TABLE OF CONTENTS

Mission, Implementation, Manager Definition, Weather forecasting  2
Snow /storm Monitoring, Communications, Inquiries, Boundaries, Priority routes  3-4
Campus Priority Route Maps  5-8
Procedures, Disability designated areas, Contractors, Special Events  9
Ice slicer, Staffing, and Equipment  10-12
Annual Preparations  13
Manager Procedures  14-15
Snow Crew Expectations  16-18
  Pre-storm  16
  During Storm  16-17
  Post Storm  17-18
MISSION

During the winter season, Facilities Management is responsible for snow and ice removal from campus building entries, the pedestrian walkways, parking lots, service drives and loading docks. Our primary emphasis is to maintain as safe a walking surface as possible.

All possible efforts are made to remove all snow and ice from campus walkways and parking lots prior to the start of classes and to keep them clear the rest of the day. However, our resources are limited so we ask everyone to exercise caution and take personal responsibility for their own safety in inclement weather. If you encounter an area that is particularly hazardous please contact Facilities Management immediately at 970-351-2446.

IMPLEMENTATION

This plan will be in effect during normal winter operations when weather conditions could cause accumulation of frost, sleet, ice/snow or other occurrences on streets, walks, service drives, and parking lots on the university campus.

DEFINITION OF MANAGER

When “Manager” is used in this policy, it is defined as the person who is on duty at the time directing snow/ice removal operations for the Department of Facilities Management. These individuals include Manager for Landscaping & Grounds, Manager of Environmental Health and Safety and the Assistant Vice President of Facilities Management and/or any other individual who may be assigned the responsibility of Manager.

WEATHER FORECASTING

Weather forecasting is essential for good planning of snow and ice control operations and weather-related emergencies. An effective weather service must provide critical information about the storm sufficiently so that plans and preparations can be made. The Manager will utilize the services of professional weather forecasting services during the snow and ice season. These weather resources help provide the Manager with information that will assist in determining what impact present and forthcoming weather will have on overall operations. Forecasting resources will also provide on screen tracking of weather systems and data for the Northern Colorado Region. The Manager will utilize 3-4 resources to attain an accurate reading on the forecast. The Manager also relies on information from the National Weather Service as it relates to snow and ice conditions in the Weld County and surrounding regions of Northern Colorado.
MONITORING AND NOTIFICATION OF ICE AND SNOW ACTIVITY
The manager will monitor anticipated inclement weather and will notify through email (Snow Removal Distribution list) to all essential university personnel regarding event intensity and expected response and strategy to the expected storm.

COMMUNICATIONS
The Manager will notify all snow removal personnel and place them on “Alert Status” as well as private contractor, that perform snow removal tasks for parking lots. Pre-Storm memos are sent to all essential personnel to notify course of action:

Expected storm arrival and respected report time of snow personnel

The Manager provides Storm Status Updates to the Manager of EHS and Assistant Vice President of Facilities Management. These updates ascertain actual conditions on campus and to determine snow emergency declarations as needed.

Routine updates are provide to Essential Personnel throughout the duration of the storm and dependent on snow intensity and duration.

COMMUNITY INQUIRIES
All issues concerning snow and ice control efforts will be routed to the Facilities Management Service Desk (970-351-2246. After Normal office hours (8am-5pm) inquires can be made by contacting the University Police Dispatch (970)-351-2245 The Manager will determine appropriate follow-up responses to all inquiries.

UNIVERSITY BOUNDARIES RESPONSIBILITY
The university is not responsible for snow or ice removal on City of Greeley streets, alleyways bike lanes or designated State Highways.

PRORITIES FOR SNOW AND ICE CONTROL OPERATIONS
In order to make the most efficient use of available resources, the university has established priorities using the assumption that the severity of a storm does not exceed the capabilities of the snow removal operations of Department of Landscaping and Grounds. Depending on the nature of any given snow storm, deviations, contingency plans could occur. Priorities are based on an Orange, Green and Blue code system:

In the event where heavy snow accumulations occur during university business hours, snow removal efforts will be focused on select sidewalks and building access points (Orange Priority). This is to enable crews to maintain at least one clear path to each building. Keep in mind, this may not be the route an individual normally takes. Once these routes are clear, and as the storm allows, crews will continue clearing snow throughout the remainder of campus.
PRORITIES FOR SNOW AND ICE CONTROL OPERATIONS

Orange
This is Priority One. (Critical) These indicate service drives, parking lots/lanes, sidewalks, and loading or service docks that absolutely need to be open for the university to carry out its mission and for students staff, and faculty to have minimal access to university facilities. Orange designated areas are very specific and do not include all sidewalks and drives that are used by the university community. We strongly recommend and encourage the community that during the storm that all users utilize the cleared Orange priority designated walks, drives and parking areas first.

Green
This is Priority Two. (Necessary) As storm intensity and accumulation rates diminish, Snow removal operators will proceed to the Level Green walks, drives, and parking lots. Green designated areas indicate the next level of service and accessibility to university facilities that are necessary to provide safer access and increased mobility for the university community.

Blue
This is Priority Three (Beneficial). Once Green level areas are cleared of snow and ice, then Level Three blue designated areas will be cleared. These areas provide increased accessibility to facilities and mobility to the community. Once these areas are cleared the university has completed its snow removal mission.

Please See attached Snow Priority Maps.
CAMPUS PRIORITY ROUTE MAPS
(See Separate Links)
SNOW /ICE CONTROL PROCEDURES
The depth, rate of fall and timing of snow accumulations, weather forecasts and traffic volumes will normally dictate when snow removal operations will begin. Snow ice removal efforts will begin and plows used to keep accumulation on the pavement surfaces at safe drivable levels.
If weather forecasts indicate a significant increase in pavement temperatures during or after the storm event, the Manager will have discretion regarding snow removal and or de-icer (Ice-Slicer) applications. If forecasts indicate that the snow/ice will dissipate in a time period deemed reasonable by the Manager, applicable procedures will be implemented.

WHEELCHAIR CONFINED /DISABLED STAFF,STUDENTS & VISITORS
Landscaping & Grounds will provide customized snow and ice removal services to known individuals who have special needs at certain locations, and will physically assist those as needed. Wheel chair ramps, Reserved Disabled Parking spaces, and curb cuts have high priority once the storm has ended. Our goal to provide a snow and ice free surface from the disabled parking space to the desired building entrance. All Landscaping & Grounds staff are to offer assistance to all disabled individuals.

ACTIVATION & MOBILIZATION OF CONTRACTORS(S)
It is at the discretion of the Manager to determine the need of activating the services of the Contractor to remove snow from University owned Parking lots, Service drives, and loading /Service dock areas. Activation is normally determined by the expected rate of accumulation, current snowfall depth and expected accumulation forecasted. Normal guideline is at least 3-4 inches of snow, depending on snow moisture level and wind-speed.
Contractor is normally contacted and placed on" Alert", and notifications are made routinely depending on actual storm conditions. Contractor is mobilized when the university offices are closed and when most of the parking lots are deemed empty of vehicles. Contractor will work from 6pm and throughout the night to clear parking lots with a goal to have all lots cleared by (8am) the following day depending on the duration and severity of the snow storm.
If the severity of a storm is such that University- owned equipment cannot move snow efficiently and safely, the Contractor will also be mobilized to remove snow from sidewalks and major service drives and arteries as needed and directed.

SPECIAL EVENTS
Manager will direct snow and ice removal personnel to facilities where there are scheduled performances, athletic events or other special events. The University Center is always considered priority, as the main center for Student Activity. The Manager maintains updated calendar of events and verifies with appropriate Departments in Pre-Storm communications.
USE OF SALT (ICE-SLICER) AND ABRASIVES
The university no longer uses sand as a form of Ice/ snow control. Sand contributes to the State’s Air Pollution. As of 2013, the university uses the same salt material utilized by the Colorado Department of Transportation (CDOT). This material does have its limitations. It will not activate unless pavement temperatures (not Air Temperature) are above 15 F degrees. Ice slicer will melt snow and ice when road conditions show signs of moisture, and will absolutely not perform when pavement temperatures are 15 degrees or less. The Manager will have discretion to determine if and when conditions are appropriate for application of this material or other ice-melting products.

STAFFING
Snow & Ice Removal is staffed by the entire Landscaping & Grounds Department which consists of 15 full time employees. This department is also supported by a 6-person shoveling Crew, as well as Housing staff of 2-4 shovelers. Both Housing and University Custodial Crews perform hand shoveling duties at the building entrances. The Athletic Facilities staff also assist with snow removal at Athletic functions as needed. The university will also employ from a temporary labor staffing company to assist with snow shoveling on an as needed basis and at the discretion of the Manager. The Manager is directly responsible for all staff performing snow ice removal tasks.

EQUIPMENT
The primary equipment available to remove snow/ice will be supplied by the Department of Landscaping & Grounds or its contractors. A private contractor will provide equipment and labor to remove snow from parking lots as the need arises. When depth and condition of snow is expected to attain levels whereby University-owned equipment becomes inadequate, Contractors will be activated to assist in snow/ice removal in parking lots, sidewalks and service drives. When severe conditions are forecasted and imminent, Heavy Equipment is rented in advance and deployed as necessary.

The University utilizes many different types of equipment during snow and ice control operations.

- 2ea 1-ton Pick ups with Sander and 6ft snow plows
  Streets, parking lots, Service drives and wide sidewalks bike lanes, and Loading docks.

- 2ea Tractors with front mount Sweeper/brooms
  Wide service drives and walks, bike lanes
  2017 Kubota / John Deere 5410
EQUIPMENT

4ea **Front mounted Sweeper/broom Mower tractors.** with rear mounted Ice Melt Chemical Spreaders. This equipment can also be mounted with 6 ft snow blades when snow conditions are wet and heavy. Primarily used on all sidewalks. 1ea unit to kept in reserve as a back-up for Equipment Repairs.

**3ea Utility Vehicles** mounted with snow plow blades and equipped with rear-mounted Ice Melter chemical applicators. These light weight units are utilized to remove snow off the Two Synthetic sports fields, Nottingham Football field and the Running track as well as campus sidewalks.

**2ea Utility Vehicles** with rear mounted Chemical applicators only. Apply Ice melting in very ice conditions

**1ea Bison Tractor front mount snow blower.** Utilized with very deep drifting conditions

**1ea John Deere Snow blower** interchanged from Sweepster Brooms as needed

**2ea John Deere snow blades** Interchange from brooms when conditions warrant

**1ea Bobcat Skidsteer 733** Used to move snow from loading docks, dumpster enclosures or to assist in snow hauling efforts and snow pile removals. Also used to clear intersections.

**1ea 20i7 Kubota Tractor / Bucket-loader:** Used to clear dumpster enclosures, and snow pile removal, Clear deep snow covered walks and service drives.

**Hand operated Equipment**
Includes various gas powered snow blowers, hand shovels, Ice chipper/scrapers, applicators/spreaders *(for granular chemical ice melt products)*
EQUIPMENT MAINTENANCE AND REPAIR
In order to have an effective snow and Ice Removal program, there must be a respective Preventative Maintenance program that insures that all equipment is available to perform snow and ice removal functions. This also includes daily inspection and maintenance.
The Equipment Mechanic for Landscaping & Grounds reports one hour earlier than Equipment operators report for Snow Duty to insure equipment is ready for snow & ice removal. The Equipment Mechanic will remain on duty until the 8-12 hours shift ends. In addition it may be necessary to have the Mechanic on duty at other times. Such determination will be made at the discretion of the Manager.
ANNUAL PREPARATIONS

Ice Slicer Purchases.
Secure Purchases of 16ea of 2500 lbs Supersaks to be delivered on open bed trailer, and to be emptied and stockpiled inside Parsons.
**Deadline: Oct 15.**
Secure purchase of additional 16ea Supersaks to be stored at Parsons Garage and 8ea Supersaks to be stored in cold Storage Facility.
**Deadline by Nov 01.**

Monitor stockpile and reserves and replenish supplies as needed.

Sander and Plow Installation & Test
Install sanders and snow plows on trucks and check wiring and operation of sanders/plows and perform necessary repairs and Preventative maintenance. Dismount sanders and plows afterwards until first snow.
**Deadline Oct 24.**

Prepare mounting of Ice melt spreaders
For Utility vehicles and Broom mounted Mowers Check mounting and wiring for proper operation and flow of material through hoppers.
**Deadline: Nov 14**

Purchase and install Curb Markers
To delineate curb boundaries in parking lots
**Deadline: Oct 10**

Equipment Winterization
Operators are responsible for winterizing equipment, ie., installing carpet, insulation, etc. before cold weather arrives.

Pre-Season Preparations  Deadline, Oct 15
Review & Update Snow removal Expectations/Responsibilities
Review and update Personnel Assignments
Review and Update Call tree. Verify personnel / phone numbers
Determine Athletic Team Game Schedules: Wrestling, Basketball, Softball, Soccer, Baseball
Verify “First call” with Equipment Rental Companies for Emergency Snow removal equipment
Install Curb markers in parking lots to delineate parking lot curb boundaries. Place in locations of likely curb damage. Oct 30
MANAGER PROCEDURES

Pre Storm
Check weather forecast and make copies.
Determine if 3am-11am shift is required
Arrival of snow
Expected accumulation
  **Typical storm (1-5 inches)**
  Notify Key Personnel of eminent storm. Notify them of your plans and intentions and what shift to work
  Snow Removal Outlook Distribution list
  **Heavy snow of 4 inches or more**
  Contact Snow contractor for Parking lots
  Will schedule for the following evening after vehicles have left lots.
  Utilize Priority listing provided.
  Heavy snows that hinder Grounds equipment (typically 8 inches or more)
  Contact Equipment Rental Companies for rental equipment: Backhoe and bobcat
  Arrange delivery prior to snow fall

During the Storm
Check current forecast, make copy
Hand-shovelers wear safety vests.
Special Considerations
  Check into Special events
  Theatre performances
  Centennial Hall Events
  UC activities
  Athletic Events
  Food deliveries at UC, Holmes, and TK (Tues, Thr, Saturday at 4:30am) **Critical for University Closure situations**
  Synthetic Field & Track: Gator blades issue to Athletic staff with instructions (usually post storm activity)
  Check Service desk every hour regarding calls, complaints, etc.
Progress inspections.
  Move snow onto grass for melting room
  Check campus exterior steps
  Parking lot entrances and general condition of lots
  Check snow pile locations: make sure they don’t block wheelchair access, wheelchair ramps and reserved parking spaces.

Journaling
Police call time and date
Time of call-in’s (if performed)
Grounds attendance: late arrivals, no shows
MANAGER PROCEDURES

Equipment re-assignments if necessary.
Equipment break-downs and duration of down time. (time and duration)

During the Storm
Progress inspections
Assign operator to hand-shoveling until equipment is repaired (lengthy downtime)
Periodic notes on accumulation, equipment issues, note times, wind speed, drifting, etc throughout storm. Journal entries every 2 hours or more.
Notification to Police at end of shift of intended plans.
Note all conversations/discussions with Police& regarding snow as well as emails.
Notify via email Distribution list Snow Storm status and progress report as needed throughout the storm.

Post Storm
Campus inspection
Black Ice
Ice slicer / chemical Ice melt
Barricade off dangerous ice conditions with cones and /or caution tape.
Check loading docks, trash enclosures
Steps, ramps, disable parking spaces
10 and 11 th avenue curbcuts/crosswalks
Widen walks with brooms, blades, etc.
Check service desk for requests, slips and falls, etc
Snow removal around bollards
Notify Police of dangerous icy conditions: specific locations.
SNOW CREW EXPECTATIONS

PRE-STORM

Snow Duty Assignments
Snow removal equipment assignments are conditional, and maybe subject to change based on overall performance, dependability, attendance, and proven equipment capabilities.

Snow routes: All Snow Crew employees are expected to review assignment sheets, and to arrange and schedule “Practice runs” with equipment in assigned area prior to their scheduled assignments. Study the “proposed” routes on map. Priority Map will dictate what walks, service drives and parking spaces should be cleared first and foremost. Orange: Priority 1, Green: Priority 2, Blue: Priority 3

Snow shift Hours: In general, snow removal shift begins at 3:00am, and staff are expected to work through the day until 11:00am. Lunch 11am-12noon. 12noon-4pm shift start and end will be dependent on each snow storm situation. Some operators may be dismissed earlier to return to provide snow removal services for evening events or performances.

DURING THE STORM

Orange Priority: During the onset and peak of a significant storm (4-inches and greater), only these walks, services drives and parking lots should be cleared. Efforts should be made only to keep these areas clear of snow and ice. Initial efforts should not be on Green or Blue designated areas. In a major snow it is more important to focus on clearing and keeping the main arteries (Orange) clear, rather than attempting to clear all walks, drives and lots. The emphasis is to have the campus accessible for vehicles and students, but not necessarily convenient. It is very difficult to clear snow that is getting covered up as fast as its cleared, so it is more efficient to focus efforts only on those main orange/critical designated walks, drives, lots, etc.

Once snow accumulation has slowed and depleted and operators can catch up will it be necessary to divert efforts to clear the green and blue designated areas.
SNOW CREW EXPECTATIONS

DURING THE STORM

Operators are to focus on making one single pass to open up walks first. Widening walks is to be done after the snow stops or when all walks are finally cleared. The priority is to clear main pedestrian arteries open and clear.

Snow can only be removed with brooms or plows. Applying deicers is for the purpose of breaking the bond of ice from the pavement. Remove the snow then apply chemical ice-melters.

Broom operators and utility vehicles equipped with Ice melt spreaders will apply on walks that are crucial and have a history of icing and snow packed foot traffic. Operators shall use discretion and not over apply product.

All operators have radios, and it is crucial to talk with one another regarding directions, scheduling, break-downs, and providing assistance

Hand-shovelers are required to wear safety vests at all times.

Severe Ice conditions: Place Orange Safety cones and caution tape ASAP to prevent slips, falls and top prevent injuries. Notify Police if Building Access is to be closed temporarily.

POST STORM

Widen sidewalks/Create Melt Zones
Snow Brooms are to remove snow in a manner that pushes snow into adjacent turf areas and beyond, to prevent and minimize melting across sidewalks. Melting snow will freeze into ice. Operators shall provide some "Melting Space". Hand shovelers will assist with widening of walks and to remove potential melting-refreeze ice formation..

Chemical Ice melt Applications
Once the snow has been removed and the snow has stopped, begin applications.. Do not use chemical products to “Burn off” the snow.

Ice slicer will only work if the pavement is moist or wet. Ice Slicer will not work when pavement temperature (not air temperature) is 15 degrees or less. Air Temperatures are based on 6ft above grade).

Turf Damage: Operators will be responsible for repairing damaged turf caused by equipment.
SNOW CREW EXPECTATIONS

POST STORM

All Equipment operators are expected to assist in handshoveling efforts and clearing wheelchair ramps as needed and required. Safety vests are required.

Severe Ice conditions: Place Orange Safety cones and caution tape ASAP to prevent slips and falls and injuries.

Spreader and Sander Maintenance
All spreaders and sanders must be emptied of material at the end of each snow event day and washed down with water. Conveyor chains and augers to be lubricated after each use. Ice slicer and all other chemical Ice-melting products are corrosive and must be washed off after every use. No overnight or long-term storage of Ice slicer in hoppers.
Operators will be responsible for washing and lubrication and storage of spreaders and sanders after the last snow of the year.