

# SCANNER

NEWSLETTER OF THE AMERICAN SOCIETY OF  
HIGHWAY ENGINEERS



December - 1993 - 3

## CENTRAL OHIO ANNUAL BANQUET

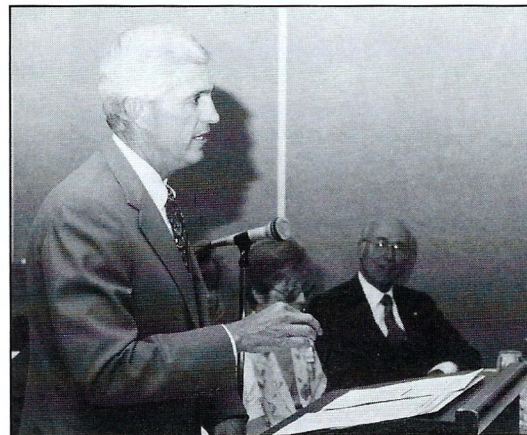
The Central Ohio Section holds an annual banquet in May. This year Jerry Wray, Director of the Ohio Department of Transportation and member of the Central Ohio Section was the featured speaker. Mr. Wray spoke on the many issues facing our transportation system today, including the Clean Air Act. Roland Nesslinger, National President conducted the installation of officers ceremony. Sixty-seven members and guests attended the Annual Banquet. The Section presented it's Meritorious Service Award to John Circle, P.E., P.S. for his dedication and work in the highway industry. ■



1993-1994 Central Ohio Section Officers are congratulated by Director Jerry Wray (far right). Officers (first row) Nancy Hall, John Bryner, Kathy Vogt, Phil Rasor, Greg Evans. (second row) Frank O'Hare, Warren Baas, George Downing, Dave Jones. (third row) Cliff Ursich.



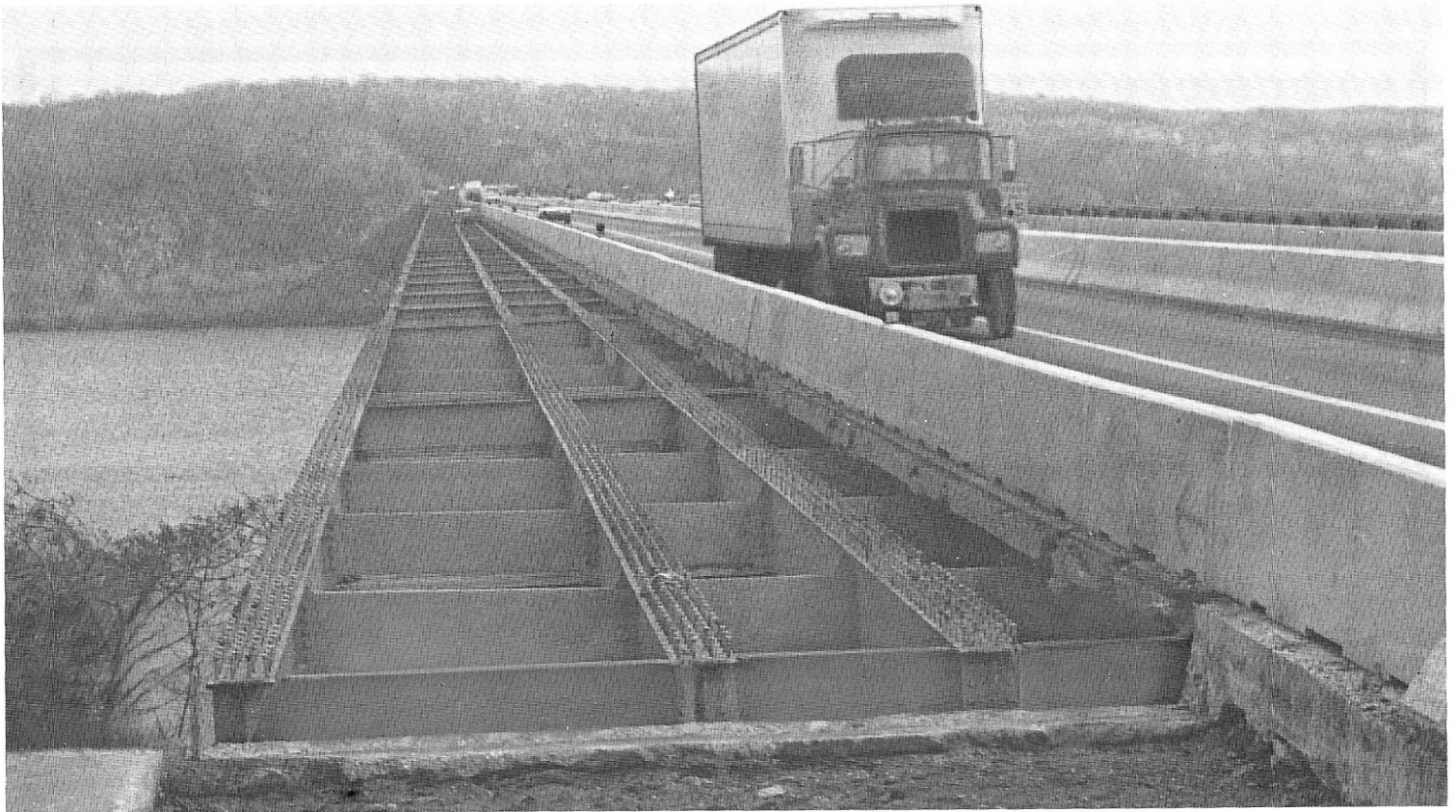
Past Central Ohio President John Bryner presents John Circle, Franklin County Engineer with the Section's Meritorious Service Award.



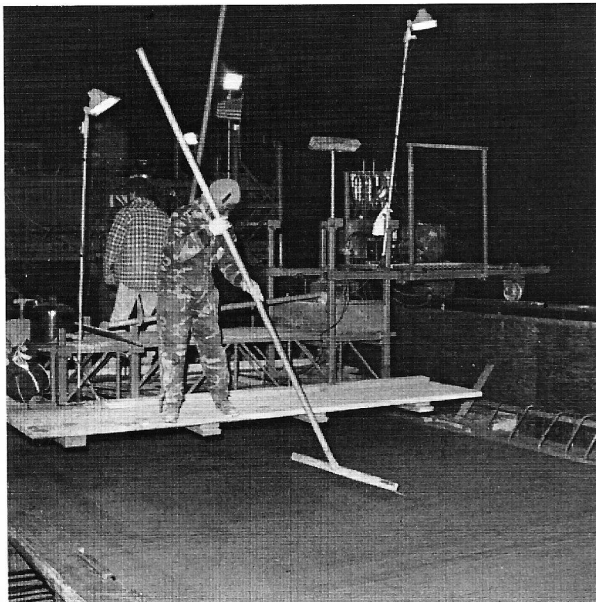
Director Jerry Wray speaks at the annual banquet. Roland Nesslinger, ASHE National President and wife, Sylvia were also present.

*ASHE would like to wish everyone a  
**Happy Holiday!***





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**Project:** Millard E. Tydings Bridge, Interstate 95, Havre de Grace, MD. Bridge deck removed to bare steel and replaced with full depth Solite lightweight aggregate structural concrete with no additional wearing surface. **Engineers:** Maryland Transportation Authority Engineering Division. **Contractor:** Dick Corporation, Pittsburgh, PA. **Concrete Producer:** S&G Concrete Company, Edgewood, MD. **Owner:** Maryland Transportation Authority.

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# CMA - WHAT IS IT?

Calcium Magnesium Acetate (CMA), an environmentally safe deicer, has been recognized by the Federal Highway Administration (FHWA) as a possible replacement for salt since 1980. Since 1970 highway agencies have applied approximately 10 million tons of road salt each winter. A total of \$1.5 billion is spent on highway snow and ice control annually, with chemical deicing representing one-third of these expenditures.

CMA is currently being sold for more than \$600/ton compared to \$30/ton for salt. Because of its low-corrosion properties, the federal government will reimburse the states 90 percent of the cost of CMA, when used on bridges. Yet, it is unreasonable to expect CMA to replace salt in all applications. CMA is used where corrosion or the environment are a concern: the Zilwaukee Bridge in Michigan, which cost \$130 million to construct has been protected with CMA since it's opening in 1987; Denver is applying CMA to new viaducts that have been built since 1990; and Massachusetts uses it to protect groundwater. There are many other examples of CMA use in other locations around the country. Here in Ohio, Bill Fair, a district operations engineer with ODOT, is using it on sidewalks around his district office and in rest areas to prevent damage to concrete, grass, shrubs and flowers. Many states have tried CMA on

test sections, and have concluded that its main drawback is cost.

Acetate, the primary raw material for CMA, is manufactured commercially from natural gas. Theoretically, it also can be made through fermentation of corn, wood chips or other organic materials, such as cheese whey. Whey is a by product of cheese manufacturing and is considered a waste product of little value. There are 57 billion pounds of whey produced in the United States every year.

Dr. S.T. Yang, a chemical engineer at the Ohio State University, recently completed a project for the Ohio Department of Transportation which, on a small scale, took cheese whey and made an acetate suitable for use in producing CMA. Yang's method could reduce the cost of producing CMA by \$200-400 per ton. Dr. Yang has been awarded a contract from the FHWA to further develop the process. Performance tests will be conducted according to FHWA procedures. Models will be developed to predict the economic feasibility for commercial plants of various sizes. A preliminary market analysis will be sent to several snow-belt states to determine their interest in a lower cost CMA. If all results are favorable, Phase II will consist of constructing a pilot plant.

The Transportation Research Board (TRB) recently published Special Report 235, "Highway Deicing",

which compared the cost of salt and CMA. Mr. Ron Zook, a member of the American Society of Highway Engineers (ASHE), and the Assistant Director/Chief Engineer of the Ohio Department of Transportation was a member of the committee that compiled this very thorough report. It summarizes experiences by several agencies relating to handling, storage, effectiveness and costs. There is discussion relating to the effects of salt on motor vehicles and infrastructure. The TRB report concludes the actual long-term cost to society for salt use is \$550 per ton, excluding environmental damage. Previous studies had stated that the true cost of salt, can be from \$350/ton to \$1500/ton.

There are other winter maintenance activities that ODOT is involved with, such as the SHRP anti-icing study; expanding our SCAN Surface Sensor Systems, which are now in Columbus, to include the Cleveland and Toledo areas; and developing a zero-velocity salt spreader. This indicates a commitment from ODOT to improve the methods and products necessary to reduce the damage caused by salt and at the same time keep our highways safe, while acting as good stewards of tax payers funds. ■

*Submitted by: Keith T. Hinshaw  
Research Evaluation Engineer  
Bureau of Research & Development  
Ohio Department of Transportation  
Member of ASHE Central Ohio Section*

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# NATIONAL BOARD NEWS

The National Board held a regular board meeting on October 15, 1993 at Bedford, PA. National President, Ronald A. Nesslinger presided over the meeting which included the following committee actions and reports:

## NEWS SECTIONS COMMITTEE:

The chartering process is moving ahead with the Atlanta area. The video tape program with the VCR presentation is an excellent tool for informing potential sections and, also, members in the existing sections, copies are available upon request. Contacts indicating an interest in ASHE have been received from: Charlotte, NC; Fort Meyers, FL; Bismark, ND; Charleston, SC; Indianapolis, IN and Lansing, MT. Obvious the recognition for ASHE is very high.

The National Board will be compiling information and cost for the 1994-95 Budget. Each committee must submit program costs projected to accomplish goals for the next year. If any Section plans on requesting funds from National, please call R. Petrucci (302-239-0176).

The membership is increasing with a reported 3,889 members. Sections are encouraged to continue membership drives and must advise National on what your Section is doing.

## CONVENTION COMMITTEE;

The 1994 National Convention to be held at the TROP WORLD in Atlantic City, on May 18 thru 21, 1994 is being finalized. The Convention will be held from Wednesday thru Saturday, you can make your reservations NOW! Please specify

you are with the AMERICAN SOCIETY OF HIGHWAY ENGINEERS (they may not recognize the name ASHE). Members interested in additional nights should contact the TROP WORLD (1-800-345-8767) as soon as possible, especially for the weekend. If you decide you want to stay over Saturday night, you can request it, BUT, rooms will be reserved ONLY IF AVAILABLE. Early reservations are mandatory for Saturday. If a room is available, Trop World will honor the group rate set for our ASHE convention. Also, transportation service is available from the airport, we have been advised that you use the Sterling Bus Company, a one way trip to Trop World is \$7.50. We have been warned that other carriers may charge as much as \$28.00 one way! Rental cars are available from AVIS, BUDGET and HERTZ.

J. Charles presented the listing of early registrants who qualified for the room upgrade valued at \$258 per night. The winner drawn at the meeting from F. Lopez of N. Central WV Section. Congratulations to Frank.

The 1995 National Convention scheduled to be held in Pittsburgh is also moving ahead. Regular meetings are being held and the plans are being focused on attracting ASHE members to Pittsburgh.

Sections desiring to host the 1996 and 1997 conventions should submit a request to the National Board for approval.

## TECHNICAL COMMITTEE:

The Committee has advised all Sections they are required to establish a Technical Committee as a standing committee. The Chairperson of the

Section's Technical Committee should contact Bob Peda (717-566-6398) to discuss technical articles.

## ORGANIZATION COMMITTEE:

The Committee held several meetings and reviewed the information/ comments submitted from the Sections. However, the Section's responses included only seven comments, which requested changes for their section in a Region and the requests were approved. The Board discussed the reorganization extensively and the guidelines presented for implementation. Many issues were determined to require additional review. The Board members agreed the reorganization is a major step and a complex issue and should be re-viewed further. President Nesslinger charged the Board, Committee and Sections to further review and finalize the reorganization plan to meet the goal for the 1995-96 year.

## SCANNER COMMITTEE:

The Scanner will change printing dates to November 15, June 15, April 1 and July 15 to better fit the calendar year, Deadlines will be 30 days before printing. Sections should submit technical articles and information on members and activities.

## DIRECTORY COMMITTEE

The National Directory has been completed and sent to the printers. Members will soon receive their copy. A special "Thank You" from ASHE to all individuals and firms who have made a contribution to this endeavor (See next issue for their names). ■



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# 1993 ASHE ANNUAL CONVENTION BALTIMORE, MARYLAND

The Chesapeake Section of the American Society of Highway Engineers hosted the 31st Annual convention at the Marriott Inner-Harbor Hotel in Baltimore, Maryland. Approximately 300 people attended this event which was held from April 29 through May 2.

Convention activities started on Thursday, April 29 with a Golf Outing at Diamond Ridge Golf Club and a tour of the U.S. Naval Academy in Annapolis. The day was capped off with an Icebreaker at the historic Garrett-Jacobs Mansion, otherwise known as the Baltimore Engineer's Club, in downtown Baltimore. Tours of the facility, wandering minstrels, and a magician provided the evening's entertainment.

The Annual Meeting, General Session and Technical Sessions were held on Friday morning. Howard Yeursalim, President-Elect for AASHTO, was the featured keynote speaker during the General Session. He emphasized the need for infrastructure renewal.

Technical sessions addressing "Alternate Fuels," "Intermodal Transportation," "Environmental Issues," and "Incident Management" were

held. Emphasis was placed on the relationship between our highway and transportation industries and our sensitive environment.

The afternoon provided an opportunity for members and their guests to tour the Route 100 Project, the largest highway construction project in Maryland. Two sites were visited with emphasis placed upon sediment erosion control and stormwater management techniques at one site and soil stabilization and wetland protection measures used for construction of the foundations for a major stream crossing at the second site.

Friday evening provided for an exciting opportunity to take in a baseball game between the Baltimore Orioles and the Kansas City Royals. A pit beef dinner was enjoyed in our own private dining area, Edy's Terrace, within the ballpark. Since the ball park was located only a few blocks from the hotel, the event was easily accessible. A fun time was had by all, both at the game and in the hospitality room afterwards. This room provided an excellent view of the stadium as it let out and also later as it was silhouetted in the dark.

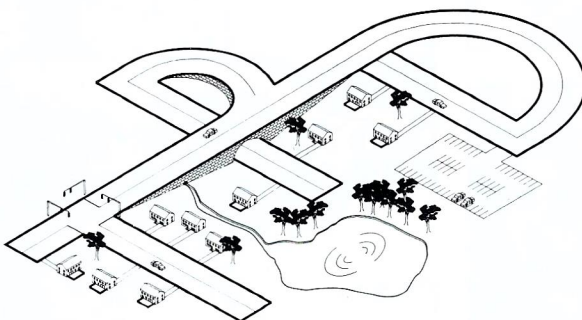
For the second year in a row, a Saturday morning technical session was held. This event was a result of ASHE efforts to make the convention more technically oriented. It is hoped that in future conventions, the quality of the technical programs will boost attendance by providing justification based upon the educational value provided to the attendees and making his/her attendance cost-effective for the employer. The technical session consisted of a presentation on "Smart" cars, which in the future will provide many, if not all, drivers with route guidance through visual mapping and voice command/response. The "Travtek" Program, an experimental program involving 100 "Smart" cars in the city of Orlando, Florida, was highlighted during the presentations. In addition, a Travtek vehicle was graciously loaned to us for demonstration purposes. The logistics of getting it to Baltimore and having it reprogrammed for use was a monumental effort that involved over 20 people; their efforts were certainly appreciated.

Saturday evening provided a climax to the convention as over 160 people attended the annual reception and banquet. This event also provided the setting for the "Man of the year" Award, presented to William J. Miller, Jr., a retired Executive Director of the Delaware River and Bay Authority. The 1993-94 National Officers and Director were installed and President's gavel was passed from Al Kozel to Roland Nesslinger. "Ness" then provided his vision for the future of ASHE and his goals for 1993-94.

The members of ASHE wish to thank the Chesapeake Section for a very successful National convention. Convention Chairman, Dave Greenwood, Gayle Greenwood, the committee members, the state Highway Administration and all the members of the Host Section deserve special recognition for taking on this challenge and providing an outstanding and successful convention. ■

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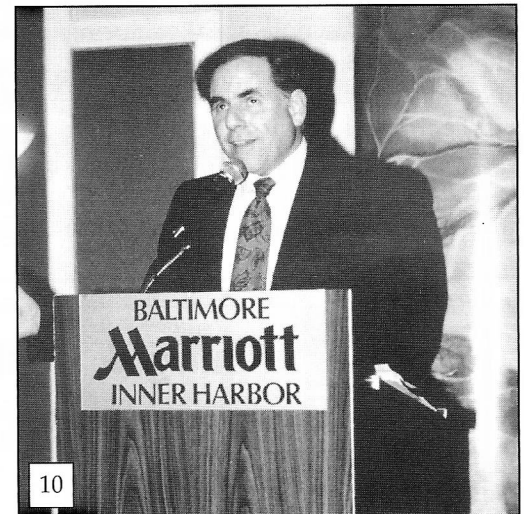
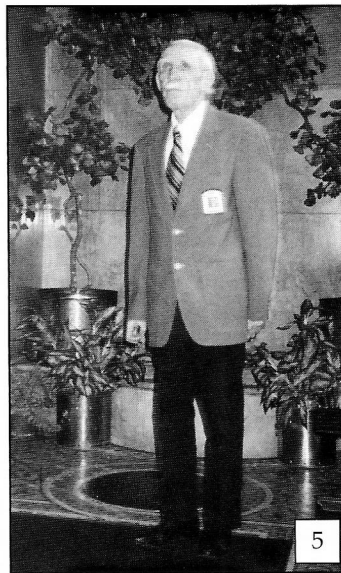
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# 1993 Annual Convention





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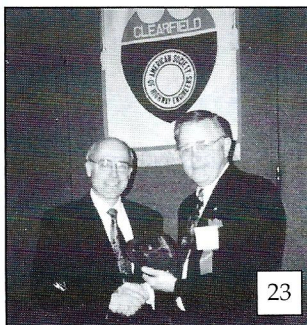
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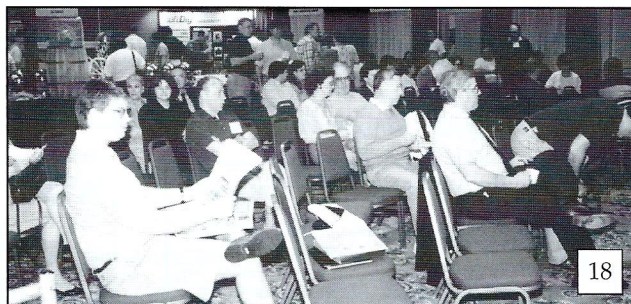
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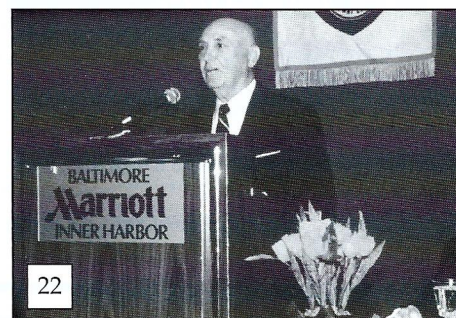
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1. Registration table - Dick Evans, John Brick and Jackie Schrenker-Case - Opening Day of Convention.

2. Registration Table manned by SHA personnel on April 30, 1994.

3. Keynote Speaker, Howard Yerusolim at General Session 4/30/93. Spoke on "Rebuilding America." Left to Right Gov. Casey, Dave Greenwood, Al Kozel, Howard Yerusolim, Roland Nesslinger, Ray Petrucci, Robert Yeager.

4. 1993 Convention - AT&T Representative in Exhibition Area.

5. Joseph Brennan, our greeter at the Baltimore Engineers Club - Thursday Evening Icebreaker.

6. Linda Kelbaugh of the State Highway Administration (SHA) manning the SHA booth.

7. Left to Right Dave Greenwood, Porter Barrows - FHWA Division Administrator, and Mike Krupsaw, incoming Section President confer on Convention Program.

8. Ed Stein of SHA - Construction Site Tour Guide explaining Route 100 Construction enroute to site.

9. SHA Construction Site Tour. Jerry Edwards and Linda Kelbaugh explaining the use of Geo-Grid for the MD Route 100 Construction.

10. Hal Kassoff, State Highway Administrator, Speaker at the Past Presidents Luncheon, 4/30.

11. SHA Construction Site Tour, MD Route 100 - Sediment/Erosion Control Measures.

12. Zippy Larsen - "Shoe Leather Safari Tours" - Spouse Tour Downtown Baltimore.

13. SHA Construction Site Tour, Route 100. Use of Geo-Grid to provide soil stabilization and wetlands protection for structure carrying Route 100 over Deep Run.

14. SHA Administrator Hal Kassoff and Convention Chairman, Dave Greenwood - Presentation of Distinguished Service Award for Governor William Donald Schaefer.

15. (Zippy Larsen) Spouse Tour - atop Federal Hill across from Inner Harbor.

16. National President Al Kozel & wife, Anna Marie and others at Friday Evening Social - Ball game at Camden Yards.

17. Jeff Gaber of Farradyne Systems - Saturday A.M. Technical Session 5/1/93.

18. Continental Breakfast, Exhibitors and attendees for the Saturday A.M. Technical Session 5/1/93.

19. Camden Yards - Site of ASHE Friday Evening Social, April 30, 1993.

20. Past President Steve Lester & wife at Annual Banquet 5/1/93.

21. Al Kozel at Annual Banquet, 5/1/93.

22. Man of the Year, William J. Miller, Jr. speaking at Annual Banquet. 5/1/93/.

23. Presentation of Past Presidents Plaque to Al Kozel from incoming President Roland Nesslinger at Annual Banquet, May 1st.

24. Annual Banquet Terry Conner & wife, Bob Yeager & wife, Sam Callisto & various other guests.



# SOUTHERN NEW JERSEY SECTION AWARDS SCHOLARSHIP

At the September 15th dinner meeting of the Southern New Jersey Section, the seventh William Reeves Memorial Scholarship was presented to Stephen J. Favieri, a senior at Rutgers University. This brings the Section's total Scholarship award value to \$7,000 since the conception of the program in 1989. The scholarship is awarded to a deserving junior or senior Civil Engineering student from one of seven local Universities. Two \$1,000 scholarships are typically awarded each year. The Section's

successful annual golf outing is the source of funds which supports the program.

The William Reeves Memorial Scholarship is named in honor of one of the founding fathers of the Southern New Jersey Section of ASCE who passed away several years ago.

Scholarship Committee Chairman Jim Silimeo and his Committee members, Jim Weinheimer and Dave Goddard, are the engineers who have for years ensured that this proud tradition of the Section continues. ■

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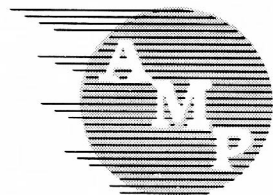
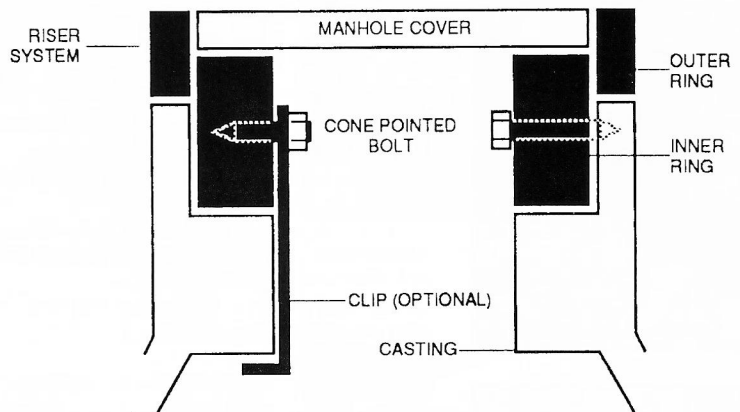
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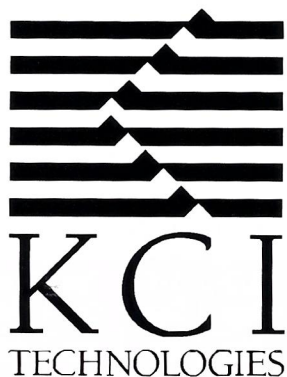
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The orange barrels and cones that frustrate you on our highways and roads are one result of the high cost of maintaining that system. The maintenance and repair contracts cause traffic delays in the form of lane restrictions and detours, which result in an immeasurable amount of time and expense for motorists. By reducing the need for maintenance, we can eliminate many of those traffic restrictions and the costs associated with them.

While engineers are constantly developing new materials for use in road and bridge construction, steel remains a vital material because it provides great strength, formability, low cost and availability. Its only weakness is its vulnerability to corrosion, which is costly. Bridge and road designers and maintenance engineers must understand and be familiar with galvanizing applications in order to select the least costly and most effective corrosion protection system available. Galvanized steel has a long and distinguished history of use in many road and bridge applications, where it has successfully protected critical transportation system components from the ravages of corrosion.

Corrosion prevention is of critical importance to our economy, our environment and physical plant. Bridges, in particular, play a critical role in our transportation system, and about 39% of them are structurally deficient or functionally obsolete according to the U.S. Department of Transportation.

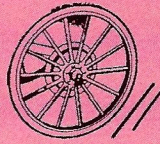
The need for repair, rehabilitation, and replacement of bridges is expected to increase due to the aging of large highway bridges placed in service during the construction boom of the 1950s and 1960s.

There are numerous EPA painting regulations covering environmental compliance, hazardous residue containment, and material disposal that are being enforced much more strictly today. There is a general feeling that more regulations are on the way in the years to come. The net result is higher insurance rates to protect contractors and suppliers. These EPA requirements have caused painting costs to increase considerably in the last few years and they will continue to rise in the future. As a case

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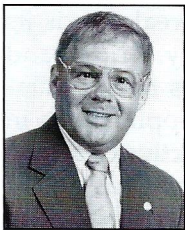


# As the Wheel Turns...



North Carolina State Transportation Secretary Sam Hunt announced the appointment of Dr. Larry R. Goode, P.E. as Highway Administrator for the North Carolina Department of Transportation on August 13, 1993. Larry is a twenty-one year career employee with the Division of Highways and is a charter member of the Carolina Triangle Section. As chief administrative officer of the department's Division of Highways, Larry will be responsible for overseeing the design, construction, and maintenance of North Carolina's highway system.

Dr. Goode is a Hiltons, Virginia native and graduated from Virginia Tech with a B. S. degree in Civil Engineering. He received M.S. and PH.D degrees in Civil Engineering from N.C. State University,



Lisle E. Williams, P.E., P.L.S., has joined Kozel Engineering Co., Inc. a Buchart-Horn affiliate, as deputy office manager for the Pittsburgh office.

Mr. Williams received his Associate's degree in Civil Engineering from Gateway Technical Institute and completed further engineering studies at Pennsylvania State University and the University of Pittsburgh. He has 30 years experience in all phases of civil/structural engineering including needs study, preliminary and final design and construction management. He is a Past President of the Pittsburgh Section and serves on the Society's National Board of Directors.

Mr. Williams will assist in administering the planning, development and implementation of transportation and infrastructure projects for public agencies and private clients.



Pasquale Dougherty, P.E., has joined Ebasco Infrastructure, a division of Ebasco Services Incorporated, a Principal Highway Engineer in their Langhorne, PA, office.

Mr. Dougherty earned a MSCE from Villanova University and has more than 26 years of experience in the management, planning, design and construction of major transportation facilities. He is a registered professional engineer and land surveyor in Pennsylvania and has association with the American Society of Civil Engineers, the Delaware Valley Engineers Week Committee, and the Institute of Transportation Engineers. Additionally, Mr. Dougherty is Past President of the American Society of Highway Engineers, Delaware Valley Section, and currently serves on the Society's National Board of Directors.

## THE SCANNER

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# GALVANIZING: THE PREFERRED ALTERNATIVE ...

*Continued from page 10*

in point, the State of Ohio Department of Transportation, has projected a 43% increase in maintenance painting costs in one year.

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## IN MEMORY

Ray K. Grove, 79, Past National President Or ASHE died on September 15, 1993. Mr. Grove was a retired vice president and general superintendent of Hempt Bros., Inc. He attended Dickinson College, Carlisle, besides his involvement in ASHE he was a member of the PennDOT Appeals Committee, Pennsylvania Association of Contractors and the Pennsylvania Highway Information Association (PHIA), he was involved in many civic and social organizations. ASHE extends our warmest thought and sincerest sympathies to his wife Nary and their families.

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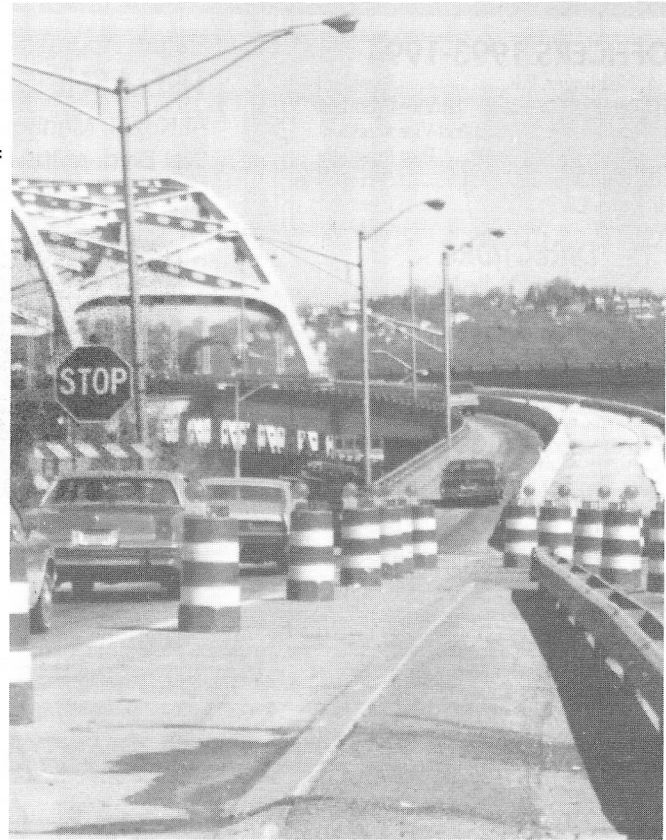




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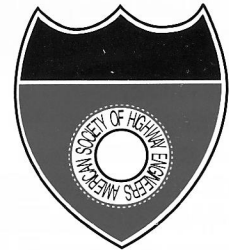
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