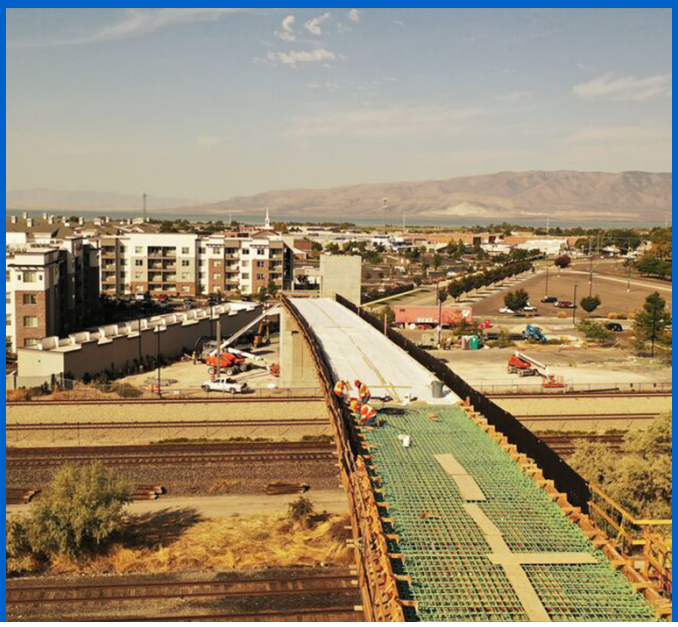
References

UVU pedestrian bridge



Uponor involvement

Project highlights

- First large-scale use of Uponor PP-RCT in North America
- Engineer and Installation Team: Thermal Engineering, Aron Frailey
- Uponor PP-RCT used for supply-and-return piping

Products used

- 1,900 feet of Uponor PP-RCT

Bridge Snow Melt System with Uponor PP-RCT

See how the UVU pedestrian bridge used Uponor PP-RCT to make the walkway winter-safe...

CHALLENGE:

The UVU pedestrian bridge provides cross-campus access to 6,000+ students each day. At 15 feet wide and 970 feet long, spanning across a highway and railroad tracks, the bridge needs to maintain safe access throughout snowy, icy winters. With Orem, Utah receiving an average of 40 inches of snow every winter, winter maintenance is incredibly important, but the size and positioning of the bridge makes manual snow removal tedious if by hand and cumbersome to maneuver equipment.

Another challenge that comes with the size of the project: the weight of the pipe needed. Traditional hydronic-distribution methods would use 4 inch steel pipes, but the amount required would weigh more than a ton, requiring numerous installers and welding.

More from the experts

Read the full story and learn from the contractor who installed the first large-scale use of Uponor PP-RCT in North America.

Learn more about the UVU pedestrian bridge

Project Facts:

Location	Completion
Orem, Utah, USA	2020

Building Type

Higher Education

See how the UVU pedestrian bridge used Uponor PP-RCT to make the walkway winter-safe

SOLUTION:

A radiant snow-melt system throughout the pedestrian bridge eliminates the need for manual and machine removal of ice and snow, making it safer and more accessible to all pedestrians. Leveraging the Uponor PP-RCT pipe and fittings, combined with the PEX-a, they were able to create a hybrid system to fit UVU's needs. The Uponor pipe solutions are much lighter in weight than traditional metal options, simplifying the installation process and the logistics of snow removal from such a large, high up structure.

RESULTS:

The UVU Bridge is a hybrid snow-melt installation, using both Uponor PP-RCT and another manufacturer's PEX-a. The PP-RCT, ranging in diameter from 2 ½ inches to 4 inches (available in sizes ½ inch to 12 inches), performs a supply-and-return function, transporting a warm glycol solution from a boiler in a mechanical room in a tower on the east side of the bridge to the PEX-a snow-melt grid of 5/8-inch diameter pipe.

Uponor PP-RCT is able to better withstand the salt and magnesium chloride Utah uses for snow and ice melting on its highways, and is easier to handle and less labor-intensive than using steel piping. It also provides a critical, unique advantage: the ability to move in unison with the bridge. "The structure is intended to move as much as 18 inches and in every direction all the time: left to right, backwards and forwards, up and down," says contractor Aron Frailey. "I was concerned about the joint integrity of a steel piping system with all that movement, and I really liked the flexibility of PP-RCT to handle it."

In addition, PP-RCT and PEX-a pipe are much lighter than the traditional metal options. PP-RCT is far easier to handle and therefore less labor-intensive than steel. Shipped in 19-foot lengths, a stick of 4-inch PP-RCT weighs a mere 63 pounds — a tiny fraction of its steel counterpart.

Using 1,900 feet of PP-RCT and 36,000 feet of PEX snow melt, the walkway joining two sides of Utah's largest public university becomes the first large-scale use of Uponor PP-RCT in North America.

UVU pedestrian bridge

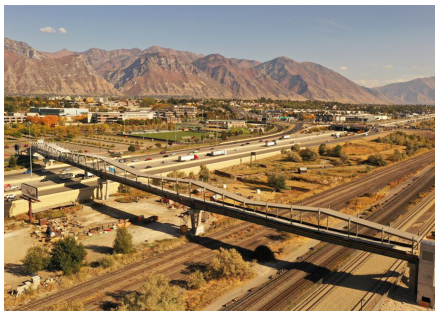












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