. A snow emergency may last 48 hours with alternate side parking for each of the 24 hours designated.

If a snow emergency were to be called the public service announcement would read: *“City of ABC Snow Emergency” – From 10:00 p.m. February 24 to 10:00 p.m. February 25 all cars must be parked on the odd # side of the street. From 10:00 p.m. February 25 to 10:00 a.m. February 26 all vehicles must be parked on the even # side of the street.*

Public notice of a snow emergency will be given to the following media sources and posted on the City’s website and sent out on the City’s Facebook:

Radio: WTMJ, WISN TV: Channels 4, 6, 12 & 58.

Sidewalks

The City ordinance requires abutting property owners to clear and keep free of ice and snow sidewalks & ramps that abut the property within 24 hours after the snow has stopped falling. City owned sidewalks need to be cleared following the ordinance.

- The City DPW will not remove snow from cross-walk radiuses and handicap ramps. This is the responsibility of the abutting property owners.
- The City DPW will remove snow from bus stops as staff time allows.

Fire Hydrants

Residents with hydrants in front of their property should make every effort to shovel the hydrants out. Unfortunately the City DPW does not have staff to perform snow removal around hydrants.