SCANNER

NEWSLETTER OF THE AMERICAN SOCIETY OF HIGHWAY ENGINEERS

June 1999-2

FIRE ON I-95: PENNDOT'S QUICK RESPONSE REOPENS THE HIGHWAY

by Brian A. Stover, P.E. Senior Vice President, Urban Engineers, Inc.

How does a state department of transportation handle the crisis caused by the forced closing of a major interstate highway serving the fifth largest city in the United States? Traffic on Interstate 95, which carries 85,000 vehicles daily in the Philadelphia area, was crippled at the beginning of the 1998 Memorial Day weekend when all six lanes (three northbound and three southbound lanes) of the highway were closed from extensive fire damage from a tanker truck accident. With the peak summer driving season upon it, The Pennsylvania Department of Transportation organized a task force of contractors to quickly assess the situation, prepare plans for reconstruction, make emergency repairs, and completely reopen the highway before the July 4th holiday.

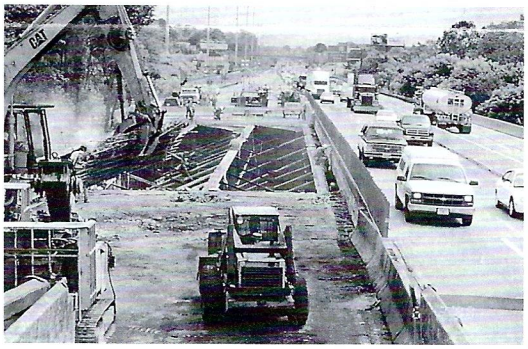
The Accident

On Saturday, May 23rd, 1998 a tanker truck carrying 8,700 gallons of fuel northbound on I-95 crashed into the median barrier and on to the southbound lanes on the Chester Creek Bridge in Delaware County, just south of Philadelphia. The tanker was struck by a pick-up truck and burst into flames killing the drivers of both vehicles. All six lanes of this major north-south Interstate highway, serving the 5th largest city in the United States, were immediately closed by the accident and alternate highways in the local area became clogged with traffic.

PennDOT Responds

A PennDOT team was quickly dispatched to the site to evaluate the damage. They found that three of four 360-foot long steel support girders on the southbound structure had been scorched by intense heat and damaged beyond repair. Later that day, Secretary of Transportation Brad Mallory visited the site and requested Governor Tom Ridge to declare a disaster emergency.

PennDOT quickly entered into an emergency contract with Philadelphia's Buckley and Company, Inc. to initially reopen two lanes of I-95 in each direction and then to rebuild the southbound bridge. Crews from PennDOT, Buckley and Co., and several subcontractors worked 24 hours around the clock to build cross-overs and install traffic control devices so two lanes of southbound traffic could be diverted to the northbound side of the highway. By Sunday afternoon, less than 24 hours later, two lanes were opened in each direction.



Delaware Valley Section
"1999 Project of the Year Award"
I-95 Emergency Repairs

Buckley's next task was to rebuild the southbound three-span bridge and fully reopen I-95 to six lanes as quickly as possible. PennDOT selected Urban Engineers, Inc. of Philadelphia to perform construction management and inspection and to work with Buckley and PennDOT to devise a schedule to reopen the damaged section of I-95.

The Federal Highway Administration immediately provided $5 million in emergency relief to fund the engineering and reconstruction of the damaged structure. The engineering costs consisted of design and consultation services as well as construction management and inspection. Construction costs included the cost for establishing a temporary traffic pattern of two lanes in each direction on the northbound side and the reconstruction of the southbound bridge.

continued on page 2

Fire on I-95 continued from page 1

Meeting an Aggressive Schedule

At the start of the project, representatives from PennDOT, Buckley, and Urban Engineers met to set the tightest schedule possible for completion of the repairs. A target date for re-opening of all lanes was set for July 15.

Buckley and PennDOT officials contracted with High Steel Structures, Inc. to have steel beams delivered to the site within two weeks. The actual fabrication of the beams took only nine days. This, together with Buckley's dedication to the project, led to the highway being fully reopened to traffic on June 29, two weeks ahead of schedule and in time for the July 4th weekend.

The actual work proceeded as follows:

May 24-Contract awarded
May 29-Demolition began
June 8-Beam removal completed
June 9-New beams placed
June 14-Deck pans, rebar completed
June 16-June 20-Bridge deck placed
June 20-Concrete wing wall placed
June 25-Traffic switched back to northbound and southbound lanes
June 29-Center median barrier completed
June 29-Project completed, full traffic restored

The Completed Project

The impact of each contractor working around the clock, under PennDOT's direction, to meet the July 15th deadline had an outstanding effect. Not only did the highway re-open on June 29th (two weeks ahead of schedule), costs for the repairs totalled just $3.6 million ($1.4 million under budget).

This project exemplifies what can be accomplished when a true partnership is reached between all parties involved. As evidenced by comments from the public and favorable articles in the media, the efforts made were truly appreciated.

PennDOT's District Administrator, Andrew L. Warren, summarized the situation perfectly when he said, "Thanks to Governor Ridge's leadership and to the outstanding performance by our contractors, labor unions and suppliers, PennDOT was proud to finish this emergency reconstruction far ahead of schedule and to completely re-open I-95 before the July 4th Holiday weekend. PennDOT, the Federal Highway Administration, and Buckley and Company were committed from the very start to re-open I-95 at the earliest possible date. Thanks to superior communication, planning and execution, we exceeded our goal." ■

National Board News

National Board members met for the regular meeting April 30, 1999, at the Ramada Inn in New Stanton, Pennsylvania. National Board President James W. Charles, P.E. presided over the meeting. The following are highlights of the committee reports and board actions:

Membership

Total ASHE membership is 4,952, a decrease of 16 members since the last Board meeting in January. However, it was noted by Robert E. Somers, National Director from Region 6, the year's total membership has increased by 84.

Section Assessments

It was brought to the attention of the National Board that nine Sections still owed either full or partial dues for 1998/99. The Sections owing full payment include: Chesapeake, $1,050; East Penn, $1,340; Georgia, $780; Gold Coast, $590; Northwest Ohio, $580; Wester Reserve, $590.

The Section owing partial payment include: Central Florida, $1,070; N.E. Florida, $210; Triko Valley, $20.

New Sections

Initial contact and/or beginning meetings have taken place for new ASHE Sections in the following locations; Dayton, Ohio; Lexington, Kentucky; Detroit Michigan; Indianapolis, Indiana; Fargo, North Dakota; Hartford, Connecticut; South Carolina; West Virginia, and the Tidewater area of Virginia.

Legislative Review

First Vice President Charlie L. Flowe, P.E. reported on the status of the Clean Air Act, stating that an amendment has been introduced to repeal EPA's authority to take away highway funds from a state if the state or any region in the state is not in compliance with the Act. This amendment, Senate Bill 495, has been referred to the Senate Committee on Environment and Public Works. Officer Flowe also gave a brief overview of House Bill 1290. American Wetland Restoration Act, an amendment to the Federal Water Pollution Control Act relating the wetlands mitigation banking, and other purposes. Details on both these bills may be found on the American Society of Civil Engineers Web site at http://www.asce.org.

Conferences

Conference 1998 - Harrisburg Section reported the profit was $8,900.

Conference 1999 - Director Tracy Hill, P.E. , said the Conference Committee is busy with last minute preparations fro the event scheduled May 26 to May 29 in ASHEville, N.C. To date there are 205 members and 113 spouses registered with the majority of attendees expected to register during May.

Conference 2000 - Plans are underway for next year's conference to be held in late June in North Dakota.

Conference 2001 - The start-up meeting of the Southwest Penn Section Conference Committee has been held, according to Second Vice President Domenic M. Piccolomini, P.E. the event will be held at Seven Springs Resort, PA.

Conference 2002 - National Board members approved Franklin Section's offer to host the Conference. The event will be held in Erie, PA.

Membership Awards

The annual Membership Awards for 1998-99 are as follows:

George K. Hart Award - Georgia - 78.2% (highest % of new members based on last years' assessment).

Gene G. Smith Award - Pittsburgh - 79 (numerical) ■

Use of NDT in Evaluation of Infrastructure Systems

Kaz Tabrizi, Ph.D., P.E.[1] and Vahid Ganji, Ph.D.[2]

Introduction

Non-Destructive Testing (NDT) has become a popular method of evaluating our roads and bridges. As a result, design, maintenance and rehabilitation strategies are therefore contingent on these structural evaluations. The most popular (and heavily researched) NDT method for structural evaluation of highway and airport pavements is the use of the Falling Weight Deflectometer (FWD). FWD, a method recommended and preferred by FHWA, enables detailed pavement evaluation by loading the pavement in a controlled manner such that the load impact resembles that of a moving truck or aircraft. Deflections of the pavement surface under the load are recorded (by geophones) and utilized in a back-calculation procedure to determine the integrity (elastic modulus) of each of the pavement layers. FWD testing is applicable for all pavement types, flexible, rigid and composite. In the case of jointed concrete, the performance of transverse joints can also be assessed in terms of load transfer efficiency across the joints. This along with estimating the existence of voids under the joints can provide a complete assessment of the pavement structure at hand.

As government transportation agencies choose to adopt the recent versions of pavement design formulated by AASHTO, the importance of evaluating the pavement structure mechanistically has become evident. The tangible results are: cost savings and a better product. In the next paragraphs two typical case histories are presented.

Case History 1: Optimum pavement design and segmentation application for a bituminous pavement

A useful application of FWD is the identification of the structural capacity of different segments on a particular project and the recommendation of optimum pavement (overlay) design(s). The following case history illustrates this application.

FWD testing was performed prior to and after resurfacing a 12-mile eastbound section of Interstate 78 in New Jersey. The objective was to evaluate the improved pavement performance in terms of its effective structural number, an abstract number expressing the structural strength of a pavement. Because the NJDOT was unable to obtain FWD testing during the design phase, the pavement rehabilitation scheme was based upon pavement cores and a visual condition survey. The pavement exhibited high severity longitudinal and transverse cracking and moderate severity fatigue and block cracking. Pavement cores revealed stripping of the binder and full-depth cracking. The rehabilitation consisted of milling 50 mm (2 in) of the existing distressed pavement and resurfacing with 100 mm (4 in) of 19mm Polymer Modified Superpave HMA.

The FWD testing indicated that the pavement structural number increased 1.6 on average, resulting in a 17 year-service life after overlay. FWD results also indicate that a 2-mile section of the road had higher deflections and needed more extensive rehabilitation. The service life of this section after overlay was estimated to be 9 years.

The NJDOT, therefore, incorporated FWD testing as a pavement design tool for the 12-mile *westbound* section of I-78. Utilizing FWD analysis to identify weak areas (as they appeared in the project specification) allowed the NJDOT to segment the project and develop a more uniform, reliable, and cost-effective design as compared to the eastbound project.

This project proved that FWD testing can help identify problematic sections and optimize pavement treatments, therefore providing the most cost-effective solution for those charged with managing their limited available resources.

Case History 2: Rehabilitation/maintenance of concrete pavement

A common application of NDT (i.e., FWD) is maintenance assessment of a jointed concrete or composite pavement. In addition to the evaluation of the structural stiffness (integrity) of the slabs (which furnishes parameters necessary for overlay design), load transfer efficiency across joints can also be determined. Furthermore, an estimate of the size of the possible underlying voids may also be obtained. As part of the design, treatments for under-performed joints are recommended. The following example portrays this application:

FWD testing was performed to evaluate the condition of transverse joints in a segment of George Washington Bridge Trans-Manhattan Expressway. The FWD test setup used was similar to that adopted by the SHRP LTPP program for evaluation of concrete pavements. The joint testing was conducted by placing the load platen on the leave and approach sides of the joints with deflection sensors on both sides of the joint. The load levels applied were 9000, 12000 and 16000 lbf. (575, 765 and 1025 kPa).

All the joints were categorized based on their load transfer efficiency. Category 1 had a load transfer efficiency of more than 85%. Categories 2, 3, and 4 had load transfer efficiencies between 70% and 84%, 55% and 69%, and 40% and 54%, respectively. Category 5 had a load transfer efficiency less than 39%. Joints in Category 1 and 2 were in excellent and good condition, respectively and did not require treatment. Joints in Category 3 were in fair condition and treatment was recommended based on the budgetary provisions. Category 4 joints were in poor condition and required dowel bar retrofitting to restore load transfer across the joint. Finally, joints in Category 5 were in very poor condition and required rehabilitation with dowel bar retrofitting.

The results of the FWD testing and evaluation helped the authorities appropriate maintenance funds in a more efficient manner addressing rehabilitation of joints that the budget allowed for.

Conclusion

A nation's transportation infrastructure is one of its most valuable assets. Government authorities seeking higher return on their investments (funds) are, therefore, in need of a more effective and accurate evaluation of the status of their (infrastructure) assets. It is for this reason that a mechanistic approach to the design of our highway infrastructure has been gaining ground and non-destructive testing will be an integral part of this process. ■

[1] Vice President, SWK Pavement Engineering, Inc., 412 Wall St., Princeton, NJ 08540

[2] Project Manager, SWK Pavement Engineering, Inc., 412 Wall St., Princeton, NJ 08540

Construction of I-670 over a Water Treatment Sludge Lagoon in Columbus, Ohio

by Gene Geiger, Geotechnical Design Coordinator/Mohammad Taghinia, Geotechnical Engineer
Ohio Department of Transportation, Geotechnical Design Section

The Ohio Department of Transportation has competed construction of roadway embankment for a section of future Interstate 670, just east of Grandview Avenue in Columbus. The project is unique in that a roadway embankment 20 to 40 feet in height was constructed over a city of Columbus water treatment sludge lagoon for a distance of approximately 2000 feet. The sludge lagoon is a former gravel pit into which the Dublin Road Water Treatment Plant discharged lime sludge from 1965 to 1977. The sludge, generally having the consistency of toothpaste, is only able to support the weight of a human during dry seasons when the upper one or two feet becomes desiccated or when frozen. It varies in thickness up to a maximum of 25 feet. Based on the results of test borings and laboratory testing during the design phase, there was concern for the stability of the embankment and the potential for post-construction settlement of the roadway. Alternative designs considered included excavation of the sludge and replacement with a more suitable material. This option would be expensive and raised environmental concerns for transporting and disposing of the sludge. Another alternative would have been to construct a bridge over the area, but this too was deemed too costly.

Prior to the actual construction, a test embankment was constructed in 1992. The test embankment's purpose was to establish design values to predict the strength and settlement characteristics of the sludge, and to demonstrate the feasibility of construction an embankment on the lagoon. Because the sludge as it existed in the lagoon would not support the weight of the embankment and had drainage characteristics that made settlements take longer than was practical, several features were incorporated into the design. A layer of geotextile and a three foot layer of sand was placed on the surface of the lagoon in order to provide a working surface for construction equipment. Vertical wick drains were installed in various patterns through the sludge within the footprint of the embankment. The wick drains facilitate the drainage of the sludge and thus serve to relieve water pressures induced by placement of embankment which could cause a failure, and to speed up the settlement process. Three layers of a high strength geotextile were used as reinforcement along the base of the embankment to provide resistance to failure through the weak strata. The test embankment was heavily instrumented to monitor stresses and settlement behavior.

The contract for construction of the roadway embankments began in July 1997. Based on the results of the test embankment, construction began with the placement of a geotextile and three-foot layer of sand. Wick drains were then installed. Next, the roadway embankment was constructed in lifts, with up to three layers of a high-strength geotextile installed near the base of the embankment to help resist failure. The rate at which the embankment could be constructed had to be controlled, and waiting periods observed, in order to allow the sludge time to consolidate and gain strength as the load of the new embankment was placed.

Instrumentation installed on the project was read daily and used to monitor stresses and deformation in the embankment, geotextile, and sludge. Pore water pressures in the sludge were also monitored. The data was used to determine whether there was an adequate factor of safety with respect to failure of the embankment or whether the rate of embankment construction would be decreased or could be increased.

After reaching plan elevation with the embankment, an additional 5 feet of embankment surcharge was placed to induce settlements during a final waiting period. Construction of the embankment was completed to surchage grade in August 1998. Except for the contractor periodically adding fill to account for settlement in maintaining a 5-foot surchage, the project is now idle. Then, under a new contract set to begin August 1999, the surcharge will be removed, and final grading will be established along with other work to complete the construction of this section of Interstate roadway.

Settlements, and the rate at which they have occurred, observed during construction are in reasonable agreement with the predictions of the designers. Settlements generally are 8 feet or less with the exception of one location having the most sever conditions, where a settlement of 13 feet has been recorded. Settlement is continuing due to the weight of the embankment and surcharge loading during the interim between the earthwork construction project and future work to complete the roadway. The rate of settlement continues to decrease, and when the surcharge is removed any additional settlement should be within tolerable limits. ■

ASHE Engineers Week Seminar Focuses on Design-Build Concept

The Northeast Florida Section hosted an Engineers Week Seminar entitled "Organizing a Design-Build Team". February 25,1999, Jacksonville, FL.

The program opened with FDOT's presentation of the Department's history with Design-Build, the current status of ongoing projects and an assessment of the future of Design-Build in transportation. Representing the Department were Huey Hawkins, P.E., District 2 Secretary and Robert Stewart, P.E., District Value and Special Projects Engineer.

Dave Balz, Vice President of the Haskell Company, an experienced full service Design-Build organization, outlined the current rules and statutes governing Design-Build in public procurement and the importance, to engineers and contractors, of understanding them. Mr. Balz traced the evolution of public sector Design-Build regulations, commented on trends and provided examples of Design-Build projects in other states and federal agencies.

The formal program concluded with a presentation by Kurt H. Dunkle, Esq. of the Rogers, Towers, Bailey, Jones & Gay Law Offices. Mr. Dunkle presented an overview of the Design-Build concept. He discussed risks and rewards; liability and insurance, and Design-Build contract issues.

A panel discussion followed, with an opportunity for attendees to question the panel members.

Willis Kircik, P.E., Technical Director of the Northeast Florida Section, coordinated the half-day Design-Build Seminar, which was held at the Holiday Inn, Baymeadows in Jacksonville. "This important and timely presentation of issues and perspectives for organizing a Design-Build team had an immediate dividend," according to Kircik. "The proceeds from the seminar fees have been committed to support a scholarship program for the new Civil Engineering Program at the University of North Florida."

Please send comments to:

Richard J. Salmon, P.E.
A.G. Lichtenstein & Associates, Inc.
3909 Sunbeam Road, #303
Jacksonville, FL 32275
Phone (904) 443-2730
Fax: (904) 443-7335
e-mail : jacksonville@lichtenstein.com

LARSON DESIGN GROUP

LARSON DESIGN GROUP, INC. a team-oriented, employee owned A/E firm in beautiful Central PA is screening high energy candidates who are motivated to achieve their personal growth potential at the same pace as our rapidly expanding company. LDG provides a positive atmosphere for professional growth, along with an excellent benefit package, competitive salary, 401(k) and ownership opportunity.

Project Manager II: - Proposed full-time position with our Highway team. The successful candidate should have a PA P.E. license and a minimum of six to eight years of related experience in the marketing development, design and administration of PADOT projects including coordination of multiple design squads. Experience in traffic engineering and transportation planning is a plus.

Project Manager I: - Proposed full-time position(s) with our Highway team. The successful candidate(s) should have a PA or NYS P.E. license with four to six years of related experience in the design and administration of PADOT or NYSDOT highway projects.

Larson Design Group does not discriminate on the basis of race, religion, color, sex, age, national origin, or disability.

Resumes will be treated in confidence. Interested candidates should provide resume, including references, salary history and expectations to:

Human Resources
LARSON DESIGN GROUP, INC.
P O Box 487
Williamsport, PA 17703-0487
Fax: (570) 323-9902
ldg@larsondesigngroup.com

LDG also has openings available for engineering technicians with AutoCADD & Microstation experience for highway and structural projects.

EEO EMPLOYER
AFFIRMATIVE ACTION EMPLOYER

In Memoriam
Harry D. Talley, Jr., P.E.
Vice President and Associate
Urban Engineers, Inc.

Harry D. Talley, Jr. passed away on April 19, 1999. Harry had been an integral part of the Urban Engineers family since February 1961 and Past President of the Delaware Valley Section of ASHE. For 38 years, Harry had a profound impact on almost everyone with whom he came in contact. As a Vice President and Associate, he headed Urban's Highway Consulting Practice and became a true leader in highway engineering. After his retirement in 1992, Harry continued to assist Urban and his friends on a part-time basis.

Harry's service to the highway industry has made lasting contributions to our region, and most importantly, to both his colleagues and other professionals associated with our industry. Please keep Harry in your thoughts and prayers. ■

Fly Ash Replacement Used in Structural Concrete

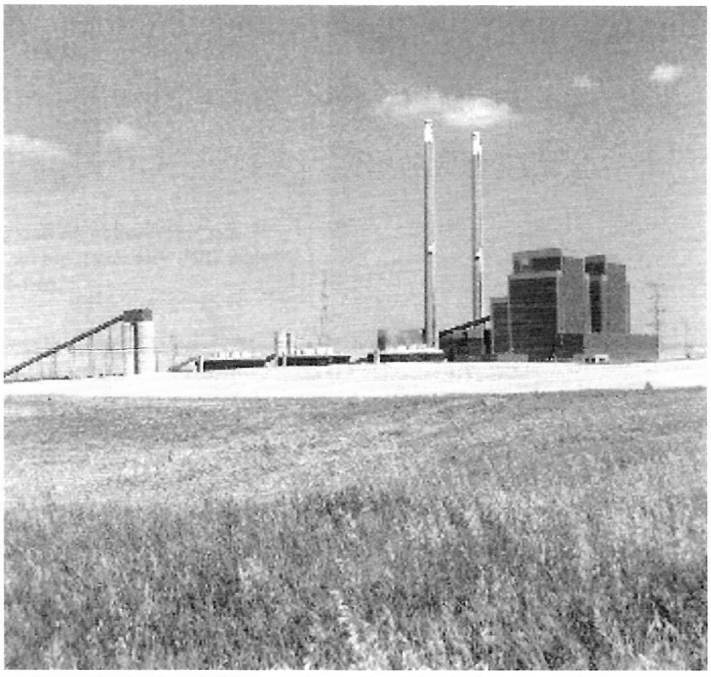
by Harvey Kadrmas, P.E. North Dakota Concrete Products

Engineers in North Dakota are working together using fly ash to solve public and industrial transportation and safety problems and to demonstrate the product's range of replacement for cement.

A county road and an at-grade crossing for coal-hauling trucks had become a safety and maintenance concern in the western part of the state near Underwood, ND, where Falkirk Mining Company supplies lignite to Coal Creek Station, an electrical generation plant.

The solution was to construct a road for public traffic over the top of the coal haul road. To accomplish this, a bridge and retaining walls were needed to provide the necessary clearance for the coal trucks.

In addition to its electrical generation, Coal Creek Station, which is operated by Great River Energy of Elk River, MN, also produces fly ash, a by-product of lignite combustion, as an admixture to concrete. Although fly ash replacement of cement in the 10 to 15 percent range is already accepted by most designers, this project provided an opportunity to demonstrate the benefits of higher fly ash replacement in concrete mixes and to collect data regarding the potential of the optimum range of fly ash replacement.



The Coal Creek Plant where the Fly Ash comes from

The project team was led by Houston Engineering of Fargo, ND, who designed the project; Arman Engineering Testing, Ltd. of Bismarck, ND, who provided the quality control and special testing; and North Dakota Concrete Products Company, also of Bismarck, ND, who fabricated the various precast/prestressed concrete products. Working under High Performance Concrete guidelines that had been established by the Federal Highway Administration, the three firms also received assistance from the North Dakota Department of Transportation.

Specifically, High Performance Concrete uses designs which improve long term performance based on need. Fly ash is one of the ingredients used in High Performance Concrete to achieve improved performance. For example, bridge decks and concrete pipe require more durability, while an increase in strength is needed for prestressed beams in order to increase the span lengths which could mean fewer piers.

A testing program was developed for each of the different facets where concrete would be used in conjunction with the project with varying levels of fly ash used in place of cement.

- The prestressed bridge girders were fabricated using a 25 percent fly ash replacement by weight while the prestressed concrete piling used a 35 percent replacement by weight.
- The precast retaining wall segments (Tee-Wall) and reinforced concrete culvert pipe fly ash replacement ranged from 20 to 60 percent by weight.
- The field-placed concrete for the bridge abutments and the bridge deck used 40 percent and 30 percent fly ash replacement on a volume basis. This was done in order to maintain the same volume of paste in the mix as would be in mixes not containing fly ash.

Compressive strength testing for the prestressed girders and piling produced results of 6,500 and 6,300 psi in one day using Type III cement. The 28-day strengths were on the order of 9,300 and 8,800 psi.

The precast retaining wall (Tee-Wall) sections were made using a modified Type I-II cement and produced strengths ranging from 5,200 to 4,600 psi in 28 days.

The reinforced concrete pipe was produced using a dry-cast process and also Type I-II cement. The strengths ranged from 6,500 to 5,200 psi.

The air content and absorption test results of the precast pipe indicated that an optimum replacement of the cement in the 40 percent range would provide the best long-term durability. The precast pipe was selected for this determination on the basis of the uniform consistency of the various mixes.

The 28 day abutment strengths were well in excess of the 3,000 psi minimum required. Because of the span length, the compressive strength of the bridge deck was raised to a 5,000 psi minimum. More importantly, the results of the Rapid Chloride Permeability testing indicated significant improvement over what has been typically used in the past.

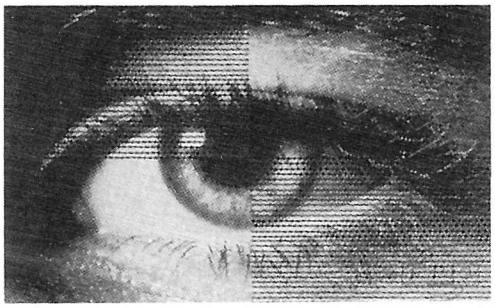
Test results relating to the long term durability of the bridge deck are not available at this time. However, based on results from the precast products, the durability of the bridge should be improved to provide the needed long-term benefits. These benefits and increased opportunities provide designers with cost/benefit ratios well within acceptable limits and well worth the effort. ■

"Get Scanned"

We are offering this "Get Scanned" special to show you that scanning your documents to CD can be a sn

For only $899.00:

SCAN & VIEW



- ▲ We'll Pick-up **300** of your drawings
- ▲ Scan them to b/w raster files
- ▲ Save them by drawing number
- ▲ Burn to CD
- ▲ Include a viewer to view your files
- ▲ Deliver the finished package to you in as little as 3 business days

*Offer good through July 31, 1999
**Pick-up and delivery limited to local area only
***Image quality is dependent on the original documents being scanned

her Services

Digital Printing / Plotting • Scan to File Project Management • Reductions / Enlargements • High Volume B&W Copying • Drawing Photographic Services • Full CADD Conversion • Scanning & Database Development • Blueprinting • Full color output up to 54" wide • Color Copies • Oversize color BubbleJet Copies • Dyesublimation Prints • Mounting & Laminating up to 48" wide • Facilities Management • Equipment & Supplies • Graphic Design Assistance • Pick/up & Delivery • Available Same Day Service • Remote Electronic File Transfer

NEW **Full Color Scanning up to 39" wide & .5" thick**

WASHINGTON REPROGRAPHICS

reproresource.com

Bringing your Digital Ideas to Life...

Downtown Pittsburgh.....412/281.3811
Robinson Township.....412/788.0640
Washington, PA.....724/228.0420
or call toll free.....800.427.9991

"A proud ASHE Century Club Member for over 10 years"

Roads and Runways: A Partnership Worth Noting in Erie, Pennsylvania

By William G. Petit, P.E.

Partnership and multimodal. Perhaps two overused buzz words in the transportation industry, yet an appropriate description of the team approach and the attitude of the Erie Community as it relates to the Powell Avenue Realignment and the Airport Runway Extension project in Erie, Pennsylvania.

The Partnership includes the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), the Erie Municipal Airport Authority (EMAA), the Pennsylvania Department of Transportation (PennDOT), the affected municipalities that include Millcreek Township and the City of Erie, the Erie Metropolitan Planning Organization (MPO), the Erie Conference on Community Development, and a legislative contingency that has aggressively pursued flexible funding for this air/highway project.

The goals of the project are:

1. To extend runway 6-24 at the Erie International Airport a minimum of 1000' to upgrade safety features of the operations and to support additional air freight and corporate jet operations. The intent is to have a 7500' runway that will allow B-727 operations supported at the 90% level and to match the US Air standard for operations at Erie International. Currently runway 6-24 is 6500' in length with useable lengths lessened by the close proximity of Powell Avenue to the east and Asbury Road to the west. (It should be noted that Powell Avenue immediately north of the bridge is on a serpentine alignment around a previous extension of the runway at Erie International.)

2. To replace the deteriorated bridge structure that spans the mainline railroad corridors for Conrail and Norfolk and Southern on Powell Avenue. The bridge structure is locally significant as one of two bridge structures on the west side of Erie that allows for grade-separated north-south travel over the multiple rail lines that traverses all of Erie County in an east-west direction. The bridge structure has recently required structural modification that included the placement of temporary pier bents to support the superstructure after several hinges failed at the expansion dams. The bridge structure is estimated to have a 5-7 year service life that may include additional maintenance within that same time frame.

The EMAA and PennDOT are presently developing a task specific scope of work that will include the Environmental Assessment and preliminary engineering to support both goals simultaneously. The project relies on the flexibility of a dual funding package, courtesy of the Transportation Equity Act for the 21st Century (TEA-21).

The Erie MPO and the Erie Conference on Community Development, an organization of community leaders working together to help shape and guide regional progress, have both placed a high priority on the project due to the significant economic benefit that will be derived. They have worked to provide funding for the engineering phase of the project through the local Transportation Improvement Plan (TIP) and ultimately adopted into the State Transportation Improvement Plan (STIP). Concurrently, the FAA has advised the EMAA that, after acceptance of the updated Airport Master Plan that will justify the purpose and need for the project, the Airport Capital Improvement Plan (ACIP) must be updated and adopted.

Although these two funding sources are on different tracks presently they will converge and allow for National Environmental Policy Act (NEPA) clearance through the completion of an Environmental Assessment that will satisfy the regional transportation needs for both modes.

The project team has identified a number of key environmental issues that must be reconciled including a superfund site, noise, air and water quality, community cohesion sensitivities, and socio-economic impacts. In addition, a Needs Analysis, completed by Urban Engineers of Erie, Inc. for the Erie County Planning Department in 1996, will provide a springboard for identification of a broad range of alternatives to the replacement of the bridge structure on Powell Avenue.

It is anticipated that a Community Advisory Committee will be formed to provide a link to the residential, business and development interests of the area and will provide a forum for idea generation and input into the project development process. This extension of the partnership will ensure deliberate and thoughtful consideration and due process is afforded all those concerned.

Fast forward into the future some five years hence and its easy to see a new north-south roadway and bridge structure that accommodates area commuters unimpeded over the railroad tracks and an extension to runway 6-24 that allows for improved airport operations and enhanced economic development opportunities. Partnership and multimodal. In Erie's case, these buzz words are ■

Employment Opportunities

Opportunities for Senior Engineers

Robson Lapina is a multi-discipline forensic engineering firm practicing throughout the eastern and central U.S. We seek mature professionals, with excellent analytical and communication skills, for interesting and challenging jobs:

Civil/Construction; with structural, construction and OSHA safety experience. Part-time to start in Albany (NY), Buffalo, Cleveland, Cincinnati, Detroit, Indianapolis, Pittsburgh (PA), and Richmond (VA).

Civil/Highway; with experience in design, construction and maintenance phases of highway engineering. Part-time to start in Boston, Cleveland, Detroit, Philadelphia, Morristown (NJ), Philadelphia/South Jersey, Richmond (VA); full-time in Lancaster, PA.

More information on www.RobsonLapina.com. Send resumes to Robson Lapina Inc., 350 New Holland Avenue, Lancaster, PA 17602, forensic@epix.net.

The EADS Group

Employment Opportunities

Engineers Architects Surveyors Scientists

Highway Design Engineers Needed

Come to an emerging growth area of Pennsylvania and work for a Top 500 ENR firm offering career advancement opportunities, a comprehensive benefit package and stock ownership options. We need engineers with proven leadership and teambuilding capabilities who can effectively manage challenging projects and communicate effectively with clients. PennDOT experience is preferred.

Please mail resume with salary requirements to:
Human Resource Manager, 1126 Eighth Avenue, Altoona, PA 16602
Visit our website at *www.eadsgroup.com* for company profile.

AS THE WHEEL TURNS . . .

John A. Derr, P.E. named Associate of Gannett Fleming

Gannett Fleming, an international consulting firm, has named John A. Derr, P.E. as an Associate of the firm.

Derr is a project manager with the firm. He is primarily responsible for transportation-related projects within the state of Pennsylvania. He is also responsible for multiple preliminary and final design engineering design and contracts requiring project teams of more than 50+ members. His administrative duties include hiring, managing, scheduling, marketing, business development and client relations.

Derr is a member of ASHE where he serves as secretary of the Harrisburg Chapter. He is also a member of the Engineer's Week Council.

ADVERTISING AND COPY DEADLINE FOR THE NEXT SCANNER ISSUE: **July 1, 1999**

MAIL ARTICLES TO: ASHE SCANNER
c/o Robert M. Peda, P.E.
908 North Second Street, Harrisburg, PA 17102
Copies on disk in MS Word Format are preferred

SCANNER ADVERTISING INSERTION ORDER

From _____

_____

_____

Contact _____ Phone _____

Authorized Signature _____

Date _____

1999 SCANNER Schedule

Summer - August
Fall - November

TOTAL RUNS ☐ 1x ☐ 4x

Ad Size ☐ Full Page ☐ Half Page ☐ Quarter Page ☐ Business Card ☐ Want Ad ☐ Issue Sponsor

NOTE: Ads are black-and-white unless color is specified. Colors are coordinated with issue press run color

Scheduled Issues for Insertion ☐ Winter ☐ Spring ☐ Summer ☐ Fall

Rate/Insertion $ _____ Total $ _____

Camera Ready Art ☐ Attached ☐ To Follow

Want Ad Text ☐ Attached

☐ Payment Enclosed

☐ Bill Me

SEND TO:
ASHE SCANNER
Robert M. Peda, P.E. - Managing Editor
c/o Wanner Associates, Inc.
908 N. Second Street
Harrisburg, PA 17102
Phone - (717) 236-2050
FAX - (717) 236-2046
Make Check Payable to ASHE

THE SCANNER

- Published quarterly • Over 5,000 Circulation

22% are State D.O.T. Employees
53% are Engineering Consultants
12% are Contractors
13% are Related Professions
49% of the membership have a professional status

1999 ADVERTISEMENT RATES

	Full Page	1/2 Page	1/4 Page	Bus. Card	Want Ad
1x	$350	$275	$200	$125	$75
4x per issue	$300	$225	$150	$100	

Issue Sponsorship $500 (one issue)

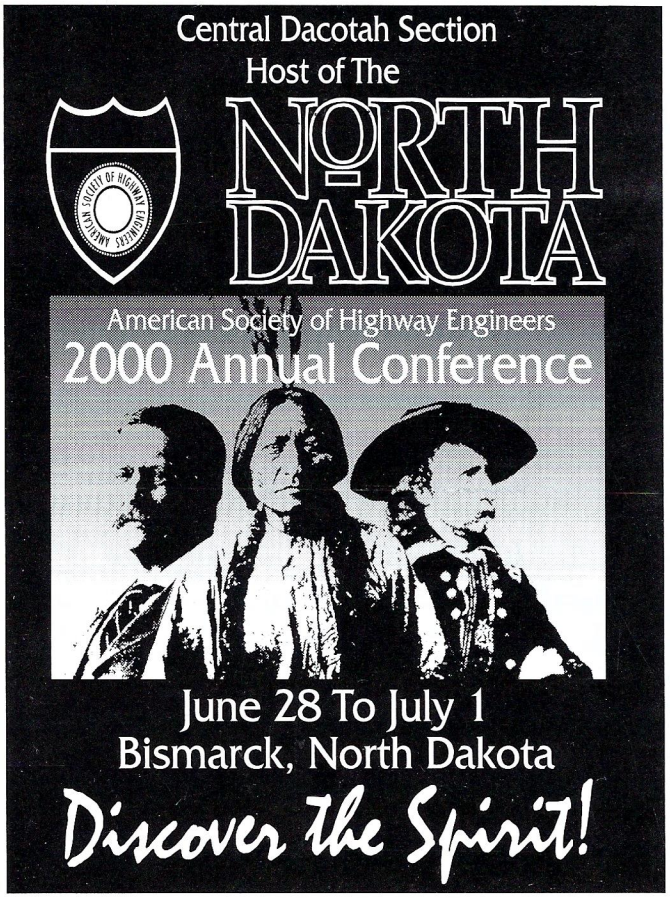
Spot Color - Add 15% (determined by color of the issue.)

Full Page	7-5/8"x10"
Half Page	7-5/8"x5" or 3-13/16"x10"
Qtr. Page	3-13/16"x5"
Bus. Card	2-1/2"x1-1/2"

Want Ads 20 Words or Less
For Special Ads, please call Editor

Return Address
THE ASHE SCANNER
Robert M. Peda, P.E. Managing Editor
c/o Wanner Associates, Inc.
908 North Second Street
Harrisburg, PA 17102

Bulk Rate
U.S. Postage
PAID
Harrisburg, PA
Permit No. #741



Membership

Region 1
Cuyahoga Valley 145
Central Dacotah 65
Central Ohio 174
Lake Erie 127
Northwest Ohio 58
Triko Valley 89
Western Reserve 59

Region 2
Clearfield 108
Franklin 247
Mid-Allegheny 74

Region 3
Pittsburgh 511
N. Central West Virginia 26
S.W. Penn 219

Region 4
Harrisburg 368
Altoona 179

Region 5
N. E. Penn 127
East Penn 131
Williamsport 159

Region 6
Delaware Valley 422
First State 113
N. Central New Jersey 156
Southern New Jersey 137

Region 7
Potomac 141
Chesapeake 104
Old Dominion 33

Region 8
Carolina Piedmont 111
Carolina Triangle 255
Georgia 139

Region 9
Tampa Bay 189
Central Florida 152
N.E. Florida 64
Gold Coast 70
TOTAL 4,952

PROFESSIONAL STATUS	= 49%
DEPARTMENT OF TRANS	= 22%
CONSULTANT	= 53%
CONTRACTOR	= 12%
OTHER	= 13%