

Guntert & Zimmerman

# Construction Profiles

Fall 2009

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# Iowa Shows Its Stuff And Goes Stringless



The construction industry has been using stringless technology for elevation and steering control of equipment for a number of years. To date however, the use of this technology in the concrete paving market has been limited to the grading operation and is not typically used for the actual paving where stringline is still the preferred method of guiding the steering and elevation controls on these machines. This is due to stringline having been traditionally more reliable for paving operations than a stringless system when it comes to meeting the strict smoothness specifications often found on highway projects. In a business where smoothness reigns supreme, contractors can't simply throw caution to the wind and pave with a system in which the reliability has not been proven.

Even with this in mind, the stringless benefits are undeniable: less survey costs, fewer man hours setting stakes and string, and no more office types tripping over "hard to see" stringline on jobsites. For a paving contractor, the savings associated with stringless technology simply doesn't outweigh the cost of grinding out of specification pavements. As the technology has progressed, the

paving market has become more and more interested. Is it finally time to see the broad use of stringless technology in the paving market? Once again, the constantly innovative Iowa DOT has set out to be a leader in the application and use of new technology.

On September 2, a national open house for concrete overlays was held in Worth County, IA. Over 100 state DOT employees (9 states), county engineers, engineering consultants, contractors, and suppliers attended the one day event. The agenda for the day featured concrete overlay projects by both Cedar Valley Corp. and Flynn Co. Inc., who both use G&Z S850 slipform pavers. Presentations by James Cable of Cable Concrete Consultation LLC, Tom Cackler, Director of National Concrete Pavement Technology Center, Matt Morrison, Paving and Key Accounts Manager for Leica, Ron Guntert, President & CEO of G&Z, and Jeff Flynn, President of Flynn Co. Inc., were followed by a bus tour of both jobs.

Cedar Valley recently completed three Worth County projects. The 24 mile (38.6 km) long, 4 in (10.16 cm) thick, 22 ft (6.7 m) wide





concrete overlay which was paved with traditional stringline, was selected through an alternate bidding process over a 3 in (7.62 cm) asphalt overlay with 3 in (7.62 cm) cold-in-place recycling. Because of concrete's longer life expectancy and lower maintenance costs, Worth County officials selected concrete as the material of choice for their overlays rather than asphalt. For the quality of work achieved on this project and the hundreds of concrete paving projects previously done by Cedar Valley using a G&Z S850, G&Z is very proud to call them its partners.

Flynn's 10.5 mile (16.9 km) Iowa Department of Transportation project on Hwy 65 near Mason City, IA was a 32 ft (9.75 m) wide, 5 in (12.7 cm) thick unbonded concrete overlay using a stringless system. The original 24 ft (7.3 m) pavement was widened 4 ft (1.2 m) in each lane, and Flynn elected to pour at half width to facilitate local traffic. Iowa DOT specified the use of stringless technology on this portion of Hwy 65. Flynn's G&Z S850 was equipped with Leica Total Station machine controls. As the name implies, stringless technology replaces the traditional stringline with an electronic tracking process that controls the horizontal and vertical operation of the paver. At times, Flynn paved up to 18 fpm (5.48 mpm) achieving smoothness on zero blanking band as low as 6 in per mile and averaging in low teens for the project which earned them full bonus incentive.

With the savings in materials and labor, concrete overlays will be equal to or lesser than asphalt's initial costs but will always perform better over the long run. This could result in more jobs bid for concrete rather than asphalt. With the elimination of stringline, the use of stringless technology holds special potential for increasing the application of concrete overlays. Also seen for

the first time was Ames Engineering's prototype, a real time on board smoothness measuring device.

Jeff Flynn and his team should be congratulated for paving the way to a brighter future with stringless paving technology. Based on the extremely positive reaction of county officials and attendees at this event, the future of concrete overlays and stringless technology looks very promising. Iowa alone is building over 200 miles of concrete overlays in 2009. The Flynn Company's constant attention to detail from the project planning phase through installation is one of the reasons that they are considered a quality paving contractor.

G&Z would like to say a special thanks to the Flynn Concrete Paving Team: Mark Gorton, Project Manager, Gary Hoffmann, Superintendent, and Tim Duffy, Paving Foreman for helping bring this new technology to the market.

