



ASHE SCANNER

Spring 2011

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Emergency Rock Slope Stabilization 12

Aerial Photograph of the Rockslide on November 15, 2009, Tennessee, east of Chattanooga.

ASHE Scholarship Awards 11 Exceed \$1 Million





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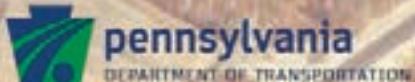
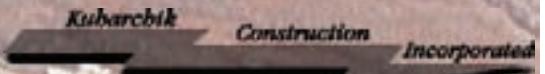


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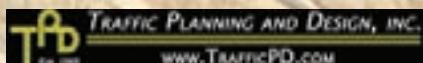


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President's Message

John Hetrick, PE, ASHE President 2010-2011

It is hard to believe that this is my final article for the *SCANNER* as your National President. It has been a busy year. The last three months were relatively quiet, however, my travels picked up again in February as I traveled to Phoenix for the ATSSA National Conference.

ASHE co-sponsored ATSSA's Roadway Infrastructure Safety Conference and this was the second year ASHE had a booth at the conference. Conferences like this increase exposure for the entire ASHE organization. We are encouraging our Regions/Sections to support these activities by renting exhibitor space and requesting the booth. The National Board approved reimbursement of shipping costs to and from activities such as these. This type of activity is also eligible for Regional Society Exposure Funds. Correspondence from Past National President Kevin Duris was sent to all Regions/Sections in January explaining the Regional Society Exposure Fund program for this year.

In my last message I announced that our membership had dipped well below 6,000 members for the first time in many years. Membership for the second quarter ending January 1, 2011 showed a strong increase of 266 new members to again elevate our membership above 6000 (6,008). Congratulations to the hard working Sections who develop strong meeting programs and are now offering CEU's and PDH's. This makes our organization very competitive with other professional organizations and because of our affordable National dues structure it encourages students, young professionals and transportation related workers to join.

I have discussed the student scholarship program and what a great program it is. As of this writing the Regions/Sections reported a fantastic effort for 2010 with awarded scholarships amounting to \$98,570 for the year, bringing the historic total to over \$1 million. As part of this *SCANNER* issue, there is an article showing the breakdown by Region/Section of the amounts awarded to-date. This is truly a remarkable sum of money and represents a tremendous effort on the part of many individuals who work on conference committees, develop technical seminars and organize dozens of

golf outings. Congratulations to the students who have received the scholarships. I would like to hear your stories and publish a few in the *SCANNER* each quarter. Those stories can be e-mailed to me at jlhettick@u2bwst.com.

ASHE's Legislative Committee, chaired by Caroline Duffy, has been involved with discussions with ARTBA and ATSSA regarding a planned fly-in to Washington, DC. This is tentatively scheduled in mid May. We feel that as an organization not having been involved with lobbying our Congress in the past, it is the best way to become involved with the new Transportation Reauthorization Policies of the future. We as an organization can develop networking connections in DC for the future and also get our 6,000 member voice heard. In the near future Caroline and her committee may be asking you to volunteer to make the journey or if you feel that it is something that you would really be interested participating in, please contact her.

Many states are still struggling with funding issues as well, and have not enacted transportation budgets. Please contact your state legislators and encourage them to enact budgets that will support transportation programs that will improve our infrastructure and get the transportation worker back to work.

I recently read that the transportation unemployment rate is around 18%, only to get worse if new funding ideas are not enacted for the 2011/2012 budget years. Every state has a backlog of large and small projects that are needed to make all of our transportation networks more efficient and safer. Please make your contact; your voice will make a difference.

In closing it has been a fun and educational year! I have enjoyed traveling to many Section and Region events, and even as a Past National President I would be interested in attending some of your events. I am looking forward to seeing many of you at this year's conference in Orlando, Florida, from June 23 to the 25. Also keep in mind the conference site is offering conference room rates three days before and three days after to increase your vacation opportunities. As always feel free to contact me at jlhettick@u2bwst.com. ■

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SENIOR HIGHWAY ENGINEER

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- Estimating fees, determining scope of work and preparing proposals;
- Actively managing client's budget, schedule and program;
- Coordinating work efforts and reviewing work performed.

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Saving money and natural resources **Engineered Hot Mix Asphalt Helps NJDOT Reconstruct I-295 in Record Time**

*Robert Sauber, Executive Director NJAPA
ASHE South Jersey Section*

The NJDOT was tasked with quickly and cost effectively reconstructing a large segment of concrete pavement on a busy interstate highway. Route I-295 in Burlington County between mileposts 45 and 57 was constructed from 1972 to 1974 and had reached terminal serviceability a nearly a decade ago. The highway was comprised of three 12' wide, 9" thick reinforced PCCP travel lanes with 12' wide outside and 3' wide inside HMA shoulders. The slabs were 78'2" long with doweled expansion joints supported on 12" thick granular subbase. In addition to almost 40 years of heavy traffic major portions of the concrete pavement were deteriorating from ASR (alkali-silica reaction). Dowel bar retrofits and fast track concrete repairs from an earlier concrete pavement rehabilitation project were failing at an accelerated rate. Another short term fix consisting of patching and HMA overlay was considered but ruled out because of the construction duration and cost.

The most efficient and cost effective option was rubblization with HMA overlay. Rubblization eliminates reflection cracking in the HMA overlay by reducing the slabs to small pieces and recycles concrete slabs in place to a high-strength granular base. Rubblization is four times faster than breaking, excavating, hauling the broken concrete and replacing with new crushed stone base. Rubblization is also one quarter the cost of concrete pavement removal (not including the cost for new base course material). This option resulted in approximate cost savings of 50% compared to reconstruction with PCCP and 33% compared to reconstruction with HMA.

Because of the project size, a full directional lane closure provided the lowest agency and user delay costs. Public support for this option was obtained by limiting the closure to 59 days in each direction during summer months when traffic volumes are lowest. All traffic was diverted onto one side of the divided highway providing two travel lanes in each direction with movable barrier between the center and slow lanes and using the outside shoulder as the fourth travel lane.

The initial pavement design using the 1993 AASHTO Pavement Design Guide required 12" thick HMA over the rubblized

PCCP. NJDOT decided to validate and improve the design using Mechanistic-Empirical Pavement Design. An ad hoc team consisting of NJDOT engineers, Rutgers University CAIT, binder supplier NuStar and NJAPA producers was created to engineer a bottom rich HMA base course material to meet project specific performance requirements. A total HMA thickness of 8" was selected because it represented optimal thickness for each of three lifts, two 3" lifts of 19mm base/ intermediate course, plus a 2" lift of 12.5mm SMA surface course. Constructing the pavement in three lifts rather than four would save time, money and natural resources.

The maximum tensile strain at the bottom of 8" thick HMA over rubblized PCC was evaluated using JULEA software, the same program used in the upcoming AASHTO MEPDG. The elastic layer analysis resulted in an endurance limit of 82 micro-strains at 100,000,000 cycles that was rounded up to 100 microstrains to be conservative.

While NJDOT Design and Project Management staff, led by Project Manager Mahesh Patel and Program Manager Steve Manera, prepared the contract documents, the agency/academia/industry partnership developed the material specifications. Using binders supplied by Nu Star and aggregate mixtures supplied by NJAPA members, Rutgers evaluated rutting and flexural beam fatigue performance. Various combinations of modified asphalt binder and aggregate were tested to develop a formula that would meet the requirements for perpetual pavement. Commonly specified asphalt binders did not produce passing results so special production runs of PG 76-28 binder was necessary. The binder had to be cost effective and available in large quantities for the accelerated construction schedule.

The resulting Bottom Rich Base Course (BRBC) specification required performance testing during mix design verification, initial production and every fifth lot thereafter. Rutting criteria was 5mm at 8,000 cycles using an APA (Asphalt Pavement Analyzer). Testing the mix's ability to withstand repeated bending was performed with a Flexural Beam Fatigue Device, AASHTO T-321. An Endurance Limit greater than 100 micro-strains at 100,000,000 cycles was required.

"Rubblization" continue p. 27



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**Jacksonville, Florida
I-95 / I-295 / 9A North**

Interchange Project Construction Complete

*Robert Bennett
RS&H CS Inc.*

Construction was recently completed on the new flyover ramp on the north side of Jacksonville, Florida. The ramp will take traffic from southbound I-95 to eastbound I-295/9A. The flyover is a part of the first phase of improvements for the I-95 / I-295 interchange immediately south of the Jacksonville International Airport. Superior Construction was the prime contractor, Parsons Brinkerhoff was the designer of record and Reynolds, Smith, & Hills CS provided the inspection and contract management for the Florida Department of Transportation.

The new flyover ramp is 2283' long with a deck width of 49'. Additional dimensions include a maximum height of 87' and 274' for the longest span length. Material quantities used to construct the bridge includes almost 9000 cubic yards of concrete, 1.9 million lbs of reinforcing steel and over 16 miles of post-tensioning strand.

This structure, which was selected for an ACI award for Significant Concrete Structures in 2010, is a precast segmental bridge constructed with a ground based crane using the balanced cantilever method of erection. The balanced cantilever method involves setting segments alternatively on either side of the pier in order to maintain a balanced position. The longest cantilever on this project was 130' extended out on each side from the center of the pier segment. Each one of 234 precast bridge segments, with variable heights of 9.5' to 12', were

delivered from a nearby casting yard and erected on site. The advantages of producing segments in a precast yard were being able to maintain controlled production, consistent efficiency, and a high level of quality control. In addition, this process allowed for a shorter construction period due to the fact that the bridge segments were cast concurrently during the time the substructure was being built. Weighing from 60 to 89 tons, the segments were transported by a segment hauler that was specifically designed for these extreme loads. The segment hauler was able to distribute this load over 12 axels. Rather than using an 18-wheeler for transport, a 50-wheeler successfully accomplished the segment delivery task.

This bridge is the first in the United States to incorporate a new internal post-tensioning (PT) duct coupler. This coupler was part of a pre-approved PT system which provided an air-tight seal across the segment joints in order to ensure protection of the PT tendons during grouting. Filling the tendon ducts with grout during the pressure grouting process encases the post-tensioned strands and protects them from future corrosion. FDOT has strict specifications for grouting. Specifications include the process in which the tendons are grouted, the grout material used and the training of the personnel that perform the grouting task. Together, these precise guidelines ensure the long-term durability of the structure.

Various challenges were addressed throughout construction. One challenge for the project team was implementation of the new segmental duct coupler. This coupler had never been used on an actual project prior to the North I. Working with the field staff several changes in the coupler components improved the performance of the couple and PT system as a whole.

Another challenge involved constructing the superstructure over I-95, I-295, and several access ramps. Temporary asphalt was placed to shift traffic as necessary to enable the contractor to erect segments over the roadway, but not over live traffic. The majority of segment erection was performed during off-peak hours, "night work".

With a bid price of \$45 M, the project included the new bridge, widening an existing bridge on I-295/9A eastbound that crosses over Main Street (US 17), as well as installing new overhead truss signs and new high mast lighting structures and replacing concrete pavement sections along the I-95 corridor.

The completion of this phase of the interchange improvement has enhanced southbound traffic flow and paved the way for the next phase of improvements to begin. Phase 2 improvements for this interchange are currently in the design stage. Construction is scheduled to begin once funding is allocated. ■



The Liberty Memorial Bridge and its parks project illustrate how the history of a landmark bridge that adorned the skyline between the communities of Bismarck and Mandan, North Dakota for generations can be preserved in the designs of new construction.

Liberty Memorial Bridge and Parks Project

ASHE Central Dacotah Section

The North Dakota Department of Transportation (NDDOT) worked closely with the Bismarck and Mandan communities to help them connect to the new bridge by implementing a parks project on each side of the river depicting the bridge's rich history. Information for the parks project was gathered by the Ulteig design team during a variety of public meetings and hearings and was used in determining which alternatives to build. These concepts were then further developed, designed and constructed as separate parks projects.

The concept development phase included nearly 30 stakeholders from multiple organizations and departments. Computer generated 3D modeling was used to convey concept options. This proved to be particularly useful when discussing design elements as it allowed for multiple views of the elements to be reviewed. The 3D model was valuable when presenting the refined concepts to the public.

Two important design elements of the parks required special attention, including the park mall areas and the general park landscaping. The shape and location of the park mall areas represent the projection of the original Liberty Memorial Bridge on the ground below. Utilizing stamped concrete to distinguish the park mall from walking paths, visitors are led to overlook areas. The overlooks showcase the footprint of the original transition piers. The original pier bases were refurbished and utilized as the river overlooks and are further accented with a different texture and staining. Seating areas illustrate the diameter of the original pier columns. Interpretive panels explain this representation to the public.

Several historic items were showcased in the parks including remnant pieces of the original bridge and interpretive material covering specific topics. Remnant displays were placed on scaled concrete replicas of the original Liberty Memorial Bridge transition piers. Interpretive panels were placed throughout the parks. Bases for the interpretive panels included several different design concepts as well. The most unusual was the large historic interpretive panel. Replica "mini-piers" were designed to represent the original bridge's ice-breaker river piers. In turn, the piers were set on a concrete base with exposed aggregate that represents the Missouri River.

The Liberty Memorial Bridge Parks project contains many different non-mitigation design elements. Common to both parks are hardscape park mall areas, river overlooks, sidewalk/trail connections, ornamental lighting, benches, trash receptacles, interpretive panels describing the construction of the new bridge, concrete block raised planting areas, and general landscaping. Each park also has elements unique to itself and the community in which it resides.

With construction of the park, Mandan now has a riverside park. In addition to a park kiosk, a multi-use trail segment was incorporated for a future connection outlined in Mandan's Trails Master Plan. The park area for Bismarck is also the location for access to the city's water intake facility. The parking lot pavement and turning radii were designed to accommodate heavier and larger truck traffic that must have access to the well.

During the concept development and design phases for the parks project, the design team worked with the cities' foresters to ensure that the plant palette selections and the site preparations were appropriate to the project. Due to use of heavy equipment required to construct the bridge, a special site preparation process was developed to rework the highly compacted soils that would adversely affect the growth of plant materials. The parks also required multiple grass seed mixtures to accommodate different lighting conditions due to the shadow of the bridge structure. Salt tolerant materials were also incorporated as the potential exists for road de-icing material to impact some of the planting beds and lawn areas.

The parks project was designed utilizing elements of the past while keeping the future in mind. The historic mitigation items celebrate and showcase the past while interpretive panels document the present. Opportunities for future amenities have been incorporated into the park design along with sustainable practices and design elements to help minimize maintenance. This is a project with a rich history in which the next chapter in the story has now begun. ■



Transportation Transformations



The New York State DOT chose Erdman Anthony to provide design services for 3.5 miles of Interstate 490 between the Erie Canal and Genesee River. Work included bridge rehabilitation and replacement, lighting, and noise barriers. Original regional artwork was used to enhance design.

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ASHE Scholarship Awards Exceed \$1 Million

ASHE's Scholarship program went over the \$1 Million mark in 2010 as \$98,570.00 was added for a new total of \$1,011,057.

"This is truly a remarkable sum of money and represents a tremendous effort on the part of many individuals who work on conference committees, develop technical seminars and organize dozens of golf outings," ASHE National President John Hetrick said. "I hope this trend continues as we grow our organization."

Financial aid to high school seniors and college students interested in Highway Industry careers has been a priority of ASHE Sections/Regions and members for many years. Records show several of the Section annual scholarship programs began in the 1980s and there may have been others given sporadically during earlier years of ASHE.

ASHE encourages all Sections and Regions to support a scholarship program of some type, whether it is one or two \$500 or \$1,000 awards or larger amounts to more students.

ASHE Scholarship Awards Given by Regions/Sections

Great Lakes Region

Central Dacotah	\$ 1,000
Central Ohio	\$ 5,000
Circle City	\$ -
Cuyahoga Valley	\$ 2,500
Derby City	\$ -
Lake Erie	\$ 1,500
Northwest Ohio	\$ 9,500
Triko Valley	\$ 13,000
Western Reserve	\$ -
TOTAL	\$ 32,500

Mid-Atlantic Region

Blue Ridge	\$ 1,500
Carolina Piedmont	\$ 18,103
Carolina Triangle	\$ 31,500
Chesapeake	\$ 31,000
Greater Hampton Roads	\$ 12,500
North Central West Virginia	\$ 31,500
Old Dominion	\$ -
Potomac	\$ -
Potomac Highlands	\$ 1,500
TOTAL	\$ 127,603

Northeast Region

Albany	\$ -
Altoona	\$ 34,500
Central New York	\$ 3,000
Clearfield	\$ 24,500
Delaware Valley	\$ 87,250
East Penn	\$ 25,000
First State	\$ 85,000
Franklin	\$ 26,000
Harrisburg	\$ 100,400
Long Island	\$ 2,500
Mid-Allegheny	\$ 6,500
New York Metro	\$ 36,000
North Central New Jersey	\$ 70,000
Northeast Penn	\$ 15,000
Pittsburgh	\$ 14,000
Southern New Jersey	\$ 110,000
Southwest Penn	\$ 29,250
Williamsport	\$ 17,500
TOTAL	\$ 686,400

Rocky Mountain Region

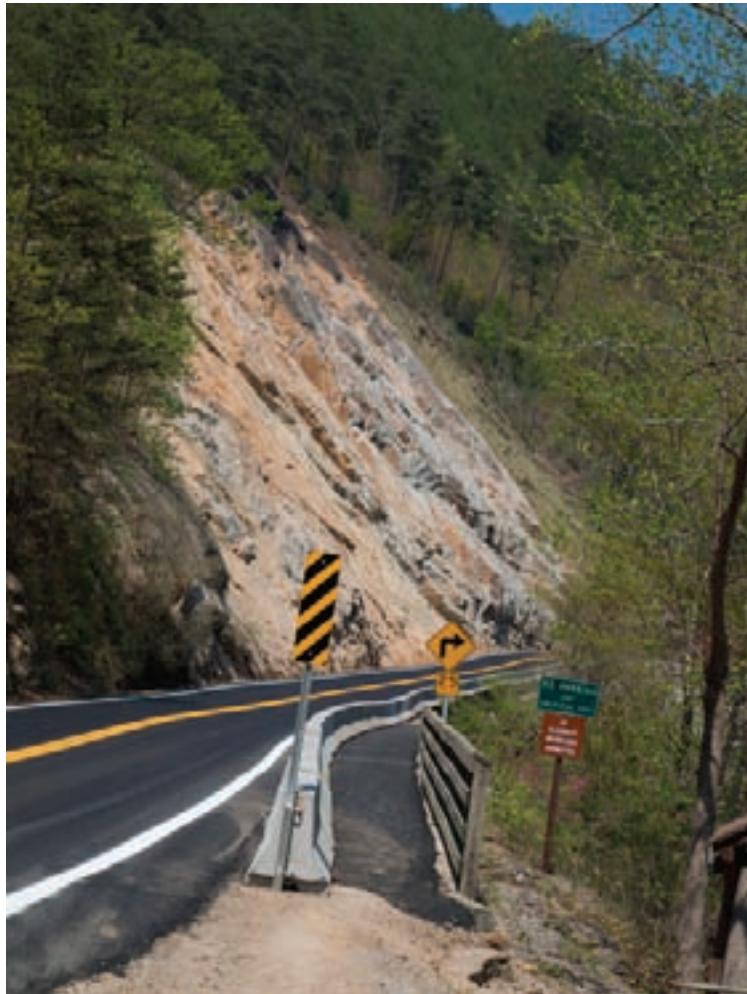
Phoenix Sonoran	\$ -
TOTAL	\$ -

Southeast Region

Central Florida	\$ 37,500
Georgia	\$ 30,900
Gold Coast	\$ -
Northeast Florida	\$ 56,154
Middle Tennessee	\$ 10,000
Tampa Bay	\$ 30,000
TOTAL	\$ 164,554

GRAND TOTAL

\$ 1,011,057



View from west side of slope on day of roadway opening.

At six in the morning on November 10, 2009, a small rockfall occurred along US 64 across from Dam #2 in the Ocoee River Gorge of Polk County, Tennessee, east of Chattanooga.

Initially treated as a fairly typical rockfall problem for a roadway in a mountainous terrain, it soon proved to be a massive issue as 15,000 cu feet of rock cascaded onto the roadway and closed US 64 for five months.

US 64, Polk County, Tennessee Emergency Rock Slope Stabilization in the Ocoee Gorge

*Vanessa Bateman, P.G., P.E.ⁱ
Middle Tennessee ASHE Member*

Day of the Slide, November 10, 2009

Tennessee Department of Transportation (TDOT) Maintenance Division staff was on the scene early that morning assessing the site and gathering equipment and personnel to remove the rock blocks from the roadway. The small failure, while closing the highway, occurred during light traffic and there were no injuries. Media outlets from Chattanooga arrived to take video of the closure, and personnel on site called for TDOT Geotechnical to evaluate how soon the road could be opened.

As the day progressed, however, and heavy rains continued, the slope started making intermittent popping sounds. The area in front of the rock slope was evacuated and at about 1:00 p.m. a much larger rockslide failure occurred. With video crews on site, this plane shear type failure was caught on camera as 18-wheeler sized boulders slid down across the roadway, obliterating the highway and ending up in the Ocoee River.ⁱⁱ

Impact to the Area

US 64 through the Ocoee River Gorge is a unique area of Tennessee and was designated as the nation's first National Park Scenic Bywayⁱⁱⁱ. This vital two lane route through the gorge carries commercial, local and recreational traffic from throughout southeastern Tennessee and southwestern North Carolina. It is one of the major east-west routes for truck traffic between Tennessee and North Carolina.

With no acceptable alternates close by, the detour around the site was extensive; adding up to an additional two hours each way to the daily commutes of citizens traveling to nearby Bradley and Hamilton Counties. Further adding to the difficulties was a secondary slide, closer to Ocoee Dam #2 still on the slope, but which showed some signs of movement during construction. Had this second slide failed in an uncontrolled fashion, it was felt that it would be a direct threat to the timber crib dam originally built in 1912.

ⁱ Tennessee Department of Transportation, Geotechnical Engineering Section. Projects like this are always a team effort. The author would like to express her thanks to the following people in particular who worked hard under difficult conditions to make this project a success: Blalock and Sons (Roger, Don Ogle), Golder Associates (Peter Ingraham, Jay Smericanicz, Deana Sneyd), Hayward-Baker, TDOT Geotechnical (John Kizer, Len Oliver, Samuel Williams), TDOT Region 2 Construction (Ken Flynn), Thompson Engineering (Ralph Lockhart).

ⁱⁱ <http://www.youtube.com/watch?v=ZVYGYnJTi0&feature=response>

ⁱⁱⁱ <http://www.byways.org/explore/byways/2288/explore.html>

Emergency Contract Let, November 13, 2009

Due to the significance of the roadway, the need to address this second slide and the desire to re-open the road as quickly as possible, TDOT let an emergency no-plans contract for \$2.1M to Charles Blalock & Sons on November 13, 2009. This no-plans contract included extensive scaling and trimming of loose rock, vegetation removal, blast scaling of the slope and the use of rock bolts to stabilize the rock masses to remain. The slide mass had to be removed and the roadway and river access boat ramp needed to be rebuilt. Patterned rock dowels were chosen to secure the face and rock drains were also installed. Preliminary designs were completed before the contract was let, but engineering work on the site continued through the duration of the project. Blasting and rock bolt designs were continually checked and adjusted based on the success of previous steps. Blalock brought in a 275 ton crane for most of the high angle work, and also made extensive use of several smaller 100 ton cranes. A subcontractor, Hayward-Baker, used a crane mounted drill and platform for installation of the untensioned grouted rock bolts on the slope.

Sequence of Work and the Need for Hand Scaling

Work on the site proceeded under the following sequence from the east to the western side of the site.

1. Removal of trees and vegetation from the slope.
2. Extensive hand scaling completed by personnel on fall protection ropes working from the top of the slope.
3. Follow up mechanical scaling with a pygmy excavator with a hoe ram attachment from a crane platform.

4. Trim Blasting, rock removal and blast scaling using a 20-ton crawler mounted drill rig as well as with a hand operated plugger rig.
5. Inspection of the slope after every blast and stabilization of blasted areas with additional hand and mechanical scaling.
6. Drilling and installation of untensioned grouted rock bolts in patterns for larger rock masses and spot bolt for smaller problem areas.

A rockfall barrier was installed on the site to protect the dam from the scaled, blasted and excavated rock. As work proceeded continual adjustments were made to blast hole spacing, charge weights, delays and amount of area blasted in order to remove problem rock down to a smooth plane and keeping the rock face as undamaged as possible. Effects of blasting had to be monitored continually on the site with a secondary slide still present on the slope and in order to protect the dam. No rockstrikes occurred on the dam during the mitigation work, and the secondary slide, named "The Evil Twin", was successfully removed in a controlled fashion.

Tree removal and hand scaling had to be performed along each area of the slope before the mechanical scaling and other work from the 275-ton crane platform could be performed. This was required in order to protect personnel and equipment from not only the "Evil Twin" but also from a number of boulders, trees and loose rocks on the slope face. The original slide mass left several boulders 15-20 ft on an axis perched at the top of the plane shear slide plane. Even

"Stabilization" continued p. 31



View of "Evil Twin" on Right (East) Side of Rockslide Scar outlined in red. Overhang on this east side was 15-22 feet. Areas outlined in black are apparent older slide scars on rock face more than 40 years old. TVA dam in lower right, including placement of crack gauges (photograph date November 20, 2009).

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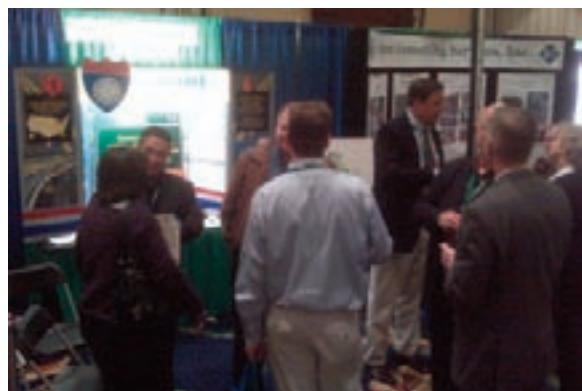
In the Mid-Atlantic Region, the four Virginia ASHE sections got together and sponsored a booth at the 2010 Virginia Governor's Transportation Conference on December 8-10, 2010. ASHE National provided the booth display, and attendees from all four Virginia sections volunteered time to staff the booth throughout the conference. It was a popular gathering spot, especially during the evening trade show sessions, with many high-profile figures in the Virginia transportation community stopping by.

Highlights of the conference centered around Governor Robert F. McDonnell's Transportation Investment and Funding Plan for Virginia. This three-year plan centers around leveraging previously authorized bond programs to generate over \$4 billion in new transportation investment to jump-start design and construction of hundreds of planned projects.

Many thanks to the Blue Ridge, Potomac, Greater Hampton Roads, and Old Dominion Sections for their support.



L-R: Bob Cassada, Old Dominion Section Immediate Past President; Jennifer Sanford, Old Dominion Section Secretary; Ginny Finley, Potomac Section Member; Mitch Johnson, Old Dominion Section BOD; Charlie O'Connell, Potomac Section Member.



High activity at the booth including Mo Kim, Potomac Section Past President, 2nd from left; John Stuart, Old Dominion Section Regional Director, 5th from left; Bob Reed, Potomac Section President, 6th from left.

Georgia Section



Pictured is current President, Tim Matthews, awarding the scholarship to Juan Quintero, a junior structural engineering student at Georgia Tech.

The ASHE Georgia Section recently awarded its 2011 Babs Abubakari Memorial Scholarship to Juan Quintero in the amount of \$1500. The scholarship is awarded annually in Babs Abubakari's memory to a deserving Civil Engineering student at Georgia Tech. Babs, a Georgia Tech alumnus, was an active member of ASHE and an employee with the Georgia Department of Transportation. His contributions to ASHE, GDOT, and his community will be long lasting and his loss will be felt for years to come.

2011 ASHE Conference Preview



Have you ever wanted to attend a Polynesian Luau? Golf where the pros golf? See a critically acclaimed off-Broadway show? Then mark your calendar for **June 22 to 26, 2011**, and join us in Orlando for the **2011 ASHE National Conference!**

For more conference details including hotel accommodations, conference events and entertainment, and a detailed conference agenda,

**please visit our Web site
[www.ashe2011.org!](http://www.ashe2011.org)**

If you are interested in sponsoring or participating as an Exhibitor at the conference, please visit our Web site to view all sponsorship/exhibitor opportunities.

Accommodations

The conference will be hosted at the Caribe Royale All-Suite Hotel and Convention Center in Orlando, Florida. Among the facility's 53 lush, tropical acres, you will discover 1,218 spacious, well-appointed one-bedroom suites; 120 luxurious, two-bedroom lakeside villas; expansive, state-of-the-art meeting and event facilities; unmatched hospitality and service; and a wealth of desirable dining options and hotel amenities that appeal to both families and business professionals alike. And it can all be found just minutes from the area's world-famous theme parks and attractions.

Attractions

In addition to two full days of technical programs, there will be a golf tournament on Thursday, to be played you on the Jack Nicklaus-designed North and South courses at the Grand Cypress Golf Club This is the same course where 120 LPGA professionals competed in the Tour Championship for \$1.5 million in December. Following the golf tournament, the Grand Caribe Pavilion will play host to a welcome reception, where you can enjoy food and drinks while meeting and greeting conference attendees.

On Friday night, we will host a luau at the Polynesian Resort at Walt Disney World. Presented in an open-air dining theater in Luau Cove, Disney's Spirit of Aloha Dinner Show is a Polynesian feast. This exciting celebration combines traditional music with more contemporary songs from the animated Disney film, Lilo and Stitch, and features dancing considered to be the most authentic this side of Hawaii.

The Saturday Night Gala will feature Orlando's own Toxic Audio. In 1998, Toxic Audio launched its quirky show in an abandoned storefront at the Orlando International Fringe Festival. To their amazement, people crammed into the small venue to see the show, which caught the attention of Disney executives, who hired them as featured performers at the Disney/MGM Studios. Soon after, the group was crowned champion at the National Harmony Sweepstakes in California.

In 2003, Toxic Audio's album, *Chemistry*, was named "album of the year" by the Contemporary A Cappella Society of America. The group has made national TV appearances with Ed McMahon and Wayne Brady, and even sang a

reggae-style weather report on ESPN2's morning show, *Cold Pizza*. Audio won the 2004 Drama Desk Award for unique theatrical experience" for its off-Broadway show in New York's John Houseman Theatre, where they continue to electrify audiences by exploring the boundaries of the human voice.

Technical Sessions

The conference agenda includes numerous accredited technical sessions and technical tours designed to expand your knowledge base of industry practices, sustainable solutions, and innovative transportation projects. Topics will include the concession delivery method, alternative transportation, safety programs, highway design, traffic management, emergency management for hurricane evacuations, and geotechnical engineering reports. High-profile projects, — such as the Orlando-Orange County Expressway Authority's Wekiva Parkway Toll Road, the I-4 Maitland Boulevard Interchange Sinkhole, Daytona Speedway Pavement Reconstruction, Florida High-Speed Rail, and Disney Transportation Network — will be featured in these technical sessions. In addition, the conference will offer ample opportunity to secure continuing education credits while networking.

Guest Tours

While you are networking and gaining valuable technical knowledge, we have scheduled various guest tours to provide your family with opportunities to enjoy the best of Orlando. From Gatorland, the 110-acre home to thousands of alligators and crocodiles, to Kennedy Space Center, NASA's launch headquarters, your guests will have an opportunity to experience the Orlando area's must-see attractions. Other guest tours include a tour of historic Winter Park, where guests can take a scenic boat ride and see the world's most comprehensive Tiffany collection at Morse Museum, and an outlet shopping tour. While the hotel provides free transportation shuttles to Walt Disney World during your stay and amusement parks, such as Universal Studios and Sea World, are just minutes away, we hope you'll also take advantage of these unique guest tours of the Orlando area. As a conference attendee, you should also be aware that the Caribe Royale will honor the conference room rate for up to three days before and after the conference, so feel free to arrive early or stay longer to experience everything Orlando has to offer.



**ASHE 2011 NATIONAL
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JUNE 22 TO JUNE 26, 2011
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SPOUSE/GUEST

CONFERENCE REGISTRATION

CHECK ONE		Postmarked on or before 5/3/2011	Postmarked after 5/3/2011	TOTAL
	ASHE MEMBER <input type="checkbox"/>	\$150	\$250	
	NON-ASHE MEMBER <input type="checkbox"/>	\$200	\$300	
	RETired ASHE MEMBER <input type="checkbox"/>	\$150	\$150	
	ASHE MEMBER ONE DAY REGISTRATION <input type="checkbox"/>	\$100	\$125	
	NON-ASHE MEMBER ONE DAY REGISTRATION <input type="checkbox"/>	\$125	\$150	
	GUEST <input type="checkbox"/>	\$25	\$25	
	CHILD/GRANDCHILD 10 & UNDER <input type="checkbox"/>	No Charge	No Charge	
	EXHIBITOR (Purchase of an exhibit space includes two full registration) <input type="checkbox"/>		N/C	
	SPONSOR (qualifying for free registration) <input type="checkbox"/>		N/C	
	SPEAKER (qualifying for free one day registration) <input type="checkbox"/>		N/C	
		CONFERENCE REGISTRATION SUBTOTAL	\$	
		ACTIVITIES REGISTRATION SUBTOTAL	\$	
		SPONSOR, ADS, AND EXHIBIT SUBTOTAL	\$	
		GOLF REGISTRATION SUBTOTAL	\$	
		GRAND TOTAL	\$	

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<http://www.thecaribeorlando.com/caribe-royale/>

Registrants w/o internet access can mention "ASHE 2011 Nat'l Conference" to get the discounted rate
Registration questions may be directed to Jason Hodges at 407.401.8527 or registration@ashe2011.org



ASHE 2011 NATIONAL CONFERENCE



Attendance and Activities Registration

Time	Event	Cost	Check if Attending	Total
Wednesday, June 22, 2011				
7:00 PM to 9:00 PM	Welcome Reception Caribe Poolside	I		
Thursday, June 23, 2011				
7:00 AM to 8:30 AM	Breakfast Caribe Royale - Grand Sierra Ballroom			
7:00 AM to 3:00 PM	Golf Tournament Grand Cypress (see registration form)	I		
9:00 AM to 3:00 PM	Guest Tour 1: Outlet Shopping Lunch on your own	\$10		
12:00 PM to 4:00 PM	Exhibit Setup Caribe Royale - Grand Caribe Pavilion			
4:00 PM to 9:00 PM	Exhibits Open Caribe Royale - Grand Caribe Pavilion			
6:00 PM to 9:00 PM	Icebreaker Reception Caribe Royale - Grand Caribe Pavilion	I		
9:00 PM to 12:00 AM	Hospitality Room Caribe Royale - Hospitality Suite Room #XXX	I		
Friday, June 24, 2011				
7:00 AM to 8:15 AM	Breakfast Caribe Royale - Grand Sierra Ballroom			
7:00 AM to 4:00 PM	Exhibits Open Caribe Royale - Grand Caribe Pavilion			
8:15 AM to 9:30 AM	Opening Session Section Attendance Taken	No Charge		
9:30 AM to 10:00 AM	Break in Exhibit Area Caribe Royale - Grand Caribe Pavilion	I		
10:00 AM to 3:00 PM	Guest Tour 2: Winter Park Art, Shopping Tour and Boat Tour Lunch on your own	\$20		
9:00 AM to 2:00 PM	Guest Tour 3: Gatorland Lunch on your own	\$20		
Technical Session No. 1 Choose one				
10:00 AM to 11:45 AM	Concessions as a Project Delivery Method: Two Case Studies	No Charge		
	I-595 Express	No Charge		
	Port of Miami Tunnel	No Charge		
10:30 AM to 12:00 PM	National, Region and Section Officer's Meeting	No Charge		
12:00 PM to 1:30 PM	Past Presidents' Luncheon Caribe Royale - Grand Sierra Ballroom	\$35		
1:30 PM to 2:00 PM	National Past Presidents' Meeting Caribe Royale - Grand Sierra Ballroom	No Charge		
Technical Session No. 2 Choose one				
1:30 PM to 2:20 PM	Wekiva Parkway	No Charge		
	ATSSA Legislative Update	No Charge		
	Stabilization of the I-4/Maitland Blvd Intersection Sink Hole	No Charge		
	Disney Transportation Network	No Charge		
2:20 PM to 2:50 PM	Break in Exhibit Area Caribe Royale - Grand Caribe Pavilion	I		



ASHE 2011 NATIONAL CONFERENCE

Attendance and Activities Registration

Time	Event	Cost	Check if Attending	Total
Technical Session No. 3 Choose one				
2:50 PM to 3:40 PM	Daytona Speedway Pavement Reconstruction	No Charge		
	Emergency Management for Hurricane Evacuations	No Charge		
	Mobile LIDAR to Support Roadway Resurfacing Activities	No Charge		
	Scoot- Optical Signal System	No Charge		
Technical Session No. 4 Choose one				
3:50 PM to 4:40 PM	The Art and Science of Building Trails	No Charge		
	Florida High Speed Rail	No Charge		
	Secrets of the Underground	No Charge		
	TBD	No Charge		
5:00 PM to 7:00 PM	Exhibit Break Down Caribe Royale - Grand Caribe Pavilion			
7:00 PM to 11:00 PM	Spirit of Aloha Dinner Show and Luau Disney's Polynesian Resort	\$30		
11:00 PM to 12:00 AM	Hospitality Room Caribe Royale - Hospitality Suite Room #XXX	I		
Saturday, June 25, 2011				
7:00 AM to 9:00 AM	Breakfast Caribe Royale - Grand Sierra Ballroom	I		
8:00 AM to 4:00 PM	Guest Tour 4: Kennedy Space Center Lunch on your own	\$50 adults; \$30 children		
9:00 AM to 10:15 AM	Technical Session No. 5			
	Technical Tour	No Charge		
10:30 AM to 11:45 AM	Technical Session No. 6			
	Technical Tour	No Charge		
12:00 PM to 1:00 PM	Lunch On Your Own			
6:00 PM to 10:00 PM	Presidents' Reception and Annual Gala Dinner Banquet With Special guest Toxic Audio Caribe Royale - Grand Sierra Ballroom Childcare (hotel will provide for a fee)	\$50		
10:00 PM to 12:00 AM	Hospitality Room Caribe Royale - Hospitality Suite Room #XXX	I		
Sunday, June 26, 2011				
9:00 AM to 12:00 PM	ASHE National Board of Directors Caribe Royale - Curaco Breakout Rooms			
9:00 AM to 12:00 PM	Conference Debriefing Caribe Royale - Curaco Breakout Rooms			
Please Complete the attendance and Activities Registration Form for all events, including those without a charge, so that we can plan for adequate capacity.			Subtotal \$	
			I=Included	Transfer subtotal to page 1
FOR TECHNICAL PROGRAM INFO AND DETAILED EVENT INFORMATION VISIT WWW.ASHE2011.ORG Agenda Subject to Change				
All session times highlighted in green will earn Continuing Education Credits				

ASHE 2011 NATIONAL CONFERENCE



GOLF OUTING
GRAND CYPRESS GOLF RESORT
North and South Course
Thursday, June 23, 2011
8:30 AM Shotgun Start
7:30 AM Registration at Grand Cypress



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REGISTRATION FORM

Register online or get more information at www.ashe2011.org

Golfers

Team Captain			Club Rental Yes/No	Average Score
Golfer Name:	First:	Last:		
email:				
Company:				
Golfer Name :	First:	Last:		
email:				
Company:				
Golfer Name:	First:	Last:		
email:				
Company:				
Golfer Name :	First:	Last:		
email:				
Company:				

Do you need transportation to the course? Please Circle YES or NO

Dress Code: Acceptable club attire includes collared shirts, slacks, and Bermuda length shorts. Denim of any kind, t-shirts, tank tops, cut-offs, tennis, running or athletic attire are inappropriate forms of dress for both the clubhouse and the golf course. Any person not properly attired will not be allowed to play or participate in the event until her/his dress meets the clubs' dress code standards. The use of non-metal spikes is required on the golf course at all times.

Refund Policy: Refund requests received in written form on or prior to May 1st will be honored; however, will be subject to a \$25 administrative fee. NO REFUNDS AFTER MAY 1st.

Lunch: Golf registration fee includes lunch. Lunch will be served immediately after play.

For questions, contact:

Greg Smith
 Golf Committee Chair
 ashegolf2011@yahoo.com
 (407) 896-0594

Number of golf registrations X =

Number of club rentals X =

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Golf Breakfast Sponsor =

Golf Beverage Sponsor =

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4 GOLF SUBTOTAL

◆◆ Conference Registration is not required for golf. Transfer subtotal to the Conference Registration form (page 1) if registering for golf only, submit this form and payment to the address chosen on the Conference Registration form.

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Platinum Sponsor (limited to two) \$10,000

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- Logo on conference website

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- Two full delegate conference registrations
- Two tickets - Past Presidents' Luncheon, Friday Night Polynesian Luau, and Saturday Night Gala
- Two entries for golf
- One Golf Hole Sponsorship
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- Listing on sponsor display board
- Logo and link on conference website

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- Listing on sponsor display board
- Listing on conference website

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<input type="checkbox"/> Hospitality Room Sponsor (6)	- \$1,500
<input type="checkbox"/> Friday Night Polynesian Luau Sponsor (4)	- \$1,500
<input type="checkbox"/> Saturday Night Banquet Sponsor (4)	- \$1,000
<input type="checkbox"/> Coffee Break Sponsor (6)	- \$500
<input type="checkbox"/> Breakfast Sponsor (6) Golf Corporate Sponsor (1)	- \$1,000 - \$1,000
<input type="checkbox"/> Golf Breakfast Sponsor (1)	- \$500
<input type="checkbox"/> Golf Beverage Cart Sponsor (2)	- \$500
<input type="checkbox"/> Golf Lunch Sponsor (2)	- \$500
<input type="checkbox"/> Golf Hole Sponsor (36)	- \$150

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<input type="checkbox"/> Half-Page Ad	- \$200
<input type="checkbox"/> Quarter-Page Ad	- \$100

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<input type="checkbox"/> Hotel Key Cards (Exclusive)	- \$5,000
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8' high back drape and 3' high side drape, (1) 6' skirted table, (2) side chairs, (1) waste basket	

Thank you for your support.

Company/Organization: _____ **Phone:** _____

Contact Individual: _____ **E-mail:** _____

Address: _____ **Payment:** \$ _____

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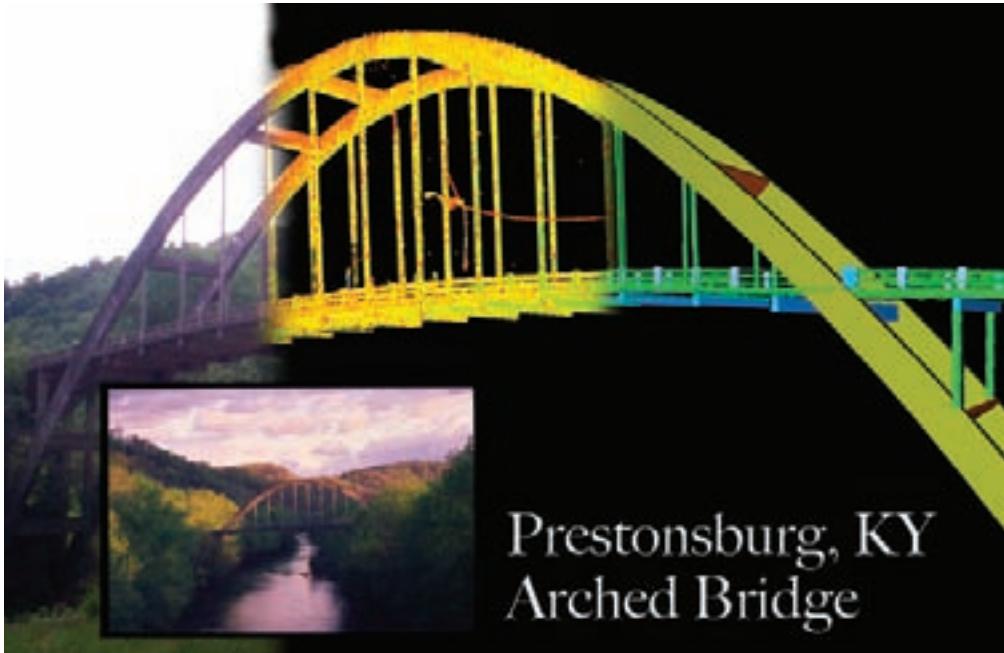


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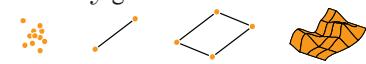
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ASHE National Board Members 2010-2011

John Hetrick, P.E.

2010-2011 National President

John is a charter member of the Mid-Allegheny Section located in Indiana, PA. He previously held the positions of Section Treasurer from 1997 to 1999, Second Vice President, First Vice President and President from 2000 to 2004. He served as a Section Board Director from 2004 to 2006, at which time he became the first Region 2 President from 2006 to 2008. John was elected to National Second Vice President in June 2008, National First Vice President in June 2009 and National President in June 2010.

He retired from Pennsylvania Department of Transportation, Engineering District 10-0, with 32 years service. During his career with PennDOT he held the positions of Maintenance Program Coordinator, Assistant District Traffic Engineer for the Operations Section, and later the Design Section, and lastly District Maintenance Program Engineer. He also received the Star of Excellence Award while serving with the Department. John is now employed with SAI Consulting Engineers of Pittsburgh. He has been with the company for nine years and is presently the Project Manager for the PA Turnpike Mon-Fayette Expressway, Uniontown to Brownsville, Phase II construction project.

John received his Associate Degree in 1969 from the DuBois Campus of Penn State University. He is a Registered Professional Engineer and Land Surveyor in Pennsylvania.

He is a past member of the Board of Directors of the Indiana County American Red Cross, and Boy Scouts of America - Penn Woods Council.

John and his wife, Ann, reside in Indiana, PA. They have three children - Eric (32) who lives in Cleveland, OH; and Natalie (28) and Michael (26) who both live in Charlotte, NC. Natalie is a pediatric nurse at Levine Children's Hospital and Michael is an assistant golf pro at Birkdale Golf Club in Huntersville, NC. The family pets are a golden retriever named Penny and a calico cat named Peanut. John's hobbies include golf, hunting and bicycling. He is active in his church where he is an usher and volunteer for the church food bank.

Calvin Leggett, P.E.

First Vice President

Calvin is a member and former President of the Carolina Triangle Section and was previously the Region 8 Director on the ASHE National Board where he served as chair of the Constitution and Bylaws Committee and still remains chair of the National Legislative Review Committee.

He was born in Oxford, Mississippi, and eventually attended the University of Mississippi where he received a Bachelor of Science Degree in 1973, and was inducted into Chi Epsilon and Tau Beta Pi Engineering Honorary Fraternities. Calvin received a Master of Civil

Engineering Degree from North Carolina State University in 1975.

He began working for the North Carolina Department of Transportation in 1975 as a Planning Engineer in the Planning and Research Branch. Between 1975 and 1985 Calvin developed numerous long-range transportation plans for various towns and cities in North Carolina rising to a Unit Head position.

From 1985 to 1988 he worked for the City of Raleigh, NC, in the roles of Transportation Services Engineer, MPO Director and Transit Administrator. Major accomplishments while with the City include a major expansion and update of the Capital Area Long Range Transportation Plan, development plans for the Briar Creek (Airport Assemblage) area and the NCSU Centennial Campus, development of the City's first transportation Impact Fee ordinance and opening of the Moore Square Transit Transfer Facility.

In 1988 he returned to NCDOT as head of the Program Development Branch. This Branch has primarily responsibility for the development of the state's multi-year Transportation Improvement Program, scheduling of the pre-construction activities leading to the right of way acquisition and award of contracts for major construction projects, financial management of federal and state roadway construction funds, and preliminary project studies.

In 1993 Calvin was promoted to Director of Planning and Programming with responsibility for the work of the Planning and Environmental Branch, Program Development, Statewide Planning, Research and Develop Unit, GIS and Program Analysis. In 1999, he was reassigned as manager of a new Program Development Branch, which incorporates the previous Program Development Branch's activities with Research and Analysis functions. He provides leadership and guidance to developing NCDOT positions on federal legislative and reauthorization issues. Calvin developed the successful legislation to create a statewide toll road authority and since 2003 has also worked with the new NC Turnpike Authority. In 2005 he served as chair of the Planning Committee for the first North Carolina Transportation Forum held in Charlotte.

He and his wife, Llewellyn, live in Raleigh, and have one daughter, Lydia Elaine, born June 3, 1993. He is a member and former President of the Raleigh Engineers Club and the North Carolina Section of the International Institute of Transportation Engineers, Registered Professional Engineer in North Carolina and a member and Elder at the Hudson Memorial Presbyterian Church in Raleigh.

P. Frank O'Hare, P.E., P.S.

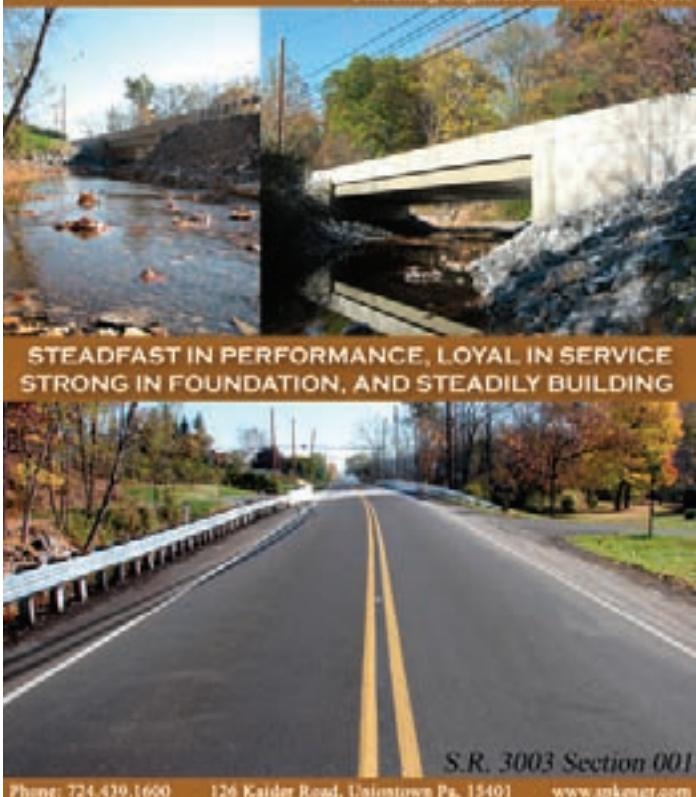
Second Vice President

Frank has been a member of the Central Ohio Section since 1985 and served as the Section President in 1995-1996. He was the first Region 1 President, and also served on the 1992 and 2004 National

"Officers" continued p. 25

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Conference Committees. In fall 2006, he was awarded ASHE Central Ohio's Person of the Year Award. He was ASHE National Director Region 1 for four years, representing Circle City, Cuyahoga Valley, Central Dacotah, Central Ohio, Derby City, Lake Erie, Northwest Ohio and Triko Valley Sections. Region 1 consists of over 850 members spread out over 1,200 miles. Frank is currently ASHE National Second Vice President.

He received his BSCE Degree in 1974 from Purdue University where he worked in the Civil Engineering Testing Lab as a technician. He co-oped with the Indiana Department of Highways during college, working on a survey crew (smart end of the chain) and performed construction inspections. He was certified as a highway inspector in 1971.

Frank has 35 years of diverse engineering experience and is employed as a Senior Project Manager for CT Consultants, located in Columbus, Ohio. He has worked extensively with local, state, and federal clients in the areas of project management, preliminary and final design, corridor studies and project planning, development of design criteria, contract management and construction administration. His diverse background also includes serving as project manager for large civil projects including dams and locks, bridges and highways. He is a Registered Professional Engineer in Ohio, Indiana, Michigan, Kentucky and West Virginia. Frank is also a Professional Surveyor in Ohio and Land Surveyor in Indiana.

He has been a member of the American Society of Civil Engineers since 1975, Columbus Engineer's Club since 1985, Society of American Military Engineers and the American Council of Engineering Companies of Ohio where he has been Past Chairman of the Transportation Committee. Frank is Past President of the Peace Lutheran Church in Gahanna, and has been the Chairman of the City of Gahanna's Planning Commission. Currently he serves the City on the Landscape Board. He is an Eagle Scout.

His wife, Kathleen and he have been married since 1975 and reside in Gahanna, OH a northeast suburb of Columbus. Kathleen is a kindergarten teacher for Columbus Public Schools. Their only daughter, Molly, is married and is a full time mother of a baby boy, Davis Adam Stassfurth, who is the first grandchild.

The family pet is a cat named Duesenberg, which was named after the classic cars that were built in his and his wife's home town, Auburn, Indiana. During the winter, Frank and Kathy can be found cheering on the Columbus Blue Jackets Hockey Team. In 2009, Kathy and Frank completed a new lake home at Apple Valley Lake where the Bald Eagles frequently are found soaring over the lake. Frank enjoys boating, fishing and traveling. He also is a collector and operator of Lionel trains.

Kevin E. Duris, P.E. Past National President

Kevin is currently the Past National President of ASHE National. Kevin is a life member of the Pittsburgh Section and has been a member since 1982. He has been active on the ASHE

Pittsburgh Board of Directors from 1995 to 2007 and has served as President in 2000. Kevin received the Presidents' Award in 1998. He was chairman of the Sponsorship/Advertising Committee for the 2005 ASHE National Conference hosted by the Pittsburgh Section. He served as chairman of the National Board Conference Committee, Budget/Audit Committee, Executive and Nominating Committee. He has served on the National New Sections and Website Committees. Kevin has been involved on National Committees since 2000 and member of the National Board since 2005.

Kevin earned his B.S. in Mining Engineering from the University of Pittsburgh in 1980. After graduating, he was hired by Trumbull Corporation, a heavy and highway contractor located in Pittsburgh, PA. His first assignment was Project Engineer for a project on I-80, Brookville, PA. He has held field positions as Project Engineer, Superintendent and Project Manager on many projects in Pennsylvania. During the winter months, Kevin helped estimate bids until permanently settling into Trumbull's main Pittsburgh office in 1988. Here, he estimated bids and is currently the Assistant Chief Estimator. Most recently, he led the estimating team to successful bids for the reconstruction of SR 28 Allegheny County, PA for \$23.6M, SR 48 Boston Bridge Allegheny County, PA for \$17.3M, PA 743/US 422 in Hershey, PA for \$12M and SR 579 Veterans Bridge Pittsburgh, PA for \$18.7M. Kevin is a Professional Engineer in the state of Pennsylvania.

Kevin is single and resides in Oakmont, PA. He enjoys golf, racquetball, swimming, boating, skiing, roller blading, riding the Harley and home improvement projects. Kevin never misses too many golf outings and never misses a Steeler, Penguin or Pitt Basketball game.

Charles L. Flowe, P.E. National Secretary

Charlie is a Charter Member of the Carolina Triangle Section of ASHE. Charlie served on the Carolina Triangle Section Formation Committee and served as Director, Second Vice President, First Vice President, President and Past President of the Section. At the National Level, Charlie has served as National Director, National First Vice President, National President and National Past President along with chairing and serving on numerous committees. He is currently serving as National Secretary. He has served in this capacity since 2008.

Charlie earned a BS degree in Civil Engineering from North Carolina State University in 1983. He is a registered professional engineer in four states. He has been employed as a consultant to numerous clients in the highway industry since college graduation and has held the various titles of Bridge Engineer, Head of Structure Design, Projects Manager for Transportation Design, and Principal-in-Charge of Highway and Hydraulic Design. Charlie is currently the North Carolina Transportation Practice Leader for KCI Associates of NC, PA, where he holds the title of Senior Associate.

"Officers" continued p. 27

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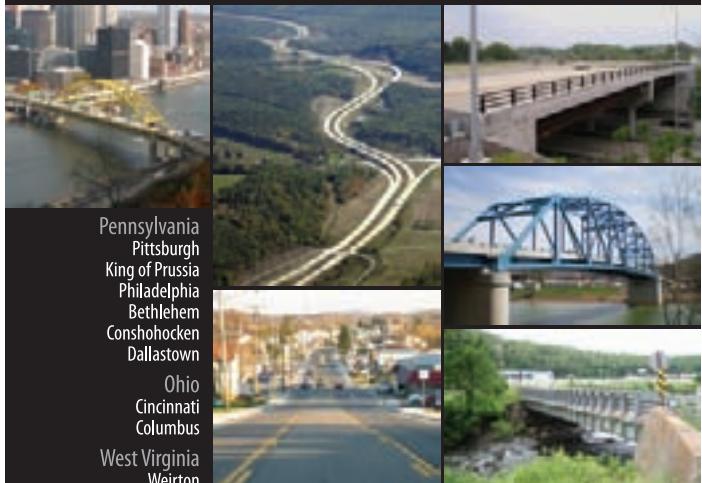
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"Officers" continued from p. 25

Charlie and his wife, Lynnell, have been married for 34 years. They have three children, Rachel, Daniel and Sam, ranging in age from 32 to 22. They are active in Christ Our Hope Presbyterian Church (PCA) in Wake Forest, North Carolina where Charlie is an elder.

Shirley Stuttler

National President's Assistant

Shirley is a member of the Franklin Section and has served as the Section Secretary for 24 years. She served as a National Director from 1996 to 2002, at which time she was appointed as the National President's Assistant. She also serves on the National Board as Chair of the Section Operations Manual and serves as a member of the National Conference, Nominating and Society History Committees.

Shirley retired in March 2005 from PennDOT Engineering District 1-0 after 35-1/2 years service and continues to perform her ASHE duties for the Franklin Section and National Board from the comforts of her home. For the past year, she has been training her section replacement, Marissa Gerkey, and is pleased to announce she will be attending the future monthly meetings in a 'social capacity' starting in June.

She and her husband, John, have been married for 23 years and reside in Cochranton, PA. They have three sons; David and his wife Lisa, who reside in Athens, GA; Jay and his wife Christy, who reside in Girard, PA; and Jim and his wife Katie who reside in Erie, PA. They are also the proud grandparents of four grandchildren; Adam age 9, Ethan age 3, Zachary age 1 and Jordan age 8.

Shirley spends extra time providing current cancer victims with encouragement and stresses the importance of their attitude on life. As a three-time cancer survivor, she tells these individuals that the only thing we can do is play on the one thing we have and that is our attitude. She is convinced that life is 10% what happens to us and 90% how we react to it.

Shirley enjoys spending time with the grandchildren, traveling and relaxing at the cottage located along the Allegheny River. ■

"Rubblization" continue from p. 5

All BRBC mixture performance testing during production met or exceeded this specification.

The reduction in thickness from 12" to 8" reduced the amount of HMA required for the project by 170,000 tons and reduced concrete removal by 16,000 LF at the 20 structures within the project limits. Cost savings using the M-E design was approximately \$7 million based upon the low bidder's prices.

The project execution was exceptional, the contractor joint venture was extremely well organized and earned a large bonus for early completion. One of the reasons for the success of the project was the cooperation between NJDOT and the construction industry. Working together during design and construction resulted in open communication and teamwork. There were few questions during bidding because the expectations and material requirements were known. Everyone involved in the projects worked together to achieve the outstanding success that benefited the taxpayers, traveling public and the environment.

IPA/H&K JV Intercounty Paving Associates and Haines & Kibblehouse saw an opportunity to bring their two companies together in a joint venture on an NJDOT project that was designed for success.

Brent Mitzak, Director of Operations, felt that the NJDOT really did an excellent job in putting together a very well designed and planned out project.

"It is remarkable to think you can bring two companies together on a project of this magnitude and really have everything work out as well as it did. The NJDOT was very prepared to help coordinate and answer any questions and resolve any issues in order to keep the project moving forward. Everyone on the NJDOT team from the project manager to the engineers were very well informed of the new Bottom Rich Base Course Design Mix and it was no surprise that this project was going to be a success. The NJDOT really put out a design mix that created a very constructible layer of asphalt and was ascertainable to the design specifications." ■

ASHE Operations Manual Updates

Shirley Stuttler, Chair

Sections are reminded to utilize the various documents contained in the Operations Manual that may be found on the National Website www.highwayengineers.org under the dropdown link.

Rewrites were made to the following documents during this past quarter:

- 2010-2011 Section Officers List
- 2010-2011 Region Officers List
- 2010-2011 National Region Directors List
- Installation of Officers Ceremony
- Region Organization & Plan Guidelines
- National Nomination Awards Guidelines
- Robert E. Pearson/Person of the Year
- Young Member of the Year
- Member of the Year
- SCANNER Guidelines

If you need any assistance in locating any documents that are part of our Operations Manual, please contact Shirley at sstuttler@hughes.net.



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Ohl Street Bridge

Russ C. Stitt, P.E.
President, Franklin Section

In September 1907, residents of Greenville Borough and Hempfield Township in Mercer County, northwestern Pennsylvania, petitioned the Court of Quarter Sessions for a new bridge to replace the footbridge over the Shenango River. The County Commissioners agreed to fund construction and selected Canton Bridge Company of Ohio as the designer and builder. Canton Bridge Company was incorporated in 1891 and operated throughout the eastern half of the country with clients from New Jersey to Nebraska. In 1901, the company, by then known for metal trusses and through-girders, had built over 6,000 bridges. At that time, the Canton Bridge Company plant was known as "one of the most complete in the country".

The bridge, now known as the Ohl Street Bridge, was constructed in 1909 and consists of two simple spans that are both 128-foot long Pratt through-trusses. The pin-connected steel bridge rests on ashlar abutments and one ashlar cutwater pier. The struts, verticals, top chords and inclined end posts have lattice bracing. A cantilevered sidewalk with a decorative railing is located on the north side of the bridge.

The bridge width of 29 feet is unusually wide for its time period and design. The bridge was designed with the intentions of adding a second sidewalk on the south side and accommodating a street car track, neither of which was ever built. The bridge also has an uncommon longitudinal strut down the middle of the bridge, which was added as extra reinforcement for the proposed streetcar.

In 1980, some floorbeams and stringers were replaced and cover plates were added to strengthen some of the truss members. Since that time, the Ohl Street Bridge has significantly deteriorated. Due to the floor system deterioration, the bridge was closed to traffic on June 1, 2009. The floor beams and stringers exhibit significant deterioration in part due to the steel open-grid deck system which does not protect the floor system from water or de-icing salts.

In addition to flange deterioration, several webs contain 100% section loss. The section loss in the floorbeam is so severe that

several adjacent stringers are no longer being supported by the floorbeam, but are merely hanging from the steel grid decking. The lower chords and diagonals have varying degrees of deterioration, with truss counters exhibiting a reduction of 50% of the original member size.

Lower sway bracing has failed and is hanging down in the bays. The support brackets are severely deteriorated at the floorbeam connections, and there is a complete breakdown of the paint system with rust and scaling present on 50% of the beams.

Rehabilitation of the Ohl Street Bridge would present many challenges to a designer. Nearly every member of the bridge would have to be replaced or significantly strengthened for the bridge to be functional. An auxiliary structural system would modify the existing bridge to the extent that the structure would no longer reflect the original character of the existing bridge. In addition, since this bridge is one of only two that crosses over the Shenango River in the Greenville area, the designer must identify a viable alternate travel route for the public and emergency service providers to accommodate rehabilitation or replacement of the existing structure.

The bridge also has several geometric deficiencies that do not meet current AASHTO standards. The vertical clearance varies from 13'-2" to 14'-0", and there are inflections in the vertical and horizontal alignments which do not meet current standards.

If the bridge were to be rehabilitated, the existing bridge alignment would be maintained. Since the bridge is a through-truss, there is room for minor adjustments to the horizontal geometry, but the vertical geometry would have to be maintained. Replacement of the bridge would provide for elimination of the existing geometric deficiencies. The east end would be lowered, and a vertical curve added to eliminate the substandard sight distance. In addition, a horizontal curve would need to be added at the west end of the bridge to improve the sight distance.

The project is currently being evaluated for the replacement versus the rehabilitation option with bridge construction anticipated to begin in 2012. This project is being funded with public dollars from Mercer County, Pennsylvania Department of Transportation and Federal government sources, and managed through the Mercer County Bridge Department. ■



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"Stabilization" continued from p. 13

with a 275-ton crane, the reach was not far enough to keep the crane and crane operator safe until this preliminary scaling and blasting from the top of the slope was performed. As areas were stabilized on the western side of the slope, operations continued to move eastward, removing more unstable areas.

Night Shift and Weather Conditions

Slope mitigation work on the site continued from November 17, 2009 to April 11, 2010, the day of the road opening. Adverse weather conditions also played a factor on the job as high winds, ice, rain and snow all contributed to weather delays as high angle work from a rope or crane can become hazardous. In order to open the road sooner, and to deal with delays caused by weather, night work was used by the contractor from mid-February until early April.

While it was judged to be unsafe to perform the scaling and blasting work at night, once rock bolt installation work began, night work proceeded until all the bolting on the project was finished, just days before the road opening.

Conclusions

As with all rockfall mitigation projects, the design elements of the project and approach taken must be flexible and adapt to conditions as they develop on the slope. Unlike standard rock cuts in stable rock, assumptions must be continually tested and direct observation of the reaction of the slope to stabilization efforts has to



Night Drilling Pattern Rock Bolts Using Electric Drill Suspended by 275-Ton Crane.

be completed in order to finalize the design. This requires a team approach during construction with the contractor and engineers/geologists designing the mitigation on site and making changes to preliminary designs as needed. Each step of the way we tested our conclusions and assumptions as we saw the results of our scaling, blasting and rock removal. Final rock bolt design was completed as areas of the slope were stabilized. All members of our team worked together to stay one step ahead and to anticipate problems as and before they developed. The result is a roadway safer for the travelling public and a dam protected from a rockslide. ■

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As the Wheel Turns



Fulmer to Head Transit and Passenger Rail Group at Urban Engineers, Inc.

Kenneth R. Fulmer, P.E., C.C.M. has been named Director of Transit and Passenger Rail to lead Urban Engineers, Inc. efforts in the development of the nation's transit and high-speed rail program.

Since joining Urban in 1992, Fulmer has taken on increasing responsibilities, focusing primarily in the construction management arena. In 2006, he was named a vice president and associate of the firm.

He has more than 20 years of experience in the design and construction industry and has worked on numerous high-profile transit projects.

In his new position, Fulmer will tap the firm's resources in the areas of construction management and inspection, project management oversight, and coordinate with rail and transit design to develop a comprehensive response to business opportunities.

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Montgomery County (Ohio) Engineer's Office Position Available – Federal-Aid Project Manager

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Montgomery County (Ohio) Engineer's Office Position Available - County Bridge Engineer

MCEO is responsible for the design, construction, operation, and maintenance of over 500 bridges, ranging from box culverts and single-span slabs to multi-span girder and arch bridges. The County Bridge Engineer will be directly responsible for bridge replacement and rehabilitation programming, bridge inspection approvals, load rating calculations, overload permits, technical guidance and contract administration for consultant-designed bridges, and supervision of in-house bridge design and plan production efforts. The successful candidate will provide structure reviews for public and private infrastructure improvement projects, prepare applications to secure external bridge project funding, pursue innovative bridge technologies, and support county staff in bridge maintenance operations. For position requirements and additional information about the organization, please e-mail Kim Beckner at beckner@mcohio.org.

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