



City of Sturgis

Department of Public Works



Snow and Ice Control Plan



Introduction

The City of Sturgis Public Works Department maintains approximately 70 miles of roadway within the corporate limits of the City of Sturgis. During winter months, it is essential to keep this network of roadways clear of snow and ice to ensure the safe and orderly movement of critical services as well as regular traffic.

This Snow and Ice Control Plan is managed by the Sturgis Public Works Streets Division under direction of the Public Works Director, who takes into consideration budget constraints, direction from the City Manager and City Council, as well as feedback from the Sturgis Residents. Included in this plan are general guidelines and procedures for snow removal and ice control. ***This plan is not mandatory***, it is discretionary and serves to outline the manner in which the Public Works Department directs city crews in solving the problem of snow and ice control both in ordinary and emergency situations. The Guidelines and procedures outlined in the Snow and Ice Control Plan do not constitute a standard or regulation.

Under the direction of the City Manager and City Council, the City of Sturgis Public Works Department ***does not*** maintain a bare pavement policy. A bare pavement policy means that streets will be plowed and sanded to bare pavement within 24 hours of a snow or ice event. Under this plan, streets will be treated with plowing and spot sanding depending on the intensity of the storm. If the Storm is of high intensity or lengthy duration, efforts will be focused on high priority streets; therefore some secondary or lower priority streets may not receive immediate snow removal and/or ice control.



Purpose

The primary purpose of the Snow and Ice Control Plan is to organize snow removal and ice control efforts to ensure that safe travel routes are maintained during and after a snow event. Identifying Arterial Streets, Secondary Streets and Streets that serve emergency services, hospitals and schools are a key to this plan. Classifying streets into Priority 1, 2, and 3 identifies the order in which streets are plowed and treated.

Service Objectives (Goals)

- ❖ To have all designated streets in the Snow Removal Plan plowed and/or sanded within 12-48 hours after a snow event or storm, depending on severity.
- ❖ To reduce the cost of snow removal efforts through the acquisition and utilization of efficient equipment and proper sanding techniques.
- ❖ To divide the City into areas where one truck equipped with a plow and sander can effectively provide snow removal service in each area.
- ❖ To divide crews and efficiently utilize assigned personnel to ensure effective snow removal.
- ❖ To have a sufficient number of trained staff to operate all available snow removal equipment.



The Snow and Ice Control Plan

The Snow and Ice Control Plan is influenced by three factors: street priorities, storm classification, and City resources. Street priorities define the order in which snow removal is performed throughout the City. Storm classifications are based on predicted storm intensity, duration, rate of snowfall, temperature and time of day. City resources include equipment, personnel, and technology related resources to help monitor a storm.

The goal of this plan is to combine these factors into set guidelines.

Street Priorities

Sturgis City streets are assigned a priority number for snow removal (see Illustration A). The priority number is primarily based on traffic volume, but also takes into consideration other factors. These factors include steep grades, emergency services, schools, commercial, industrial and residential areas. The priority determines the order or emphasis snow removal is carried out within the City during and after a snow event. The higher priority is identified with a lower number.

Priority 1

These streets consist of high traffic volume (arterials), steep grades, and streets serving hospitals, fire stations, police stations, and schools. These streets make up the minimum network which must be kept open to provide and support basic transportation needs. All streets designated by Title 15.03.08 as being a snow route will be included as a priority 1 street (See Illustration B).

Priority 2

These streets consist of major/minor collector streets (secondary), bus routes, commercial or industrial areas, and streets with a moderate to steep incline.

Priority 3

These streets consist of residential subdivisions and all other streets not classified as Priority 1 or 2.

Throughout a storm event high priority streets must be kept open. During periods of heavy snowfall it may become necessary to repeat snow removal on high priority streets and delay snow removal on lower priority streets. A Street may be given a higher priority rating in order to aid in utility restoration efforts such as power, gas and water.

Our Operators work around the clock to keep City Streets open and passable. Street and Wastewater personnel are busy doing everything possible to improve driving conditions.

Snow Removal Plan

SNOW ROUTE

- PRIORITY 1
- PRIORITY 2
- PRIORITY 3

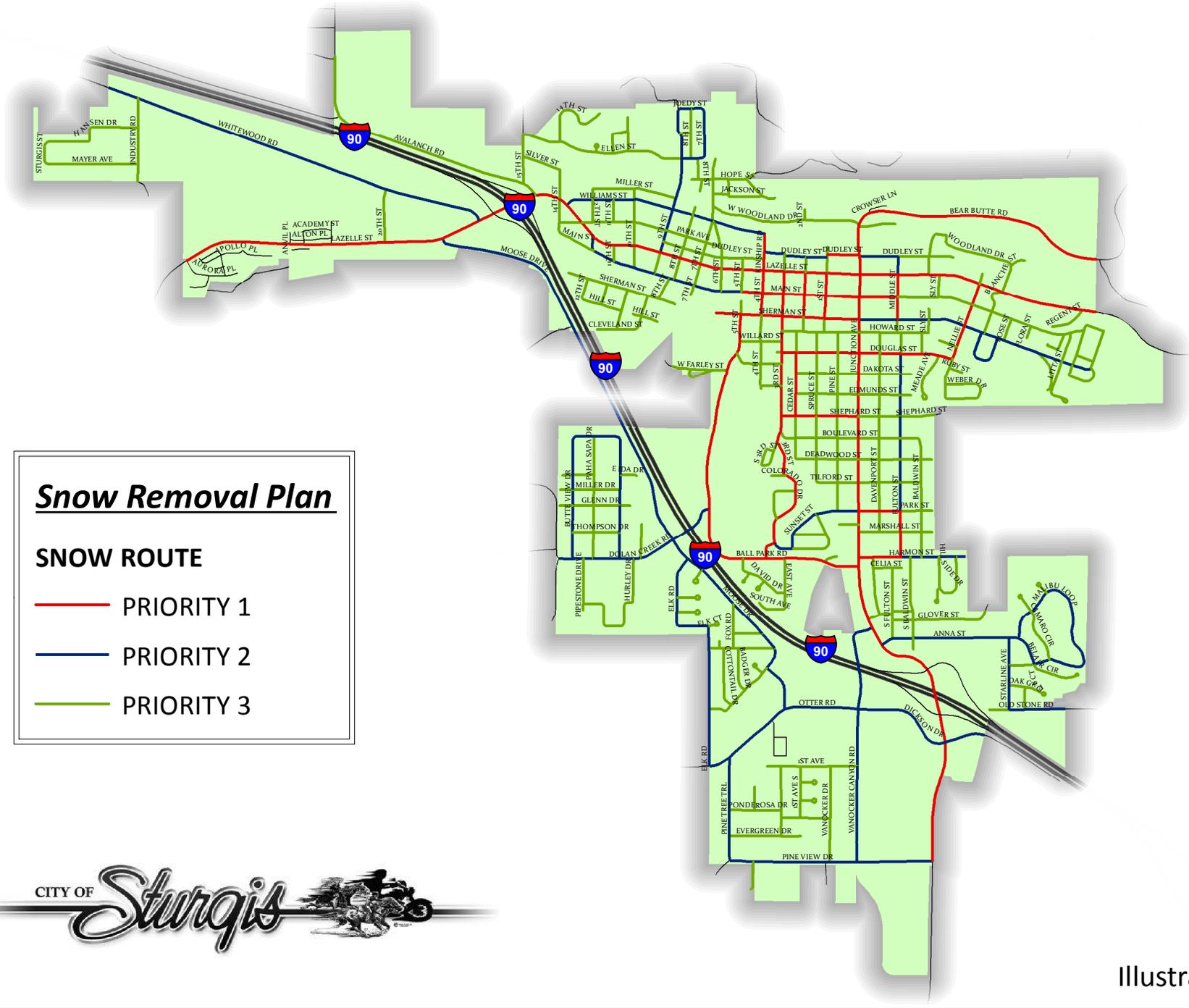


Illustration A

Designated Snow Routes

— Snow Routes*

***NO PARKING ANYTIME** within **24 HOURS** of a forecast by the National Weather Service of an expected snowfall of at least **4" OR MORE**.

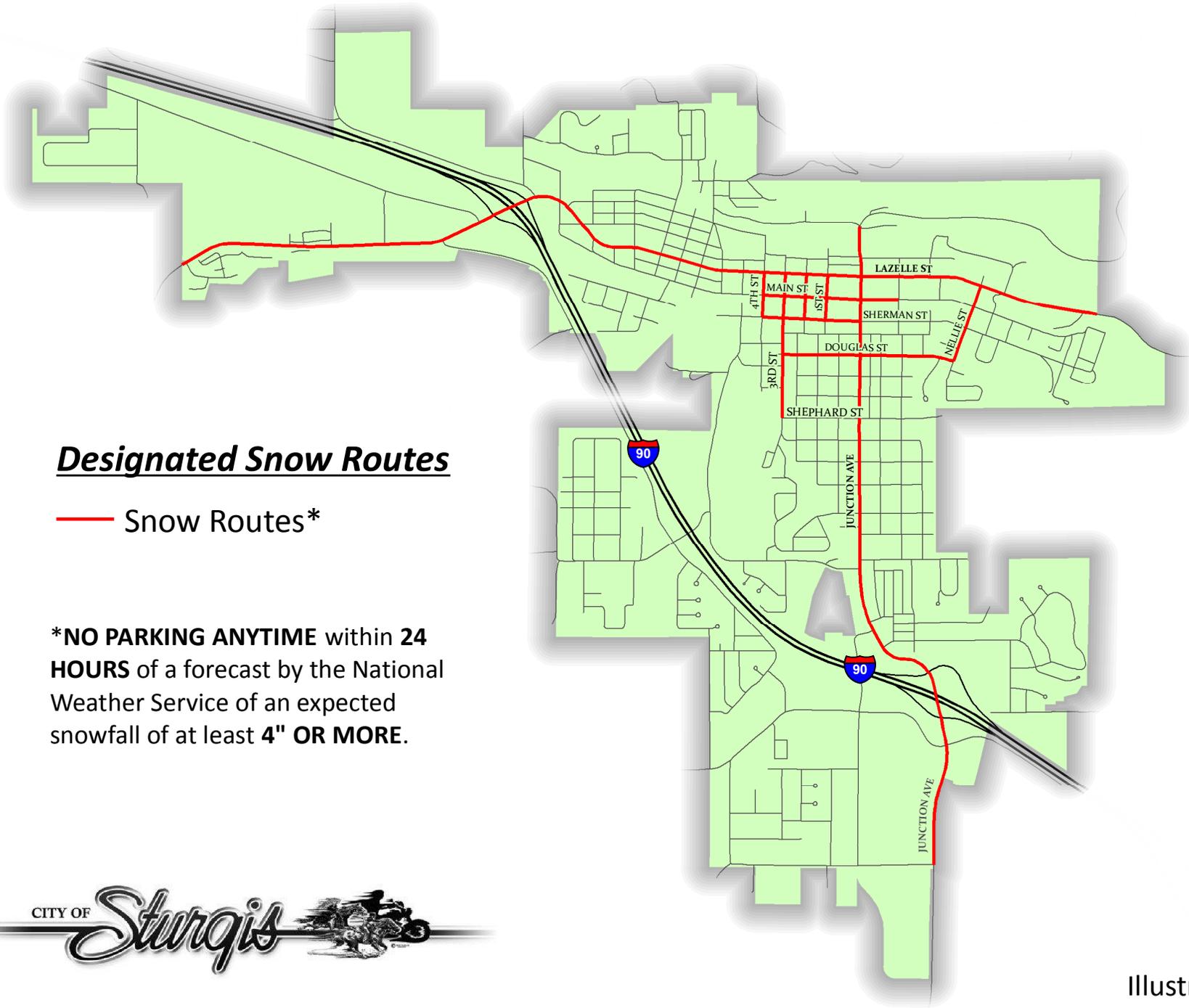


Illustration B

Non-City Streets

Snow removal is the responsibility of the streets owner or agency even though these streets are located within the corporate limits of the City of Sturgis.

Non-City Street owners include: South Dakota Department of Transportation (SDDOT), Meade County and private developments (residential, commercial and industrial).

Storm Classifications

During an average winter, the City of Sturgis will receive approximately 35-40 inches of snowfall. Sturgis is located in a unique area that can produce a wide range of different storm patterns and snow events. The Black Hills region is one of the most challenging forecast environments in North America and at some time or another nearly any weather scenario with exception of tropical storms, are possible in this area.

The City of Sturgis classifies each storm event dependent on the following factors:

- Duration and Intensity
- Rate of Snowfall
- Temperature
- Traffic Volumes

Class “A” Storms: These storms are of minor intensity and are handled with minimal plowing and sanding techniques on Priority 1 & 2 streets and intersections. Storm snowfall amounts are less than 4.0” inches. The Streets Division personnel can handle storms of this intensity usually within 4-8 hours or less after the storm subsides.

Class “B” Storms: These storms are of greater intensity requiring sanding units and snowplows to be used concurrently. Snow accumulation is greater than 4.0” inches but less than 8.0” inches. Street Division personnel will be staggered on an 8-hour shift until designated streets are considered safe for travel. Personnel are expected to have all work completed within 12 hours or less after the storm subsides. During this class or greater of storm all designated snow removal routes will be enforced pursuant to **Title 15.03.08 Unlawful Parking on Designated Snow Removal Routes; Immediate Ticket and Tow Authorized** (See Illustration B). Streets will be plowed in order of priority starting with Priority 1, Priority 2 and Finally Priority 3.

Class “C” Storms: These storms are of greater intensity and longer duration with the storm lasting more than 12 hours but less than 24 hours. Snow accumulations are greater than 4” inches and many times exceed 8” inches. Sanding units and snow plows will be used concurrently and personnel will be alternated in 12 hour shifts, 24 hrs a day until all snow removal is completed. Other City equipment may be called to assist. Personnel are expected to have all work completed within 24 hours or less after the storm subsides. Streets will be plowed in order of priority starting with Priority 1, Priority 2 and Finally Priority 3.

Class “D” Storms: These storms are of extreme intensity and duration. These storms will have accumulations greater than 8” inches and last longer than 24 hours. Sanding units and snow plows will be used concurrently and personnel will be alternated in 12 hour shifts, 24 hrs a day until all snow removal is completed. The City will require all available equipment and personnel to participate and in extreme cases contractors may be hired to help. It is expected to take several days to complete all work necessary for storms in this category. Streets will be plowed in order of priority starting with Priority 1, Priority 2 and finally Priority 3.

In all cases, freezing temperatures and large traffic volumes can delay snow removal operations.

An additional factor that will be considered is storm repetition. As a storm’s life endures, it becomes necessary to re-plow many streets previously plowed. These storms require all of the City’s equipment to be fully engaged in keeping higher priority streets open. This reduces the opportunity for lower priority streets to be plowed.

The City of Sturgis Public Works Department utilizes all its available equipment, personnel and resources to assist in snow removal. Appropriate equipment and properly trained personnel are the foundation for a successful operation.

Equipment

The Streets Division is equipped with 4 plow and sanding units. These units include (2) two ¾ ton pickups and (2) Maintainers, as well as (4) Four Motor Graders, (1) One Wheel Loader with Snow Blower and (1) One Osh-Kosh Snow Blower. The Maintainers and Motor Graders are primarily responsible for keeping arterial roads open for traffic flow. Each unit is assigned a specific route to take care of during a snow event. After the snow has stopped, these units may be teamed up to clean and widen arterial roads.



2008 Ford F-250 Truck with Plow & Sander

2011 Ford F-250 Truck with Plow & Sander

1983 Freightliner S1700 Dump Truck with Plow & Sander

1992 International 4900 Dump Truck with Plow & Sander





MOTOR GRADER (4)

- 1987 Champion 710A Motor Grader*
- 1987 Champion 710A Motor Grader*
- 1980 John Deere 570A Motor Grader*
- 1990 John Deere 670B Motor Grader*

- 2000 New Holland LW190 Wheel Loader*
- 1998 Tenco Snow Blower*



WHEEL LOADER & SNOWBLOWER (1)



Osh-Kosh Snow Blower (1)

- 1992 Osh-Kosh Snow Blower*

In addition, the Public Works Department has additional equipment that can be used to assist in snow removal if needed, such as Bobcats, Backhoes and additional wheel loaders from the Rubble Site.

The City of Sturgis Public Works Department utilizes all its available equipment, personnel, and resources to assist in snow removal. Appropriate equipment and properly trained personnel are the foundation for a successful operation.

Personnel

Ongoing training of employees in snow removal operations is essential to having a safe and successful snow removal season. Training includes both classroom discussions and hands-on operation of equipment. In preparation for winter, operators of snow removal equipment are gathered to discuss routes, proper use of equipment, sanding techniques and safety issues. They are required to perform general maintenance and inspections on the equipment they will be operating. A new employee may spend several storms or shifts with another experienced operator before they have an opportunity to be assigned their own unit and area.

The Public Works Department consists of 15 trained employees and 3 Superintendents. Several of these employees have 15 years or more experience in snow and ice control. Primary responsibility for snow and ice control is with the Streets/Waste Water Divisions, which consists of 6 highly skilled employees and 2 Superintendents.

In the event of a work force shortage within the Streets/Waste Water Divisions, Public Works will then utilize the Sanitation and Mechanics Divisions, which have people trained to operate snow removal equipment and are available for assignment on a temporary basis until the emergency or snow event is over.

Each operator of a snow plow and or sanding unit will use their best judgment of the existing conditions and will take any appropriate action(s) necessary to provide snow and ice control for the safe movement of vehicular traffic.

Monitoring

Monitoring road conditions can be very challenging because of the unique storm patterns that can pass through the Black Hills. For example, it is not uncommon in the Black Hills for the Southern or Northern hills to have several inches of snowfall, while the foothills can receive little to no snowfall and are more likely to receive freezing rain. The Streets division takes advantage of the South Dakota Department of Transportation's traffic camera system (<http://www.safetravelusa.com/sd/cameras/>) to help monitor changing weather conditions as well as several City web cameras placed at key locations. Weather monitoring is done both online and with the help of local Radio, Television and forecast and updates provided by the National Weather Service. When a storm is in the forecast, preparations are made in advance to make sure all equipment is ready for dispatch. Throughout a storm event, observations of both satellite and radar loops are monitored by the Public Works Director to get the best indication of what impact the storm may have and provide the most advanced warning possible.

Having the plows and sanders on the roads as quickly as possible is essential. Once crews have preformed equipment safety checks and pre-trip inspections, the operators will immediately begin performing snow removal operations in their assigned areas unless otherwise directed by their supervisor.

General Practices

Because each storm event is different, there is no standard plan of attack for snow and ice control that can be followed as strict policy. The years of experience City employees have in snow removal and ice control operations are extremely important in the implementation of this critical work. Their experience in a variety of demanding situations is an essential ingredient to an effective winter road maintenance program.

The Crews will work to keep Priority 1 roads open through the duration of the storm event and once the event has ended or there is an extended break in the snow conditions crews will begin on Priority 2 & 3 roads. The crews will continue to treat and plow the streets in their assigned area until traffic is flowing safely. If the storm continues, the operators will remain in the same pattern until the storm subsides. When conditions improve, the operator will begin to plow in the area enough for two passable lanes on most local and collector streets (Priority 2 & 3 streets). Arterial streets (Priority 1) will be plowed curb to curb or to the shoulder.

One of the City's major problems with snow and ice removal are snow drifts. A snow storm may leave only a few inches of snow, but the winds can cause extreme drifting, especially in the more open areas of town. This results in extra time and work keeping these high priority streets clear and safe for travel.

Operators are trained in a technique called "spot sanding". Spot sanding is sanding intermittently in areas of intersections, hills and curves. This technique relies on vehicular traffic to help track the material down the road. The City of Sturgis has found this technique to sufficiently provide a high quality of service to its citizens, while still minimizing hazardous road conditions and maximizing budgeted dollars.



CITY ORDINANCES PERTAINING TO SNOW REMOVAL

CHAPTER 15.03

SNOW AND ICE REMOVAL

SECTIONS:

15.03.01: Public Nuisance

15.03.02: Removal by Owner

15.03.03: Removal by City: Cost

15.03.04: Notice: Assessment

15.03.05: Filing of Assessment

15.03.06: Certification

15.03.07: Recovery of Cost of Removing Snow or Ice In Lieu of Assessment Against
Property

15.03.08: Unlawful Parking on Designated Snow Removal Routes; Immediate Ticket and
Tow Authorized

15.03.09: Director of Public Works Authority

15.03.01: PUBLIC NUISANCE

Snow and ice permitted to gather and remain upon the sidewalks of this City is dangerous to the safety of its citizens and other using said sidewalks and is hereby declared a public nuisance.

15.03.02: REMOVAL BY OWNER

The owner or occupant of any building or any lot, parcel or plot of ground fronting or abutting on any sidewalk in the snow removal area hereinafter described, shall clear said sidewalk of snow or ice to the full width of the sidewalk within 15 hours after the same shall have fallen or formed. The street committee of the City may waive this requirement in the event of an extended snowstorm. Absentee owners are subject to this requirement and shall make arrangements for the removal of snow and ice accordingly. The snow removal area shall consist of Main Street from Middle Street to Fourth Street; Sherman Street from Junction Avenue to Third Street; First Street from Lazelle Street to Sherman

Street; Second Street from Lazelle to Sherman Street; Third Street from Lazelle Street to Sherman Street and Fourth Street from Lazelle Street to the alley between Sherman Street and Main street inclusive.

15.03.03: REMOVAL BY THE CITY: COST

The Finance Officer shall cause to be published in the legal section of the official newspaper the requirements of this Chapter, which notice shall be published for two weeks after the first meeting of the City Council in October of each year, which publication shall constitute notification by the property owner of the contents of this Chapter. In the event the property owner or person so notified fails to remove the snow as required by the Notice prescribed by this Section, the Building Inspector may cause the snow or ice to be removed so that the property is in compliance with this Chapter. The actual costs of the removal of the snow and ice, plus an administrative fee of \$50.00, shall be assessed upon the lots or parcels of ground fronting or abutting said sidewalk, as provided for in Section 15.03.04.

15.03.04: NOTICE: ASSESSMENT

The Building Inspector shall maintain an accurate account of the amount to be assessed against each lot or parcel of ground subject to assessment, pursuant to Section 15.03.03. On or before May 1st of each year, the Building Inspector shall cause this account to be delivered to the Finance Officer. The Finance Officer shall prepare an estimate of an assessment against such lot, for the removal of snow and ice for the preceding fall and winter, and shall submit the same to the City Council for its approval on or before the second meeting in June of each year. The Finance Officer shall prepare a notice of said meeting, which notice shall contain the name of the property owner, the legal description of the property to be assessed and the time and place for hearing. Notice of this meeting shall be given by publishing a true and correct copy of this Notice in the official newspaper of the City at least one week prior to the date set for Hearing, and further, by mailing a true and correct copy of said Notice to the property owner, as shown by the records of the County Assessor, at least 10 days prior to the date set for Hearing. Said mailing shall be by first-class mail, postage prepaid.

At the time specified in the Notice, the City Council shall meet and, if they find the assessments correct, shall approve the same with or without modification or amendment as they may deem proper.

15.03.05: FILING OF ASSESSMENT

Within 10 days after such assessment has been approved by the City Council, the Finance Officer shall make and file a certified copy of the same in the office of the County Treasurer, and thereupon, said assessments shall be due and payable to the City, and shall in all respects be considered as special assessments, as provided by statute, and the same shall draw interest at the rate of 10% per annum from the time of said assessment until 30 days after the approval thereof by the City Council, and thereafter at the rate of 12% per annum.

15.03.06: CERTIFICATION

If any of the said assessments are not paid to the City, the Finance Officer shall certify any such delinquent assessments to the County Auditor on or before the 15th day of October, and the same proceeding shall be had for the collection of said assessments as are or may hereafter be provided by statute for the collection of special assessments.

15.03.07: RECOVERY OF COST OF REMOVING SNOW OR ICE IN LIEU OF ASSESSMENT AGAINST PROPERTY

In lieu of assessing the cost of removing snow or ice from the sidewalks against the abutting property, the City Council may authorize the City Attorney to recover such costs in a civil action against the owner or occupant of the property abutting such sidewalks.

15.03.08: UNLAWFUL PARKING ON DESIGNATED SNOW REMOVAL ROUTES; IMMEDIATE TICKET AND TOW AUTHORIZED.

To facilitate prompt snow removal, it shall be unlawful for any vehicle to be parked on any designated Snow Removal Route within the City at any time within 24 hours of a forecast by the National Weather Service, as reported on the City of Sturgis website Weather Link, of an expected snowfall of at least 4 inches or more within the City of Sturgis. Any vehicle parked on a Snow Removal Route within that 24 hour period and before City employees have cleared the street curb to curb shall be subject to an immediate citation for a parking violation until the street has been cleared curb to curb. In addition, any vehicle tagged in violation of this Ordinance may be towed immediately after being tagged. The Penalty for such violation is as set forth in Section 15.01.03 of this Ordinance, and the owner, in addition such penalty, shall also be required to pay the cost of towing and removal of the vehicle to an authorized location.

The designated Snow Removal Routes are as follows:

- A. JUNCTION AVENUE
- B. LAZELLE STREET
- C. DOUGLAS STREET from the intersection with THIRD STREET to the intersection with NELLIE STREET.
- D. NELLIE STREET from the intersection with DOUGLAS STREET to the intersection with LAZELLE STREET.
- E. MAIN STREET from the intersection with MIDDLE STREET to the Intersection with FOURTH STREET.

- F. FIRST STREET from the intersection with SHERMAN STREET to the intersection with LAZELLE STREET.
- G. SECOND STREET from the intersection with SHERMAN STREET to the intersection with Lazelle Street.
- H. THIRD STREET from the intersection with SHEPHARD STREET to the intersection with LAZELLE STREET.
- I. FOURTH STREET from the intersection with SHERMAN STREET to the intersection with LAZELLE STREET.

This provision shall not limit the separate authority to issue a citation as provided for at 16.05.08.

15.03.09: DIRECTOR OF PUBLIC WORKS AUTHORITY

The Director of Public Works shall consult with the Chief of Police and City Manager and, consistent with the authority of SDCL 9-30-2 and SDCL 9-10-13, is authorized and empowered to determine and establish Designated Snow Removal Routes upon any street or highway within the city, or any part thereof. The designation of any Snow Removal Routes by the Director of Public Works for each Snow Removal Route shall be conspicuously posted on each block along said route.

(Chapter 15.03 Amended to add 15.03.08 & 15.03.09, effective 12-15-2010, Ordinance 2010-13.)

Frequently Asked Question (FAQs)

Q. Why wasn't my street plowed right away?

The Public Works Department is responsible for approximately 70 miles of roadway within the City Limits of Sturgis. The City of Sturgis has developed a priority system in which they use to determine which roads get plowed first, that is why you may see a plow go by and not turn onto your street. Your street will be plowed according to where you are on the system. In most cases all streets are plowed within 24 hours of the end of the snow event. Priority Street information is available on the City Website. In addition if you live on a dead end street or cul-de-sac, for snow removal on these roads we use smaller equipment (generally a loader or backhoe) not the Road Graders or Snow Maintainers that you normally see on thru roads. This is due to safety reasons.

Q: Why doesn't the city load up the snow and haul it away?

The City of Sturgis does load up and haul the snow from the downtown areas due to the road widths and the on-street parking layout. In addition, in certain situations, the City has and will haul snow from other roads if it is deemed necessary to keep roadways safe and we have no other option. However, this practice is generally not recommended due to the limited capacity of the City. The City of Sturgis simply does not have the manpower, equipment resources, space or the financial means haul away snow City wide.

Q: Why does the plow not remove all of the snow from my road?

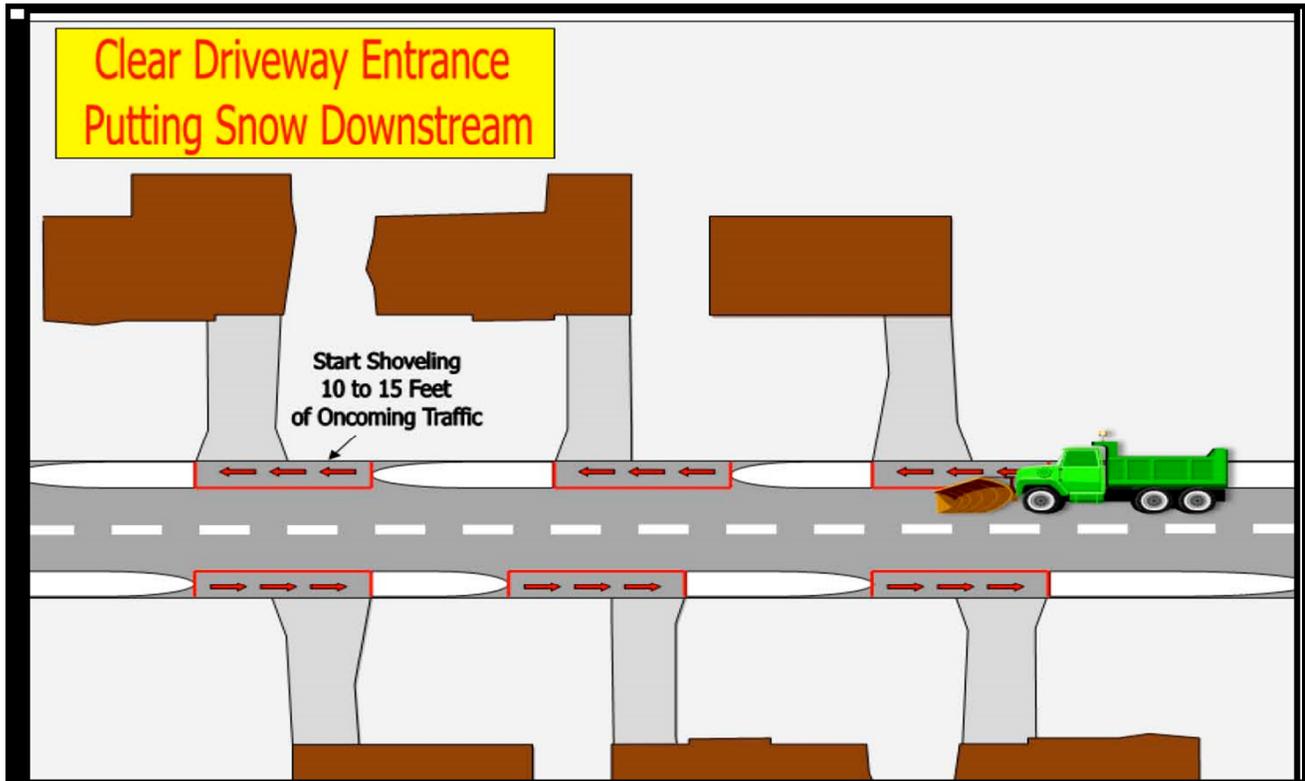
The plows are designed to ride on "guides" (shoes) that raise the blade approximately 3/8 inch from the surface of the roadway. This is done to prevent damage to both the vehicle and infrastructure from raised manholes, catch basins or water valves. When plowing, our goal is to make residential streets passable; not to clear them to the bare pavement. Once the street has been plowed and salted, the interaction of the salt and vehicular traffic is required to melt the remaining snow cover. Streets with low traffic volumes will therefore remain snow covered longer.

Q; Can I throw the snow in the street when I shovel out my car or my sidewalk/driveway area?

Under our current City Ordinances, shoveling snow into public streets from vehicles, Parking Lots and private driveways is prohibited and it only makes the situation worse for everyone. The City Code Enforcement Officer may issue citations for this behavior.

Q: Why do the plows always push snow into my driveway?

For a resident this can be quite annoying, but unfortunately it cannot be helped. The snow must, at minimum, be removed from the traveled portion of the road but our plow drivers are instructed to plow curb to curb whenever possible. When the City receives a heavy snowfall, if possible, do not shovel your driveway until after the plow has gone by. If you must shovel do not throw the snow out onto the roadway as you may create a hazard for another vehicle, and if an accident were to occur you might be held liable. Using the following technique shown below will help avoid this situation by clearing your driveway entrance properly.



Q: Why don't you clean my driveway?

The City does not clean driveways for two (2) reasons:

1. There are thousands of driveways located in the City of Sturgis. The task to complete and the cost to clean all the driveways each snow event would be insurmountable and City crews would not have time to remove the snow from the streets.
2. The liability to the City for damage to the driveway approaches is cost prohibitive.

I live on a dead end street or in a cul-de-sac how come we are the last to get plowed?

The City of Sturgis has limited resources, including equipment and manpower. We traditionally use equipment such as Road Graders or Maintainers to remove snow from streets due to their large blades and ability to move a large amount of snow. This is not the case for dead end streets or cul-de-sacs. These streets require much smaller equipment, such as a wheel loader or a backhoe, which can safely be maneuvered in these tight areas.