

the news



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PHILADELPHIA SECTION
AMERICAN SOCIETY OF CIVIL ENGINEERS

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Vol. 67-7

Our 81st Year

February, 1995

FEBRUARY JOINT DINNER MEETING

Philadelphia Section, American Society of Civil Engineers
South Jersey Branch, New Jersey Section, American Society of Civil Engineers

WEDNESDAY, FEBRUARY 15, 1995

HARBOR LEAGUE CLUB • Hudson Square • Camden • (See Location Map Below)
Cocktails - 5:30 p.m. • Dinner - 6:30 p.m. • Meeting - 7:30 p.m.

NOTE: Change of date from original schedule!

SUBJECT: "THE DESIGN AND CONSTRUCTION OF MODERN TIMBER BRIDGES"
SPEAKER: John B. Crist, Ph.D., Mid-Atlantic Representative, Krenn Bridge Companies, Inc.

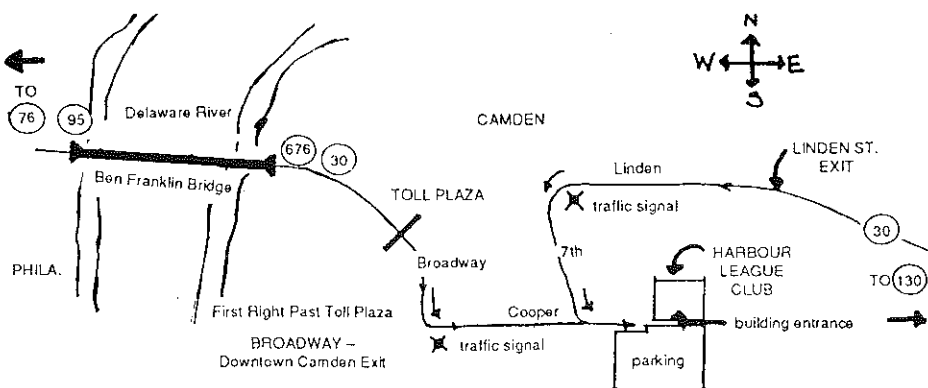
SPECIAL FEATURE: DREXEL UNIVERSITY NIGHT

The ASCE Student Chapter, Alumni and Faculty of the Civil and Architectural Engineering Department of Drexel University will be honored at this meeting. All Students, Alumni and Faculty are cordially invited.

RESERVATIONS MUST BE SUBMITTED BY FRIDAY, FEBRUARY 10, 1995. Please send your check for the number of attendees @ \$25.00 per member or guest; \$13.00 ASCE Student members, payable to the Phila. Section, ASCE, P.O. Box 58186, Phila. PA 19102-8186; or call the Electronic Message Center: (215) 934-3639 (open 24 hours/day). Remember the deadline date for reservations is **Friday, February 10, 1995.** (Please indicate choice of entree — London Broil or Chicken Dijonaise).

John Crist received his formal education at Virginia Tech (VPI & SU) where he received his B.S. in Forest Products ('67) and his Ph.D. in Wood Science and Technology ('72). After completion of graduate school, Dr. Crist joined the USDA-Forest Service where he was employed for 20 years. The first half of this service he did research on forest product composites formed from fibrous materials produced using accelerated growth techniques. In the second half of his Forest Service career he was employed as a Wood Utilization Specialist which culminated with his position before retirement of Program Director of the National Timber Bridge Initiative. Dr. Crist re-

Continued on Page 2



LOCATION MAP for Harbor League Club, Camden, NJ

ONE-DAY SEMINAR ON "GEOSYNTHETICS IN WASTE CONTAINMENT SYSTEMS"

by Robert M. Koerner, Ph.D., P.E., H.L. Bowman
Professor of Civil Engineering and Director,
GRI, Drexel University

On Thursday, March 16, 1995, a Seminar (with notes) will be presented at Drexel University to ASCE members and their guests.

This one-day seminar on liners and covers for waste containment systems focuses on selection, design and testing of the various individual components used to make successful waste disposal containment facilities. The focus is on the various geosynthetic components such as: geomembranes • geosynthetic clay liners • geotextiles • geogrids • geonets • geopipe and related materials like geosynthetic erosion control systems. Natural soils will be described for comparison, such as compacted clay liners and gravel/sand leachate collection drains and filters, but the major emphasis of the program is clearly on geosynthetics.

The initial 45-min. is oriented so as to recognize that legislation plays a large role in the conceptual design of a waste facility and allows the designer to counterpoint geosynthetic materials against natural soil materials. An insight into the various geosynthetics used in liners and covers is then given along with selected durability issues, i.e., chemical resistance, and lifetime prediction.

Salient features of the design and testing of geosynthetics are presented with worked-out numeric examples for each type of geosynthetics. Included are geomembranes on side slopes and undergoing differential settlement, geonets as secondary leachate collection system, geotextiles as filters and protection components, geogrids for veneer stability and landfill expansions, geopipe for leachate removal systems. The assemblage of these components into a complete system will then be described and will involve the use of geosynthetic clay liners and geosynthetic erosion control materials. The entire presentation is generic, i.e., trade names will not be mentioned,

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THE PRESIDENT'S MESSAGE

As we step away from the holidays, we now look to the work effort of 1995. We shall all look forward to **Engineers' Week, February 17 to 25, 1995**. Engineers Week is diverse, including events ranging from student activities to awards for the accomplishments of the past year. Please take some time to enjoy some or all of the activities and promote our profession.

As announced in the December, 1994 issue of THE NEWS, ASCE's nominee, **Harry M. Perks, P.E.**, was elected as the Delaware Valley Engineer of the Year. He will certainly bring a high profile to the position.

We are also pleased to announce that **Alvin Zion, P.E.**, a long-term active member, a former Director and Current Chairman of the Section's Engineering Management Group, has agreed to fill the vacancy in the Vice President's position. Al's distinguished career as a civil engineer in public service and now as a consultant, will be further enhanced with more ASCE challenges.

This month we will have an exception to our normal second Thursday meeting at Williamson's. There will be joint meeting between the Philadelphia Section and the South Jersey Branch at the Harbor League Club in Camden on February 15, 1995. The remainder of our program looks exciting and will be capped off with our Annual Spring Dinner Dance on May 5, 1995 at Sugarloaf Conference Center, Philadelphia. (Look for further details to be announced in THE NEWS.)

We had an exceptional turnout for the January 12, 1995 regular dinner meeting program on ISTE, (see writeup elsewhere in this issue), and look forward to continued attendance and participation by all our members at future meetings. If anyone has any suggestions for further promotion of our meetings, please leave your suggestions on our Hotline later this Spring. We will be holding an ASCE Golf Outing at a location yet to be determined. As always, we are looking for people to become involved in the planning of this event. If you want to assist and take part, please contact me or Assistant Secretary Sean Markey at (215) 923-5077. I hope to see you all at our upcoming Section Meetings.

Sincerely, William T. Thomsen, President, Phila. Section, ASCE

February Meeting

(Continued from Page 1)

ceived the highest honor bestowed by the Forest Service — The Chief's Award for Excellence. After retirement from public service in 1991, John joined private industry in sales where he is now employed as the Mid-Atlantic Representative of Krenn Bridge Companies, Inc.

Mr. Crist's talk will include the properties of timber as applied in large engineered structures, wood preservation, and the evolution of timber bridge design. The merits and limitations of modern designs will be discussed in relation to their best application. Modern designs are characterized by improved fastening of embers, either by stressing, doweling, or gluing, to facilitate sharing and dispersion of loads from vehicular traffic.

A SPECIAL THANK YOU FROM THE SECTION

The Philadelphia Section, ASCE, extends its particular sincere expressions of appreciation to three Consulting Engineering firms for their special generous sponsorship contributions for the Section's "SEPTA Railworks Project" Celebration, held in the Grand Hall of the new Pennsylvania Convention Center in Center City on September 19, 1994 (see detailed write-up in the October, 1994 issue of THE NEWS). The firms are: **Gannett Fleming, Inc.; O'Brien-Kreitzberg, Inc. and STV/Sanders & Thomas, Inc.** Our great thanks to you all!

SECTION OFFICER VACANCIES FILLED

At its meeting on January 12, 1995 preceding the regular Section Dinner meeting at Williamson's City Line, the Philadelphia Section, ASCE Board of Directors affirmed the appointments of the following new officers:

Alvin Zion, P.E., Vice President 1994-1995, to complete the unexpired term of George J. Stanley; and **Gregory R. Yates, P.E.**, Secretary 1994-1995, to complete the unexpired term of Michael J. Carragher. (See The President's Message in the January, 1995 and this issue of THE NEWS.)

Al Zion is Project Director at Hill International, Inc. Consulting Engineers; and Greg Yates is Project Manager at Urban Engineers, Inc., Consulting Engineers. The Section's heartiest congratulations are extended to the new officers!

GRADES 1-9 CECP LIBRARY

For *Civil Engineer Presenters* and *Civil Engineering Class Projects (CECP)*, the Phila. Section, ASCE now has a small but well focused library. To obtain access to this library, please call (215) 204-

7802, the 24-hour voice-mail number of **Stephen G. Jochum, P.E.**, at Temple University.

In addition to books and other published material, the library contains video tapes, transparencies for overhead projectors, slides, and other

material which *Civil Engineering Presenters* can adapt and bring to schools when they introduce Civil Engineering Class Projects to Grade 1-9.

Why grades 1-9? Appreciation and an interest for Civil Engineering is best developed early when students make choices for or against the more demanding pre-college educational programs.

Initial financial support for this library was provided by the Philadelphia Section, ASCE, and a personal contribution from **Dr. James M. Matthews, P.E.**, Assistant Professor of Civil Engineering, Temple University. Appropriate additions to this library are always welcome and encouraged. The library is currently maintained by **Stephen G. Jochum, P.E.**, Associate Professor of Civil Engineering at Temple University.

PHILA. SECTION, ASCE OFFICERS 1994-1995

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**COPY DEADLINE FOR
MARCH 1995 ISSUE
FEBRUARY 10, 1995**

PHILADELPHIA SECTION ASCE ANNUAL CIVIL ENGINEERING AWARDS

1995

The Philadelphia Section takes pleasure in announcing the Annual Civil Engineering Awards. These awards are to recognize local members for their contributions to the Civil Engineering field. If you wish to nominate someone, please read the rules and criteria and then fill out the nomination form.

ALL AWARDS WILL BE PRESENTED AT THE MAY 5, 1995 ANNUAL DINNER DANCE at The Sugarloaf Center, Chestnut Hill, Philadelphia, PA

R U L E S

Nominations must be received prior to 3 p.m., **March 17, 1995**.
(If time extension or information are necessary, contact
Bob Wright (215) 686-5538).

Individuals may be nominated for awards by a member in any grade of membership.

Individuals may be awarded only one award in a single year.

Individuals may be nominated for more than one award.

Award recipients must be approved by the Board of Directors.

All awards are presented only in years, where in the judgment of the Selection Committee, or the Board, there is at least one suitable candidate.

The Selection Committee will be required to nominate an alternate for Board consideration for each award.

Each Selection Committee will also recommend to the Board of Directors whether the recipient should be nominated for applicable national or regional awards by the Section.

A W A R D S

Philadelphia Civil Engineer of the Year

The section's highest award is presented to an individual who is judged to have contributed substantially to the civil engineering profession.

CRITERIA:

- Membership Grade - Member, Fellow, Life or Honorary
- Member in good standing of the Philadelphia Section

RECIPIENT ALSO CONSIDERED FOR:

1. Delaware Valley Engineer of the Year
2. Edmund Friedman Professional Recognition Award

Philadelphia Young Civil Engineer of the Year

This award is presented to a young civil engineer who is judged to have contributed to the civil engineering profession.

CRITERIA:

- Membership Grade - Associate or Student
- Member in good standing of the Philadelphia Section or member of a student chapter assigned to the Philadelphia Section.
- Must be 32 years of age or younger on Feb. 1 of the award year

RECIPIENT ALSO CONSIDERED FOR:

1. Edmund Friedman Professional Recognition Award

Philadelphia Government Engineer of the Year

This award is presented to an individual who is employed by the Federal Government, a State Government, a Municipal Government or a public authority that has contributed substantially to the civil engineering profession.

CRITERIA:

- Membership Grade - Member, Life, Honorary or eligible for membership
- Assigned to the Philadelphia Section or employed or residing within the Philadelphia Section boundaries.

RECIPIENT ALSO CONSIDERED FOR:

1. Zone 1 Government Engineer of the Year
2. Civil Government Award

Philadelphia Young Government Engineer of the Year

This award is presented to a younger member who is employed by the Federal, a State or a Municipal Government or a public authority that has contributed to the civil engineering profession.

CRITERIA:

- Membership Grade - Associate member or eligible for membership.
- Member in good standing of the Philadelphia Section or employed within the Philadelphia Section boundaries.

RECIPIENT ALSO CONSIDERED FOR:

1. Zone I Young Government Engineer of the Year

Government Service Award

Presented to an elected or appointed governmental official who has contributed substantially to the status of the civil engineering profession by their public service.

CRITERIA:

- Holds office in a jurisdiction which represents a geographical including an area which corresponds to the boundaries of the Philadelphia Section. This would include the President, a U.S. Senator from Pennsylvania, Congressman, Mayor, Commissioner, etc.

RECIPIENT ALSO CONSIDERED FOR:

- Civil Government Award

Individual Technical Awards

The following awards have the same criteria. Each award is presented to an individual who is judged to have contributed substantially to civil engineering and in the area of the particular award.

- Civil Engineering Manager of the Year
- Geotechnical Engineer of the Year
- Structural Engineer of the Year
- Construction Engineer of the Year
- Transportation Engineer of the Year
- Water Resources Engineer of the Year

(over)

CRITERIA:

- Membership in any grade
- Member of the Philadelphia Section

RECIPIENT ALSO CONSIDERED FOR:

- Technical Groups will be responsible for nominating winners for the appropriate national award.

Educator of the Year

This award is presented to an outstanding educator in the field of civil engineering, who has contributed substantially to the field.

CRITERIA:

- Membership Grade – Higher than student
- Member of the Philadelphia Section
- Must be a staff member of a college or university with an ASCE student club chapter.

Philadelphia History and Heritage Award

Presented to an individual whose efforts have made contributions to better the knowledge of, or appreciation of, the history and heritage of civil engineering.

CRITERIA:

- Must reside within the geographical boundaries of the Philadelphia Section or be a member of the Philadelphia Section.

RECIPIENT ALSO CONSIDERED FOR:

- Civil Engineering History and Heritage Award

✂ cut along line

— NOMINATION FORM —

IF YOU DESIRE TO MAKE NOMINATIONS FOR MORE THAN ONE PERSON, PLEASE PHOTOCOPY THIS FORM.

Name of Candidate _____

Address _____ Phone _____

Job Title _____

Work Location _____

Membership:

- ASCE Yes No
 Phila. Section Yes No
 Age (if applicable) _____

Registration Information:

Award(s) Nominated to: Check one (or more if applicable)

- Philadelphia Civil Engineer of the Year
- Philadelphia Young Civil Engineer of the Year
- Philadelphia Government Engineer of the Year
- Philadelphia Young Government Engineer of the Year
- Government Service Award
- Educator of the Year
- Philadelphia History and Heritage Award

Individual Technical Awards:

- Civil Engineering Manager of the Year
- Geotechnical Engineer of the Year
- Structural Engineer of the Year
- Construction Engineer of the Year
- Transportation Engineer of the Year
- Water Resources Engineer of the Year

Academic Degrees:

Other Professional Societies:

Civic or Charitable Activities:

Continuing Education:

Other Awards or Honors:

Nominated by:

Name _____
Member I.D. (See Newsletter label) _____
Address _____
Telephone Number _____

Achievements: In 100 words or less, that supports the candidate's nomination, please use separate sheet.

Submit to: Bob Wright; ASCE; P.O. Box 58186; Philadelphia, PA 19102-8186 by March 17, 1995.

JANUARY DINNER MEETING

January 12, 1995

by Bill Richards, Associate Editor

Williamson's, City Line

Transportation Funding in the Delaware Valley

An overflow crowd in excess of 115 joined together in an evening of food and fellowship at the Phila. Section, ASCE January Dinner Meeting. We required two adjoining rooms to contain the enthusiastic participants and Section President **Bill Thomsen** somehow managed to successfully conduct the session across the glass partitions. The quality of the speakers and cooperation of the attendees allowed the meeting to continue as a resounding success.

A panel of regional transportation experts discussed the present status of funding of transportation projects in the Delaware Valley and the resulting conflict between highway and mass-transit projects. The moderator of this panel discussion was **Edward M. D'Alba, P.E.**, President of Urban Engineers, Inc. and Chairman of the Penjerdel Transportation Committee. That Committee has been active in developing programs to allow the business community to interface with agencies like SEPTA and PennDOT. Ed did an excellent job, providing each panel member with an opportunity for an opening statement and a rebuttal, and then Ed posed a few questions and fielded many more from an audience anxious to participate.

The first panelist to speak as **John Coscia**, Executive Director of the Delaware Valley Regional Planning Commission. DVRPC is the Metropolitan Planning Agency for the Philadelphia Metropolitan Region, the fifth largest in the USA. DVRPC's goal is to develop the capital program at the regional level to achieve a balanced intermodal transportation system for moving people and goods efficiently. Coscia described the funding provided by the Federal Intermodal Surface Transportation Efficiency Act (ISTEA) program as not sufficient to meet transportation needs, with the greatest needs in PA being the Delaware Valley. He pointed out that one reconstruction project alone (for I-95) would require more funds than the total ISTEA allotment for the Delaware Valley. He continued to describe other new projects, like the I-95 and PA Turnpike interchange or the SEPTA Cross-Country Metro, which are needed but can't be funded.

Stephen B. Lester, P.E., a frequent participant at ASCE Phila. Section functions, was the second speaker and a strong advocate for increased highway funding. Steve is the former District Engineer for the Philadelphia Region (District 6) of the Pennsylvania Department of Transportation and the past National President of the American Society of Highway Engineers (ASHE). He has been responsible for major new highway expansion programs on the Blue Route, Schuylkill Expressway, and the Vine Street Expressway. Steve pointed out that highway funding is traditionally paid for by users fees, i.e. gasoline taxes. Even though these fees never completely met needs, the situation is now worsening as smaller, more efficient cars use less gas,

the revenues per vehicle mile are not keeping up with needs. Steve then proceeded to itemize numerous maintenance projects that are being downscaled or deferred.

The third panelist was **Richard G. Bickel**, AICP, Director of Long Range Planning for SEPTA, ably substituting for SEPTA General Manager **Louis Gambaccini**, who could not be present. Rich described the chronology of the ISTEA program as one of "great expectations, harsh realities, and rays of hope." The great expectations were for the advancement of mass transit, less State dominance of funding, and more Local decision-making. The harsh realities set in when it became clear that actual funding levels would not keep pace with authorized budget levels, resulting in highway and mass transit needs competing for funds. The ray of hope has been the resulting instances of regional cooperation, something that had been very rare in the past.

Question and Answer Period

Following the initial presentations, moderator Ed D'Alba posed a number of questions to the panelists as well as accepting questions from the audience.

All panelists agreed that the scarce funding dollars created competition between highway and mass transit needs. Coscia called for an increase in user fees and managed growth.

Some of the structure within DVRPC for transportation planned was questioned. Coscia defended environmentally sensitive people being included on advisory boards and did not feel the voting structure governing DVRPC was a real impediment.

Bickel deflected assertions that SEPTA was contributing to the funding deficit by continuing unprofitable lines. He pointed out the significance of fixed costs unrelated to closing of lines and the need to provide flexible options to riders to increase mass transit ridership.

The question was raised frequently as to what ASCE members and professionals can do to assist in achieving transportation objectives and funding. Lester emphasized becoming informed on the issues and acting accordingly. Bickel emphasized coalitions to promote lobbying for more funds, and Coscia appealed for professionals to testify whenever the opportunities exist.

It was questioned as to whether regionalism would ever take hold within the Delaware Valley. All three panelists agreed that regionalism is happening although not at a desired pace. Lester pointed out the City tax structure as a deterrent to regionalism and Bickel indicated that regionalism has not yet extended to all the local officials and their constituents.

Consistent with Steve Lester's comments on revenues dropping as more efficient car gas usage predominates, European examples of significant car user fees were described. Bickel pointed out that the English will soon be paying three times the amount

in gas taxes as the cost of the gasoline itself.

The audience was still filled with questions when the time came to bring the meeting to a close. We are grateful to Ed D'Alba for doing a fantastic job as program moderator and to Section President Bill Thomsen for arranging this excellent session.

ONE-DAY SEMINAR cont'd

however, they will be discussed if questions are directed to a specific material.

Several case histories where problems have occurred will be offered so as to gain perspective with regard to the integration of design and construction practices. Construction related CQC and CQA issues and trends will be described. The newly established NICET field inspectors and GAI laboratory accreditation programs will be discussed.

Future projections for the waste containment industry will be offered and a summary of the current state-of-the-art will conclude the program.

Contact **Dr. Jonathan Cheng** at Drexel University (215) 895-2996 for registration forms and additional information. The cost is \$60.00 per attendee.

CITY WINS BRIDGE AWARD

The Philadelphia Department of Streets Engineering Section received a Design Excellence Award from the Precast/Prestressed Concrete Institute (PCI) for the **Ashton Road Bridge Project**. The award was presented to Streets Commissioner **Lawrence M. Moy** at the Phila. Section, ASCE January Meeting at Williamson's City Line.

The Ashton Road Bridge project involved construction of a 36-ft. span precast concrete arched rigid frame bridge, stream channel relocation and 1000 ft. of roadway leading into Northeast Philadelphia Airport. A key element of the project was the need to maintain traffic and utility service to the airport and to four industrial businesses along this route. This was particularly difficult because of the need to realign Wood Bridge Run, a small tributary of Pennypack Creek.

In presenting the award, PCI noted that the bridge exhibited exceptional performance by the designers in esthetics, economy, and engineering expertise.

The Streets Department estimates that the decision to use the Con/Span precast arch cut six months off construction time and resulted in a streamlined, rustic appearance to this airport entryway.

Louis W. Petulla Died

Louis W. ("Lou") Petulla, a long-time active Phila. Section, ASCE member and former Director died on December 12, 1994 in New Kensington, PA

A biographical tribute to Lou will appear in next month's issue (March, 1995) of THE NEWS.

JOIN THE SECTION'S TECHNICAL GROUPS

Architectural Engineering

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STV Group
11 Robinson St.
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(610) 326-4600

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1 Levitt Parkway
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(215) 937-5582

Younger Member Forum

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882 S. Matlack St.
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Geotechnical

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Drexel University
Civil Engineering Dept.
32nd & Chestnut Sts.
Philadelphia, PA 19104
(215) 895-2363

Water Resources & Environmental Engineering

Raymond A. Lees, Chairman
Groundwater Technology, Inc.
223 Wilmington-West Chester Pike
Chadds Ford, PA 19317
(610) 558-1730

CIVIL ENGINEERING REVIEW WORKSHOPS AT TEMPLE UNIVERSITY

For Saturday, February 18, 1995, a Civil Engineering Review Workshop is scheduled on Hydrology and Hydraulics; Design and Analysis of Drainage/Flood Control Systems; Design and Analysis in Relation to Natural Water Systems;

IMPORTANT! 1994-1995 MEETING NOTICES

MARK YOUR CALENDAR for the dates of the remaining Philadelphia Section, ASCE monthly meetings and social functions, as follows: (Check each issue of coming editions of THE NEWS for details, possible date and topic changes.) THIS IS A TENTATIVE LIST.

ALL DINNER MEETINGS (Except as noted for Luncheon Meetings)

Cocktails - 5:30 p.m. Dinner - 6:30 p.m. Meeting - 7:30 p.m.

STUDENTS: All dinner and/or luncheon charges one-half price. If you prefer, you are welcome to attend all meetings after dinner or luncheon, at no charge.

Thursday, March 9, 1995 - Dinner Meeting, Williamson's City Line
"Sun Oil Co. Middle Creek Project" (Arr. by Environmental Group)
Villanova University Night.

Thursday, April 20, 1995 - *NOTE: Change of date from original schedule.*
Dinner Meeting, Williamson's City Line
Joint Meeting with Society of American Military Engineers (S.A.M.E.)
"Philadelphia International Airport" (Arr. by Engineering Management Group)
Temple University Night.

Friday Evening, May 5, 1995 - Annual Spring Dinner Dance
Sugarloaf Conference Center, 9230 Germantown Ave., Phila., PA 19118

Structural Engineering; Design and Analysis of Buildings, Bridges and Special Structures. Additional information and registration forms can be obtained by calling (215) 204-7814, at any time.

FTA CAREER OPPORTUNITIES

The Federal Transit Administration (FTA), of the U.S. Department of Transportation, is offering Promotional and Career Opportunities in the position of Community Planner GS-0020-09/11/12, for the location of Philadelphia, PA Region 3. The

candidate selected at the GS-09, or GS-11 level may be promoted non-competitively to the next higher grade level based on demonstrated ability to perform higher level work.

How To Apply - For further information, full details and application procedures, interested individuals should contact Philadelphia member and former Phila. Section, ASCE, Director, **Sheldon A. Kinbar**, FTA Region 3 Administrator, at 1760 Market Street, Philadelphia, PA 19103, Suite 500, (215) 656-6900. Closing date for applications is February 10, 1995.

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James S. Graham, P.E.
Staff Engineer



Cooperating with the American Wood Preservers Institute

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