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

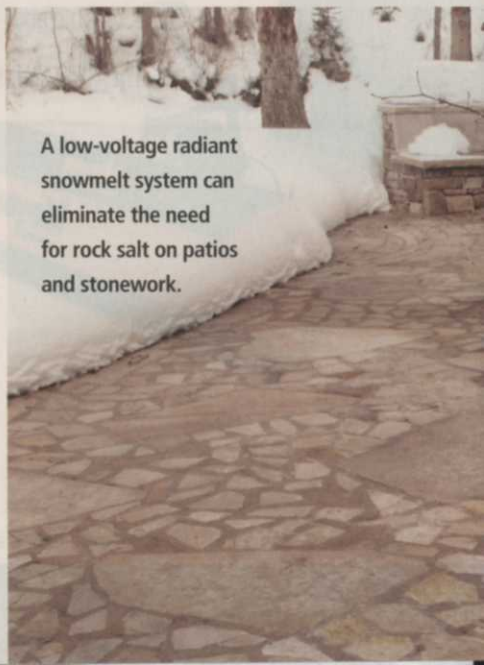
Snowmelt systems appeal to owners of residences who value the cachet and benefits of "ground-breaking" technologies, especially one that can improve safety for anyone walking outdoors in bad weather and minimize risk of liability from slips or falls on snow or ice.

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 systems 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,

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

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