The Carlson EZR2 rear mount screed was used for weight and its four-inch chrome rods tightly fixed to a heavy-duty tubular frame, providing the extensions with optimal rigidity and eliminating independent movement of the chrome rods. Large adjustable slide blocks and bushings eliminate flexing at wider widths, especially important for laying the surface course up to 26-foot wide. A two and three-foot screed section was bolted and leveled on each side, with three 2-foot strike offs affixed, also added on each side. Six-foot auger extensions were attached to make sure the asphalt material went to the end of the screed. The pre-strike offs made sure a nice head of material was kept all the way across. Screed vibration for additional compaction throughout was maintained during all paving.

A ready supply of trucks in the distance was crucial to maintaining a continuous, non-stop paving process. Some passes were as long as 3,000 feet.

The MOBA-matic II is a flexible leveling system for pavers to control the layer thickness and the slope of the screed, in this case for a 1 percent slope across the entire 150-foot-wide runway, with an ultrasonic sensor. It's also user-friendly with four main buttons for important functions as well as for the height and slope of the paver screed. Again, it was Trimble compatible.

"Our tolerances were very tight. We have a quarter of an inch in tolerance for straightness and half an inch tolerance for elevation, across the board! We went with the SITECH system because we didn't want to put up a lot of string lines that could be damaged with moving equipment across the 150-foot-wide runway." Stayer notes. "Trimble is compatible with SITECH and has an accuracy of a millimeter.

There is no other product on the market today that is approved by the airport. Morning measurements had us running .0004 of an inch accurate, and even better other mornings.

"There are at least five guns or total stations that are read to about 400 feet. As we pave, we get a reading from the first station and when we get close to the outer 400-foot range, I switch to the next gun (total station) while still paving. The measurements are sent to the target that is mounted on the paver. In this case, to not interfere with trucks or equipment in range, we have set it 14 feet high to receive the information without interference. When the Trimble system is set up, it knows where it's at and the paver knows what the screed height is. It controls the screed elevation through the guns that are placed alongside of the runway. The total station signals basically give us a finished grade and the automation on track," emphasizes Stayer.

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>
> —Jim Stayer, paving foreman, Union Concrete

The Trimble 3D Paving PCS900 Control System included the Universal Total Station on-site with the mast mounted target on the tow arm of the paver with a Trimble MT900 prism on top and a slope sensor. A Trimble CB460 control box displays the 3D design model and the position of the screed. There are also design files stored in the box on the paver for guidance. Through radio commands, the grade and slope could be used to move the tow arms for the screed to adjust accordingly.

IT'S ALL ABOUT THE RESULTS

The project was done on time and with no discernable issues. "We wanted to go with the stringless system, for economy and expediency. We wanted to go with the SITECH system and then went with the other equipment compatible with it," Stayer explains. "We have had very good support from Roadtec, other equipment manufacturers and Tracy Road Equipment. There was a learning curve for us all on the whole system used, but once we figured it out, everything was very accurate. The paver and screed were also very user friendly and with the 3D system worked out very well."

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