

Landscape MANAGEMENT

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SNOW & ICE GUIDE

Trees & salt don't mix

Many contractors and homeowners use salt deicers to combat ice on roads and sidewalks. While salt stains are a common sight on cars and steps, many may not know that salt deicing products can also damage foliage on trees.

Sodium chloride, the scientific name for rock salt, is the most popular and generally least costly type of deicer. Unfortunately, as ice and snow treated with rock salt melts, the resulting runoff may cause harmful byproducts to seep into soil or splash onto leaves, causing wilting and other injuries to vegetation.

"It is impractical to avoid salting completely because safety on our roads and sidewalks is obviously an important issue," says Dr. Bruce Fraedrich, vice president of research at Bartlett Tree Expert. "However, there are ways to protect trees and

Valuable tips to recognize and lessen damage to trees from rock salt used on icy walkways and roads

shrubs." Fraedrich points to several causes and telltale signs of deicing problems, and offers solutions:

► "A lot of trees are affected by airborne salt kicked up by traffic. It settles on leaves, desiccating the tree. Some trees absorb the sodium and others suffer from root damage, caused by salt seeping into the soil." Species most susceptible to this type of damage are evergreens, including conifers, pines, spruce and holly trees. Fraedrich says trees retaining foliage year round have the highest risk.

► Professionals can identify damage by the wilting and dryness of leaves and other foliage, though symptoms are usually evident only after large masses of salt have accumulated. "Damage to the soil can be spotted by noticing significant drooping, especially at the top of a tree, because salt inhibits absorption of water by the root system. Salt damage produces similar symptoms as drought. When caused by airborne salt (from vehicles), it usually occurs on the lower part of the tree, facing the street," he says. Damaged trees also tend to have thinner leaves and often bloom later in the spring.

► Other symptoms include stunted growth of foliage, browning of foliage,

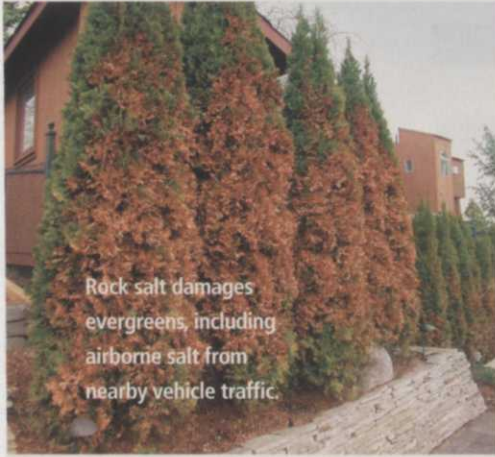
thinning of branch tips, premature fall coloration/defoliation and dead branches. Severe cases often lead to insect infestation.

"Damage is hard to prevent and winter weather complicates efforts to help trees, because there's no way to wash off salt," says Fraedrich. To counter the inevitability of salt damage, Fraedrich recommends planting trees tolerant to salt (such as birch, oak or juniper) near the road and driveway. Beyond that, he advises monitoring plants to ensure their overall health. "Keep trees well watered and use gypsum (calcium sulfate) to help counteract salt in the root system," he says. A certified arborist can help keep trees healthy year-round so they are less susceptible to winter issues.

Other measures can be taken to reduce the risk of damage including diverting salt from trees by erecting barriers of burlap or wood, laying down mulch to prevent seepage and watering during dry periods. These preventative measures can decrease the chances of trees experiencing heavy damage. **LM**

— For more information, please visit

Bartlett Tree Experts at www.bartlett.com
or call 1-877-BARTLETT.



Rock salt damages evergreens, including airborne salt from nearby vehicle traffic.



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It's electrifying

Low voltage radiant snowmelt systems offer a new revenue source for landscape contractors BY WILLIAM & PATTI FELDMAN

Here's a largely untapped opportunity — offering commercial and residential customers the installation of low-voltage electric radiant snowmelt systems. Not only does it give you another profitable service to offer clients, it makes their properties safer.

The learning curve for these 21-volt radiant snowmelt systems is low. Installations can be a natural extension for landscape contractors with expertise in building walkways and other hard surfaces. And, generally, the project is a quick one. An electrician is needed only to connect the low voltage transformer to the service panel for the final hook-up to line voltage.

In fact, installation of the heating elements for a single-family residence can take just a few days, followed by the finish surfacing. Exact time frame and cost varies depending upon the design and layout of the system, the length of the driveway and/or the walkway and/or the square footage of the patio, and the geographic location of the project. For instance, on a long driveway, it's possible to install snowmelt elements for the entire width and length, for a particular portion

of the driveway or for tire tracks the length of the pavement.

Increases safety

Snowmelt systems appeal to owners of residences who value the cachet and benefits of "ground-breaking" technologies, especially one that can improve safety for anyone walking outdoors in bad weather and minimize risk of liability from slips or falls on snow or ice.

Installing a system can be practical and a smart business move for owners of multiple tenant properties, resort properties and commercial retail locations, where liabilities related to lingering snow and ice are considerations but also where stockpiling of removed snow is not feasible. Melting away the snow can be more efficient and reliable than shoveling or plowing it.

Snowmelt also eliminates the need for rock salt and other minerals that can damage a walkway or driveway and are often carried indoors, ruining expensive finished floors. In addition, homeowners gain the use of a snow and ice-free patio in winter and, perhaps, add to the home's resale value.

Low-voltage radiant snowmelt systems can be designed as an always-on or on-demand systems. With always-on sys-

tems end-users don't have to worry about unexpected or overnight weather events. By contrast, on-demand systems can be switched on/off as required and are generally installed in areas of more moderate weather and infrequent snow and ice occurrences. All designs should take drainage into consideration, to minimize water accumulation from run off that could result in ice build-up near the driveway or walkway.

Both types of low-voltage electric radiant snowmelt systems can feature self-regulating elements, where the output of



A low-voltage radiant snowmelt system can eliminate the need for rock salt on patios and stonework.

the elements is responsive to the temperature of the ground, conserving energy on warmer days.

Consider energy costs

When evaluating the concept of efficiency of a self-regulating low-voltage snow melt system for a customer, take into consideration two factors — consumption and cost. Consumption refers to how much energy the system will pull compared to other snowmelt options. (Self-regulating low-voltage snowmelt systems use fewer BTUs or kWh per hour than non-self-regulating low-voltage systems.) The cost is the energy cost per kilowatt hour in the area (winter rates) compared to other available energy sources.

"During a usual Colorado winter along the Front Range, snow storms generally drop 3- to 6-in. of snow and the sun is out the next day, greatly helping the snowmelt cycle, keeping actual operating costs of a snowmelt system relatively low," says A.J. Seastone, president of Centennial Building Supply, in Littleton, CO, a distributor and installer of STEP Warmfloor systems.

Snowmelt systems come in a range of BTU/kWh outputs. With Class 1 systems,



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SNOW & ICE GUIDE

Low-volt radiant snowmelt systems can be designed to fit any shape.

snow accumulates and, after several hours or after it stops or slows down, the snow melts. With a Class 2 system, the system keeps the area clear of accumulating snow, though the driveway or walkway

may stay wet. Class 3 systems (which are relatively rarely requested by customers because they are expensive to run) melt the snow as it accumulates and are ideal for an application where a facility wants



all the water evaporated to achieve a dry, no-slip surface.

The actual design data differs throughout the country and should be calculated for each location according to the freezing index of the area, type of soil and loading conditions, points out Monica Irgens, chairperson of the Electric Radiant Committee of the Radiant Panel Association and the president of STEP Warmfloor, a St. Louis MO-based manufacturer of low-voltage electric radiant heating systems. Other factors that can affect rate of snowmelt include rate of snowfall, ambient temperature, wind speed and humidity.

Working from an area sketch provided by the contractor, STEP Warmfloor designs a layout that shows placement of all elements to achieve top performance. In many cases, input from a local engineer familiar with the particularities of the region and the land would be welcome.

Low-voltage electric radiant systems have several strong selling points that can tip an end-user into serious consideration when evaluating that option against water-based (hydronic) radiant systems or line voltage electric systems. They're generally easier to install and are often less expensive than other systems. And, unlike hydronic systems that require boiler tune-ups, low-voltage systems have no maintenance and no chance of leaks.

Once a landscape contractor is conversant with the attributes and benefits of low voltage snowmelt systems, installation of this value-added service should be mentioned on the company website, in newsletters and in fliers added to monthly bills, percolating interest that can create a blizzard of new business opportunities. **LM**

— William Feldman is a freelance writer in Chappaqua, NY. Contact him at billfeldman@verizon.net

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Wing control

The Blizzard Speedwing combines the productivity of Blizzard's multi-position design with the simplicity of straight blade control. Wings automatically default to scoop position for forward plowing. They automatically open and close when angle plowing to prevent spillover. Heavy-duty coil springs absorb shock when striking curbs and manholes, and automatically return the plow to the scoop position.

For more information contact

www.blizzardplows.com / circle no. 250



New solution

Bobcat's new Snow Pusher attachment quickly clears light to moderate snow from large areas. Available in 94- and 120-in. widths, the attachment features a free-floating blade with a 12-degree tilt, abrasion-resistant skid shoes and a rubber cutting edge to protect pavement surfaces are standard.

For more information contact 866/823-7898 / www.bobcat.com / circle no. 251

New inhibitor

From the distributors of ICE BAN products, Winter Management now offers an addi-

New products



tional line of ice melt products called Safer than Salt. This family of unique formulations includes calcium, magnesium,

sodium and potassium chlorides, plus a corrosion inhibitor (CMA). Safer than Salt melts ice faster than rock salt, working down to -25 1/2 F, and its unique color coating assures visible, complete coverage.

For more information contact 617/333-6900 / www.wintermgmt.com / circle no. 252

Pull plow

Snowman Snowplow's Quick Mount (model 04RS) is the industry's only spreader-compatible pull plow. It features a knife mount system that allows quick on/off from the vehicle receiver hitch. Two safety stand bars support the plow for easier hookup and storage after use. The twin cylinder and heavy steel construction is designed for commercial use with full-size and 1-ton 4WD vehicles. The wide-set mounting arms allow enough clearance for the plow to operate behind most V-box and tailgate spreaders. A tested and approved receiver hitch is provided with each plow. In addition, hydraulic

power down pressure scrapes the surface cleaner, reducing the amount of deicer material needed for ice management.

For more information contact 888/766-6267 / www.snowmanplows.com / circle no. 253

Easy and adjustable



With its 400-lb. (6-cu.-ft.) capacity and low-profile design, the new TGS 600 Tailgate Spreader from The Boss Snowplow fits Class 3 and 4 receiver hitches, and mounts/dismounts easily, saving valuable time. It also features an adjustable feed gate; adjustable material deflector; 12-in. poly spinner; an internal auger with a chain link agitator; an enclosed 12-volt high-torque motor and a variable speed control with blast feature and overload protection.

The spreader also comes with The Boss 2-year warranty.

For more information contact 800/286-4155 / www.bossplov.com / circle no. 254



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Sensible sensors

Low-cost Zydux Intelligent Environmental Sensors offer a fast return on investment, an open protocol and free software. Users define an automated callout for custom results. The easy-to-install sensor program reports on multiple pavement temperatures, moisture depth and a freeze point. Zydux also includes an affordable GPS system.

For more information contact 509/526-4482 / www.zydux.com / circle no. 255

Heavy-duty spreaders

Ideal for heavy-duty municipal and commercial applications, Salt Dogg's 4- and 4.5-yd. salt and sand spreaders are designed for dump bodies and flat beds with a GVW chassis of 15,000 to 20,000 pounds. The series is available with either hydraulic motor drive or 10.5-hp gas engine. They feature a self-contained hopper and a spread width of 4 to 30 feet. Options include a light bar, a 55-gal. liq-

uid spray system and a tailgate latch kit.

For more information contact 440/974-8888 / www.saltogg.com / circle no. 256

The scoop from Hiniker

The concave shape of the Hiniker Scoop Plow provides greater capacity, less spillage and faster plowing over other models. The Scoop Plow's 20-degree, fixed-angle outer ends help it capture snow, making it ideal for clearing parking lots. Available in 8- and 9-ft. lengths, the plow features a high-impact polyethylene moldboard that creates a low-friction, corrosion-free plowing surface. Its 3-section trip-edge with a 9-in.-high pivot point provides protection from curbs and parking barriers.

For more information contact 507/625-6621 / www.hiniker.com / circle no. 257



Safe driver training

Coaching Systems LLC, formerly FLI Learning Systems, reissues two snowplow safety videos in

DVD format. *Snowplow Safety: On Road* is a 23-minute video ideal for both newly hired and experienced operators. Topics include equipment, inspection, positioning of the truck, scanning, mirror use and defensive driving techniques. The 19-minute *Snowplow Safety: Parking Lots* is also available and focuses on safety issues specific to plowing parking lots.

For more information contact 800/354-9099 / www.flilearning.com / circle no. 258



Strong push

Pro-Tech's IST stands for Ice Scraping Technology. It was created as the first steel trip edge designed for Sno Pushers to incorporate the longevity and limited moving parts of rubber-edge pushers. This urethane-based technology ushers in a new generation of steel trip edges that do not require springs or hinges, which are susceptible to malfunction. The design of the IST Sno Pusher incorporates extended wear shoes for a balanced, even push along with a modified angle in the moldboard. These two features, combined with the urethane tripping mechanism, provide a loaded torque on the steel edge that ensures effective ice scraping ability and a safe, consistent tripping mechanism.

For more information contact 888/787-4766 / www.snopusher.com / circle no. 259

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