



CONSTRUCTION PROFILES

Fall 2007

A PUBLICATION OF GUNTERT & ZIMMERMAN CONST. DIV., INC., RIPON, CALIFORNIA U.S.A.

CDBI PERFORMS AT DULLES



Lane paving at Dulles International Airport in Dulles, Virginia with G&Z's S850 and Compact Dowel Bar Inserter. Paving width at 18'-9" (5.71m), 17" - 17 1/2" (432mm - 444mm) thick concrete pavement. 1 1/2" (38mm) diameter dowels, 20" (508mm) long dowel bars on 18" (457mm) centers.

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Mark Your Calendar!

January 29, 30, & 31, 2008

Twenty-First Annual Paving School

See Page 4 for additional information.

Washington Dulles International Airport (Dulles), Dulles, Virginia, is one of the fastest growing airports in the U.S. and one of the largest U.S. transatlantic gateways. Dulles serves more than 23 million passengers a year, which includes more than 5 million international passengers. Thirty passenger airlines and four cargo integrators operate at Dulles with nonstop service to 80 U.S. cities and 44 international locations. Dulles is also a major hub that services Washington D.C.

Dulles is currently undergoing a US\$3.4 billion capital construction program to better serve the growing air needs of the region. Improvements include an underground rail system, additional

public parking, a new concourse and several new runways. One of the major contractors involved in these projects is The Lane Construction Corporation of Meriden, Connecticut.

Lane was awarded the two contracts for the Dulles Fourth Runway Project, which includes one new major runway, connecting taxiways, and deicing pad, consisting of approximately 280,000 cubic yards (214077m³) of concrete. Farid Hamad, Lane's District Manager for the Dulles Project, proposed the use of a dowel bar inserter (DBI) as Lane has experienced great success using G&Z's Paver and DBI on numerous highway projects. Hamad pointed out Federal Aviation Administration (FAA)

specifications do not prohibit the use of the DBI. In addition, Hamad estimated Lane would save about 20% in manpower using the DBI rather than placing baskets.

A meeting was arranged with Lane, G&Z, Carter Burgess (lead designer for the project), CH2M Hill (sub-consultant) and the Metropolitan Washington Airport Authority (MWA) to discuss using G&Z's DBI. Ron Guntert, Jr. from G&Z flew to Washington for the meeting to assist Lane in convincing the parties involved that G&Z's DBI would be appropriate to use. G&Z and Lane are not strangers to this process having worked together to convince a number of state transportation departments to allow the

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MYTH BUSTED!

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Interstate Highway Construction, Englewood, Colorado, earned 100% ride bonus on this project with a profilograph ride index of 0.8 in/mi (12.8mm/km) on the southbound lane and 0.5 in/mi (8.0mm/km) on the northbound lane using a 0.2" (5mm) blanking band.

One of the 'Myths of Concrete Paving' is that it can't be built under traffic like other pavement types. Well, like they say on the Discovery channel television show, Myth Busters – "MYTH BUSTED!"

Inspired by the neighboring state of Colorado, the Division Six design team stepped out of the box as they developed a project to rehabilitate a 3.9 mile (6.2km), two-lane section of US 287 just north of Boise City in the Oklahoma Panhandle.

Cutting through an area of the Oklahoma Panhandle once known as "No Man's Land," this road is an important

commercial route extending from Texas through Montana. Designated as the 'Ports to Plains Corridor,' the truck traffic on US 287 is in excess of 61 percent of its average daily traffic (ADT). In 2004 a bill was passed in Washington that provided special funding for its improvement in Oklahoma.

Right-of-way was purchased for an eventual upgrade to a four-lane facility; however, for the near future, a two-lane highway remains adequate to meet the needs of the current ADT.

Although distressed, the original asphalt pavement provided an excellent base for

the white topping operation.

According to Scott Armstrong, the construction engineer for Division Six and the engineer of record for this project, many roads in North-West Oklahoma were built with a soil asphalt and later resurfaced with hot mixed asphalt. As the oils leach out of the soil asphalt, the base can weaken and cause failures. The obvious solution is to remove all the asphalt and rework the base, but this solution is usually cost prohibitive. The concrete overlay option provided a way to avoid that expense.

"Because of the importance of this road to the area, we were looking for ways to reduce the inconvenience to the traveling public, both now and many years in the future. Even the traffic stripe was recessed to avoid its removal while clearing the roads of ice and snow. The life expectancy of a road can depend on many things, but we shouldn't have to revisit this section of highway for any major repair for 24 to 30 years," Armstrong said.

An 8 1/2" (216mm) concrete overlay was chosen and designed to handle traffic without the construction of detours, thereby saving time and money. Traffic was guided through the work zone by pilot cars with flagmen stationed at each end.

After the end of each day's run, the flagging operation continued around the clock until sufficient strength of

See ... Myth on Page 5



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CDBI PERFORMS

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use of G&Z's DBI. (See Construction Profile Newsletter February 2005.)

The final decision allowed Lane to use G&Z's DBI, along with the use of a second coarse aggregate #8 stone in addition to the specified #57 stone. Optimized concrete mix design insures high quality pavement on thick airfield slabs and non-slumping edges. It also insures success when using a DBI. G&Z assisted Lane in selecting the best gradation / mix for their Dulles project by using Shilstone's mix design program.

G&Z is proactive in working with contractors in the promotion of advanced paving technology and has attended scores of meetings throughout the U.S. and internationally to present accuracy and smoothness data to support the use of DBIs. The introduction of the first

successful paver mounted DBI in the U.S. was by G&Z in 1987, and G&Z continues to be the leader in DBI Technology.

Lane started work at Dulles in June of 2006 and began paving with their new G&Z S850 Slipform Paver with Compact Dowel Bar Inserter (CDBI) in June of 2007. Paving was done at a width of 18'-9" (5.7m) with runway depths of 17" (432mm) and deicing pad at a depth of 16" (406mm). Hamad told G&Z that they have about 80,000 cubic yards (61165m³) of the deicing pad left to pave. Lane elected to pave at a width of 18'-9" (5.7m) rather than 37.5' (11.4m) because they could easily provide concrete to the paver at 18'-9" (5.7m) to keep it moving at a steady pace instead of a stop-and-go pace at 37.5' (11.4m). They also felt they had enough time in their schedule to accommodate the additional paver relocation time required to pave the additional 18'-9" (5.7m) width passes required.

Lane is extremely pleased with their

S850 and CDBI. Hamad stated, "The maneuverability of the paver and DBI was very helpful in keeping our production up, especially when we had more than one pull to make in a day." Jeff Holley, Mechanical Supervisor / Dulles Project, said, "We chose G&Z because of their dowel bar inserter. We have had such good luck on our ride-ability and profilograph

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Farid Hamad, Lane's District Manager for the Dulles Project, stated, "We did not have any edge slump issues on this project. The edges came out of the paver straight and level."

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MARCH 11-15, 2008**



**S850 QUADRA Slipform Paver
Compact Dowel Bar Inserter
AND
TC1500
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Contractors the world over are
choosing
G&Z Equipment
Find out why a G&Z
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CDBI PERFORMS

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readings. We feel the G&Z Paver with CDBI is a better machine.” The Dulles job was no exception as far as smoothness was concerned. Lane achieved excellent smoothness results on the project well under the 7"/mile (112mm/km) profilograph requirement as measured using a 2/10th (5mm) blanking band.

Lane is familiar with G&Z's equipment; their first purchase was a S1000 with DBI in 1988. This machine was finally retired from their fleet after many years of active service when Lane purchased their first S850 with CDBI in December of 2002 for projects in North & South Carolina. Their second S850 with CDBI was purchased in late 2006 for the Dulles project. Lane demands high quality from all their projects and have won numerous awards over the years. The Southeast Concrete Alliance Network (SCAN), American Concrete Pavement Association (ACPA), Department of the Army, State of Pennsylvania – are only a few of the organizations that have awarded Lane for their high quality work. At the recent ACPA Annual Meeting held at Loews Ventana Canyon Resort in Tucson, Lane was the 2007 Gold Winner for their US 1 / 64 project near Cary, North Carolina, under the Divided Highways - Urban Category where they used a G&Z S850 with CDBI.

Lane's success at Dulles has been well documented and observed by a number of agencies. Lane agreed to Magnetic Imaging Tool Scans (MIT) at various stages throughout the project, as well as profilographing the completed project.

MIT scans and drilling showed the DBI was well within the tolerance range. Profilograph readings over approximately 4 miles (6.4km) yielded an average of 2.08 in/mile (33.4mm/km) on a 2/10th (5mm) blanking band. The job specifications allowed up to 7"/mile (112mm/km). According to Albert Alecknavage, construction inspector with Parsons Management Consultants (PMC), the Program Management team for the MWA, “Lane was under constant scrutiny at the beginning of the project and had to do MIT scans at every joint placed. I was not the only inspector. There were inspectors from every division of the project watching them to make sure the dowels were placed accurately. Foremen on either side of the DBI were required to measure the depth of the dowels at each

“We had the opportunity to insert dowels at Dulles for the first time on an airport, and there was really only one paver that we felt comfortable using and that's the G&Z.”

Robert E. Alger
President & CEO

The Lane Construction Corporation

joint. At the end of the first day, dowels were saw-cut to ensure proper placement. The results Lane achieved on dowel bar location were excellent.”

Alecknavage was so impressed with the quality of placement with the CDBI, he has requested information from G&Z

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Lane estimated they would save about 20% in manpower using G&Z's CDBI rather than placing baskets. Profilograph readings over approximately 4 miles (6.4km) yielded an average of 2.08 in/mile (33.4mm/km) on a 2/10th (5mm) blanking band.



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MYTH

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the concrete had been reached to allow traffic back on the pavement.

Wait times through the construction zone were held to a minimum to keep inconvenience to the traveling public low. With average wait time ranging from one to twenty minutes, no complaints were received by Oklahoma Department of Transportation (ODOT) concerning the work zone throughout the project duration. Actual paving operations took place on only thirteen of the forty days that flagging/pilot car operations were under way. The overall one-way traffic operation time may be reduced on future projects as ODOT personnel are considering reducing the opening to traffic requirements from the current fourteen days to a minimum strength requirement.

Interstate Highway Contractors (IHC) out of Englewood, Colorado, was the contractor on the project and started things out on the right track by combining the Pre-Construction conference with a facilitated partnering session.

OK/AR ACPA Chapter (Oklahoma/Arkansas American Concrete Pavement Association), in conjunction with the Federal Highway Administration, was invited to present a pre-paving training session for the group.

Both the contractor and the ODOT expressed their appreciation for the spirit of cooperativeness enjoyed throughout the project. "We had a very good working relation with IHC, which

helped the project go smoothly," said Armstrong.

A bonus for ODOT was that IHC has just taken delivery of a new Guntert & Zimmerman S850 Paver to start the job. In fact, IHC earned 100% ride bonus available on the project with a PRI of 0.8 in/mi (12.8mm/km) on the southbound lane and 0.5 in/mi (8.0mm/km) on the northbound lane using a 0.2" (5mm) blanking band. A tightly controlled mix yielded compressive strengths averaging well over 6,000 psi (41.37 MPa) at 28 days.

So, is the myth of not being able to pave with concrete under traffic busted? It sure seems that way. According to Division Engineer, Robert Ward, ODOT will continue using concrete overlays and paving US 287 under traffic until they reach the Colorado border. **MYTH BUSTED!** ■

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IHC partnered with ODOT to help bust the myth that concrete paving cannot be done under traffic like other pavement types. US 287 is in excess of 61 percent of its average daily traffic (ADT).



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Ron Meskis, G&Z Sales Manager



Ron Meskis (left) is welcomed aboard by Ron Guntert, Jr.

Guntert & Zimmerman (G&Z) welcomes Ron Meskis to the position of Sales Manager. Beginning November 26th, Meskis will take on the responsibilities left by the resignation of Craig Hennings. Ron's plan is to promote and expand G&Z's market share in the concrete paving, mobile concrete plant, canal, and trencher equipment markets, both in the U.S. and Internationally.

For the last 7 years, Meskis had been employed by American Highway Technology, a division of Dayton Superior Corporation, with responsibilities for sales and marketing of highway products into 13 U.S. states, Canada, and the Middle East.

Prior to Dayton Superior, Meskis worked for Novocon International in sales and market development of steel fiber reinforcement used in the concrete slab-on-ground and shotcrete markets.

He also has experience in civil engineering design, concrete technology, and construction management with previous positions at Joseph A. Schudt, a private design consulting firm, and Marriott Corporation's construction division.

Meskis is a licensed civil engineer receiving his degree from Purdue University. He also received a Masters in Business Administration at Indiana University.

We are excited to add Ron to our team at G&Z and look forward to the value he will bring to both G&Z as well as our customers.

CDBI PERFORMS

Continued from Page 4

to take to the airport authority at Fort Meyers, Florida, to convince them to use a G&Z CDBI rather than baskets. Alecknavage feels, "The DBI has enough merit and is reliable enough that it should be used on other airfield projects."

Emmett Brown, Assistant Superintendent / Dulles Project with Lane, said, "We are happy with the paver. We averaged over 3000 cubic yards (2294m³) a day with our best run at 4000 cubic yards (3058m³) for a 10 hour day. At times the paver was paving at upwards of 10 fpm (3m/km). The limits we faced were setting up each paving section. We could do more cubic yards, but job specifications limit the amount we can complete each day." The CDBI on the paver allowed Lane to dump concrete on grade in front of the paver. If baskets had been used, it would have required the use of a separate placer/spreader. Hamad added, "We did not have any edge slump issues on this project. The edges came out of the paver straight and level."

Robert Alger, President & CEO / Lane Construction, said, "We have had great success with G&Z equipment on heavy 18" - 22" (457mm - 559mm) thick pavement. We had the opportunity to insert dowels at Dulles for the first time on an airport, and there was really only one paver that we felt comfortable using and that's the G&Z. We've used the paver before (without CDBI) on heavy airport pavement, and now that they allowed us to use a dowel bar inserter, G&Z was the only piece of equipment that made sense."



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OUTSTANDING EQUIPMENT SUPPLIER

American Concrete Pavement Association (ACPA) recognized passion, professionalism, and contributions of several outstanding people and companies with the ACPA 2007 Distinguished Service Awards.

Gerry Krozel with Prairie Material Sales, Inc. received an award for Outstanding Promotor.

Randy Riley, P.E. accepted the Outstanding Promotional Project Award for the Reconstruction of I-74 in Peoria on behalf of the Illinois Chapter, Inc. - ACPA. Riley said, "The number one priority in promotion is partnership. Without our industry partners, and especially our partners at the Illinois DOT, District 4, this project would have been impossible."

Propex Concrete Systems was awarded the Outstanding Materials Supplier. Dennis Hogan, who received the award for Propex said, "As I look out there, I remember when ACPA only had four people on board, and I was one of them. Probably only ten or twelve people out there remember what it looked like at that time, but what is most interesting is seeing all the unfamiliar faces who will keep this Association going."

ACPA also recognized Tim Smith, P. E., Cement Association of Canada, as the second recipient of the Outstanding Health, Safety, and Environmental Stewardship award for his advocacy of sustain ability in concrete pavement construction.

Colin Jensen, Irving F. Jensen Co., Inc., was given the 2007 Honorary Lifetime Membership Award.

G&Z was honored with the Outstanding Equipment Supplier award. Sales Manager, Craig Hennings, said, "It is an honor to accept this on behalf of Ron (Guntert) and Guntert & Zimmerman. We are passionate about good construction, good roads, and building good machines to place them." ■



On behalf of G&Z, Craig Hennings accepted ACPA Outstanding Equipment Supplier Award.

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ACPA AWARDS

Congratulations to the following contractors. They earned awards from the American Concrete Pavement Association's (ACPA) 18th Annual National Awards for Excellence in Concrete Pavement.

COMMERCIAL SERVICE & MILITARY AIRPORTS

Silver Co-Winner: Interstate Highway Construction, Inc., Englewood, Colorado

Project: De-ice Pad in Denver, Colorado

Owner: City and County of Denver, Department of Aviation

Equipment: G&Z S850 Slipform Paver

DIVIDED HIGHWAYS - RURAL

Silver Co-Winner: Cedar Valley Corp., Waterloo, Iowa

Project: Iowa Highway 60 - Sheldon Bypass in Sheldon, Iowa

Owner: Iowa Department of Transportation

Equipment: G&Z S850 Slipform Paver

STATE ROADS

Gold Winner: Castle Rock Construction Co. of CastleRock, Colorado

Project: State Highway 40 (Wildhorse) Project No. HB 0405-024 Wildhorse, Cheyenne City, Colorado

Owner: Colorado Department of Transportation

Equipment: G&Z S1500 Slipform Paver

Silver Winner: Cedar Valley Corp., Waterloo, Iowa

Project: Fremont County Iowa, Highway 2-Sidney Bypass in Fremont County, Iowa

Owner: Iowa Department of Transportation

Equipment: G&Z S850 Slipform Paver

COUNTY ROADS

Silver Winner: Cedar Valley Corp., Waterloo, Iowa

Project: County Road E-54, Monona County, Iowa

Owner: Monona County Board of Supervisors

Equipment: G&Z S850 Slipform Paver

PAVING SCHOOL 2008

G&Z's Twenty-First Annual Paving School is scheduled for January 29, 30, & 31, 2008. Operators, mechanics, supervisors, superintendents, and equipment managers are encouraged to attend.

School begins at 7:30 AM Tuesday, January 29th, and runs through Thursday, January 31st, concluding at 5:00 PM. Continental breakfast and lunch are provided to all participants each day.

Workshops cover the following topics:

- ◆ Hydraulics
- ◆ Electrical Systems
- ◆ Steering
- ◆ Safety
- ◆ Grade Control Systems
- ◆ Troubleshooting
- ◆ Paving Techniques
- ◆ Dowel Bar Insertion
- ◆ Programmable Logic Controllers
- ◆ Concrete Mix Design

Cost to attend is \$225 per person, and registration requires a \$50 deposit per person. Register by mail or online at www.guntert.com.

If you would like to receive a Paving School Brochure, please contact: Jan Miller at 209-599-0066 Ext. 206



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