



What Goes on Behind Making Building Entrances Safe

Northeast Ohio receives its share of snow and ice each winter particularly where buildings, sidewalks, parking lots and garages, and driveways are concerned. It is the building managers and maintenance staff that are challenged with keeping these walkways safe for the visitors. Snow and ice occurrences can and have interrupted building operations and services, or have created a perceived or real hazard to people or property.

Sure people at home have to deal with the winter elements too, but the regular foot traffic coming and going from the wide variety of facilities kept open to its parishioners, office workers, students and teachers, and visitors, puts a heavy burden on the operation and maintenance staff of these buildings.

So what are those challenges to overcome and make safe the walkways and steps into the buildings? First is the maintaining of sidewalks and it takes more than just shoveling them. Putting down a substance on these walkways takes some thought. Is the snow and ice melting granular going to create other problems? For example,

- Is this granular mix harmful to the sidewalk and stair surface causing damage to the concrete or the mortar that bonds the bricks?
- Is the granular mix harmful to the grass bordering the sidewalk?
- Will the foot traffic bring granular mix into the building causing damage to the floor surface?

The facility person is responsible for purchasing the correct snow and ice melting granular to make the walkway and steps into the building safe for individuals. What must be taken into account are the long term affects this substance may on the surfaces it is supposed



to make safe.

The same concern can be made in a covered, unheated garage where wet, snow vehicles enter and park depositing potential ice patches on the garage floor creating a potential hazard for someone walking from their car to the building. With no solar heat shining down on this enclosed surface and the air below 32F, dangerous ice spots can and do occur. This requires the facility person to be vigilant to the potential of someone slipping and falling.

Making a building entrance safe from above is another part of the facility person's task when one of the following overhead structures exist:

- Snow and ice falling from an exterior windowsill to the building entrance.
- Snow and ice sliding down and off the pitched roof above the entrance.

- Hardened, pointy icicles crashing down to the entrance when the sun's solar heat melts the ice to a point that it cannot hold the weight of the icicle any more.

Probably the biggest challenge for the facility person to solve of these three concerns is the icicles because these icy objects can hit a passerby, resulting in a serious injury. To prevent this, as well as snow and ice build up at the edge of the roof and/or overhang, is to address the problem at the source.

One of the more common methods of snow and ice build up is to install electrical heat tape laid out in a serpentine pattern across the roof area that is directly over the building entrance. This electric heat will need to be energized by the facility person whenever there is a concern that snow and resulting ice will collect overhead that could be a safety hazard. Unfortunately, based on the configuration of the roof structure, slippery-slope surface, or an overhang may not be able to accommodate the installation of this cabling.

Another snow, ice prevention method is to install snow guards on the roof surface to limit the potential for snow and ice sliding down onto unsuspecting persons entering or leaving the building. Yet another solution is to have the entire roof area of the entrance covered with metal roofing that doesn't allow the snow or ice to build up.

With each of these possible solutions, the facility person still is required to keep a vigil for snow and ice build-up. When there is a potential for hazardous accumulation of snow, the facility person may simply bring out a snow rake and rake the roof surface over the entrance to drag the snow off the roof. This allows the sun to do its work of drying off the roof surface from future buildup.

Orientation of a building's footprint, entrances, exits, and walkways adjacent to the building can have a positive or negative impact on the facility person's efforts to keep individuals safe when they come and go from one of the Diocese's facilities. While it is nice to think consideration for creating a safe winter environment around a building was taken into account when planning a new structure, this is not always the case and for numerous reasons based on the available building site, economics of the project, and the building's resulting form and function. Other factors to

impact the quest to make a building entrance and perimeter of the facility safe include, but not limited to radiant solar angles, sun shadows, noise, vibration, wind force, air quality, pedestrian level winds, and snow loading.

The potential for hazardous conditions to people, as well as property if not adequately anticipated, can be significant. Further, it is important to note that the occurrence of hazardous winter ice and snow formations *cannot* be eliminated and can only at best be reduced in frequency or severity. 20-20-hindsight can be a useful tool to reduce the problems associated with creating a safe building entrance when facility management considers the addition of a canopy, wing-wall, wind screens, etc., as effective protection for building entrances and exits.

At the same time 20-20 hindsight towards building winter hazards, one can easily question the situation after the fact without solutions. For the facility person assigned the task to provide a safe environment, this individual may feel at times like Don Quixote taking on his arch rivals the windmills that stood in front of him – except the snow and ice hazards are not imaginary foes. Being vigilant towards the hazards of winter and the solutions to these hazards that can also impact the environment is just one of the day-to-day responsibilities to the occupants who enter and leave a Diocesan facility.

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