

# the news



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The Sidney Robin Memorial Newsletter of the Philadelphia Section ASCE

Vol. 77-3

## Our 91st Year

November 2004

### NOVEMBER JOINT DINNER MEETING

Philadelphia Section, American Society of Civil Engineers,  
American Concrete Institute, Delaware Valley Chapter

## WEDNESDAY, NOVEMBER 17, 2004

SHERATON HOTEL, PARK RIDGE • Gulph Road • King of Prussia, PA  
Cocktails - 5:30 p.m. • Dinner - 6:30 p.m. • Meeting - 7:30 p.m.

**SUBJECT:** The Saint James Washington Square Building

**SPEAKERS:** Ralph Calistro, Chris P. Stefanos Associates, Inc.

**RESERVATIONS MUST BE SUBMITTED BY FRIDAY, NOVEMBER 12.** Please send your check for the number of attendees at \$35 per member or guest, \$15 per ASCE Student Member. Checks should be made payable to "Philadelphia Section ASCE" and sent to ASCE, PO Box 58186, Philadelphia, PA 19102-8186. Reservations can also be made on the Electronic Message Center, 800-461-4190, or via e-mail at [info@asce-philly.org](mailto:info@asce-philly.org). **PLEASE NOTE THAT THE COST OF DINNERS FOR WALK-IN ATTENDEES WITHOUT RESERVATIONS WILL BE \$40.**

**SPECIAL FEATURE: Villanova University Night.** The ASCE Student Chapter, Faculty and Alumni of the Department of Civil and Environmental Engineering of Villanova University will be honored at this meeting. All Students, Faculty and Alumni are cordially invited to participate.

A new high-rise structure is on the way up on the eastern side of Center City Philadelphia. The current boom in residential construction in Center City includes conversion of what once were office buildings, warehouses, and other structures as the demand for condominiums and apartments continues to skyrocket.

The **St. James Washington Square Building**, a new condominium tower, is a 50-story concrete structure on the south side of Walnut Street between Washington Square and 8th Street. On part of its site, a historic bank structure had to be preserved and accommodated into the design.

**Ralph Calistro** is a Senior Vice President of Chris P. Stefanos Associates, Inc., the Structural Engineer for the project. Mr. Calistro has been with this firm for the past twenty years and has exten-

*(Continued on Page 3)*

### DECEMBER JOINT DINNER MEETING

Philadelphia Section, American Society of Civil Engineers and  
Philadelphia Post, Society of American Military Engineers

## WEDNESDAY, DECEMBER 8, 2004

PHILADELPHIA AIRPORT HILTON • 4500 Island Avenue, south of Penrose Avenue • Philadelphia  
Cocktails - 5:30 p.m. • Dinner - 6:30 p.m. • Meeting - 7:30 p.m.

**SUBJECT:** Naval Business Center Master Plan

**SPEAKERS:** Peter Longstreth, Executive Director, and John Grady, Vice President, Philadelphia Industrial Development Corporation (PIDC)

The Philadelphia Naval Shipyard was authorized by an Act of Congress in 1799. It was the first shipyard commissioned by the then-fledgling United States Navy. It opened in 1801 on the Dela-

*(Continued on Page 3)*

### TECHNICAL GROUP ACTIVITIES

#### Structural Group

##### November Dinner Meeting

**DATE:** Thursday, November 4, 2004

**TIME:** 5:30 to 7:00 P.M.

**LOCATION:** Conference Room Y on the 16th Floor of the Municipal Services Building, 15th and JFK Blvd, Philadelphia

**COST:** \$10 (snacks will be served) Students \$5

**SUBJECT:** Lessons Learned from 35 Years of

**Empirical Stress Analysis Applied to Structures**

**SPEAKER:** Professor Gerard Gambs, P.E., Associate Dean of Pennsylvania Institute of Technology

The presentation will highlight cooperation between design and stress analysis methods for special applications such as investigation of Fatigue Failure/Ball Bearing Separation Failure of a Large Crane, Cracking of Roller Bearings, High Vibration and Fatigue of components used in Steel Mills and Fatigue Cracking Elimination Studies. This photo-illustrated presentation will discuss the cause of the fracture, the analytical approach and resulting construction issues.

**Reservations are required.** Please contact **M. Ali Khan**, Chairman, Structures Group, at (609) 530-9618; or call the Electronic Message Center: 1-800-461-4190.

#### Structural Group

##### Luncheon Meeting

**DATE:** Wednesday, December 1, 2004

12:00 Noon to 1:30 PM

**COST:** \$10; Students \$5 per person

**LOCATION:** Conference Room at STV Inc., 1818 Market Street, Suite 1410, Phila., PA 19103

**SUBJECT:** "Moses Wheeler Bridge"

**SPEAKER:** Richard Ezyk, P.E., STV Inc.

The new segmental concrete Moses Wheeler Bridge in Connecticut is 929 meters long. It was designed using the balanced cantilever method while maintaining traffic flow on I-95. The resulting structure is a 14-span, triple box girder sections, to be built in three phases and ultimately unified at the end of construction. Mr. Ezyk will present various aspects of this important project,

*(Continued on Page 2)*



## PRESIDENTS' MESSAGE

I first want to thank everyone for supporting our first dinner meeting of the year. We had a great turnout, and if you missed the presentation on the Cira Center, talk to someone that was in attendance to see what you missed. This building will be talked about by the visitors to this great city!

The year is off to a great start. The ASCE, Phila. Section is receiving the programs from the Technical Groups, and it will be a great year for learning! I encourage everyone to support your Technical Groups and attend the sessions that interest you. In addition, I want to encourage everyone to contact the chair of a technical group and see if there is anything that you can do to help. All of

the groups are in need of volunteers to help set up the programs, brainstorm on new programs, and there are a couple of groups that may need new leadership. So, get involved, and contact a group to help out!

Now, a word about your Younger Member Forum. If you do not follow the events of this energetic group of young professionals, you are not learning what these Engineers are doing to promote Civil Engineering while doing community service, visiting schools, and providing learning experiences for its members. Again, get involved! Encourage a younger member from your firm or agency to get involved, and come to an event and support the future of our profession.

A great example of the service provided, and yes I am going to single someone out, is your Past President, **Darin Gatti**. I said that each month I am going to note a contribution made by a Civil Engineer, or Civil Engineers, and this month I want to single out Darin. Darin was presented the "Zone I Outstanding Practitioner/Advisor" from ASCE for his work with the Drexel Students. Darin continues to commit his time and energy to advance the profession and touch many people. Thanks for all of your past work, and that to come, Darin!

Now for the challenge. An extremely important challenge that we face as a profession and a country is the outsourcing of services overseas. There are many companies that are sending work out of this country as the labor is much cheaper overseas. This will cause a strain on the Engineers in this country, as well as weaken the profession. I encourage you to follow this issue and as legislation is introduced in Congress, be informed and support your profession!

So, I invite you to the next ASCE, Philadelphia Section meeting, a joint meeting with ACI, and look forward to the networking opportunities with this group and to hear a great presentation on St. James Place. Look forward to seeing you there!

Sincerely,  
Brian A. Stover, P.E.  
President - Philadelphia Section, ASCE

## Technical Group Activities

(Continued from Page 1)

including the economic and cultural impacts, technical work that was required, and obstacles that were overcome.

A buffet lunch will be served starting at 12:00 noon with the presentation beginning at 12:20 p.m.

Reservations are required and seating is limited to 40. Please contact **Ali Khan**, Chairman, Structures Group, at (609) 530-9618.

Please send your check for \$10 to the Philadelphia Section, ASCE, P.O. Box 58186, Philadelphia, PA 19102-8186; or call the Electronic Message Center: 1-800-461-4190 (Open 24 hours/day).

## Engineering Management Technical Group

Joint Meeting with the Construction Technical Group

December Luncheon Meeting

**SUBJECT: Converting a Brownfield into a Fed-Ex Facility and Parkland**

**SPEAKER: Thomas G. May, P.E.**

**DATE: Wednesday, December 15, 2004, noon to 1:30 PM**

**LOCATION: Municipal Services Building, 16th Floor, Conference Room "E", 15th & JFK Boulevard, Philadelphia, PA**

**PRICE: \$10; Students \$5 (Includes buffet lunch)**

Over the past three decades, the Delaware Valley has been losing its job base as manufacturers have relocated to "greener pastures." This has particularly affected the City of Philadelphia. When industries abandoned the City, they typically left behind thousands of acres of formerly productive land, some in a state of contamination unusable for most purposes. With this in mind, the City established its Brownfields Development Program to identify properties that have the potential to be cleaned up and reused.

**Urban Engineers, Inc.** provided environmental consulting services that led to the reclamation and redevelopment of a brownfield site by Federal Express, resulting in the site cleanup and the creation of a \$15 million package distribution center and 150 new jobs. About 15 percent of the site is located along the riverbanks of the Schuylkill River and will be used as part of the planned Schuylkill River Greenway Park. The state-of-the-art FedEx distribution facility provided a strategic location for the company to better serve customers in the Greater Philadelphia region.

For reservations, please contact **Dennis Mac Bride** at (215) 580-3404 or **Bill Mulloy** at (215) 656-6583 no later than **Friday, December 10, 2004.**

(Continued on Page 9)

## SECTION WEB SITE!

Our Section's web site has taken on a new look! Check us out at [www.asce-philly.org](http://www.asce-philly.org). Make sure you bookmark this site to check on our latest meetings and events, links and much more! Comments and/or suggestions? Please contact us either via our Electronic Message Hotline at 1-800-461-4190 (24 hours a day) or e-mail at [info@asce-philly.org](mailto:info@asce-philly.org).

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**COPY DEADLINE FOR  
DECEMBER '04/JANUARY '05 ISSUE  
DECEMBER 10, 2004**

**YOUNGER MEMBER FORUM NEWS**

by James Markham  
Forum Editor

**Alyson Radel Lester, P.E.**  
2004-2005 President

Urban Engineers, Inc.  
530 Walnut Street, 14th Floor  
Philadelphia, PA 19106  
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arlester@urbanengineers.com

The Younger Member Forum (YMF) membership includes college students, recent graduates and young engineers, including Registered Professional Engineers, who are 35 years of age or younger. The objectives of the group are: 1) to provide networking opportunities, 2) to interact with schools and the general public to promote civil engineering and 3) to enhance career development.

Young engineers or college students who would like to become part of the YMF and be added to the announcement list should contact **John Federico** of Urban Engineers, at secretary @ymfphilly.com or at (215) 922-8081. *There are no fees to join!*

**Ben Franklin Bridge Tour**

On September 16, 2004, thirty-two engineers got an exclusive peek at the inner workings of the Ben Franklin Bridge, courtesy of the Delaware River Port Authority.

The tour went underground first, into the toll both tunnel for a look at the network of conduits and ducts that keep collections operating. We then surfaced in the booth for a brief (and cozy) look at the EZpass operations.

The group then headed to the New Jersey abutment. We were lead through a guarded entrance and down three flights of stairs into the remains of a train station that was never used. After admiring the tile work, we descended one more set of stairs, into the main part of the abutment, an enormous 200-ft deep concrete cavern with containment chambers housing an anchorage on each side. We entered one of the containment chambers for the grand finale - a close-up look at the cable anchorage system where bundles branched out from the massive main cable and tied into the intricate support system, held in place by an army of eyebars embedded in the concrete.

We extend our gratitude to the DRPA and those who made this unique opportunity possible: Tom Herron, Alisa King, John Viniski, Mike Nelson, Jesse Graziani and DRPA Bridge Director, Valerie Bradford.

**Joint YMF/ MASITE Dinner Meeting**

On September 23, 2004, the Mid-Atlantic  
(Continued on Page 9)

**SPONSOR PROFILE****"Structural Engineer" Magazine honors TimHaahs as one of the "Best Places to Work"**

"Structural Engineer" magazine selected **Timothy Haahs & Associates, Inc.** of Blue Bell, Pennsylvania, as one of the "Best Places to Work," awarding the firm 4th place in a nationwide competition among.

The second Annual "Best Structural Engineering Firm To Work For Contest" honors the policies and procedures of the firms that are dedicated to providing their staff with exceptional work environments. The selected structural engineering firms combine solid financial performance, stellar corporate policies, and top-notch benefits to attract and keep the best and brightest employees.

"The leading firms in this year's contest have a great deal in common. They offer a supportive workplace and provide employees with programs to facilitate professional development," said judge **Carol Metzner**, President of The Metzner Group. "Each company has received a multitude of awards for technical achievements. Employees describe their work as innovative, challenging, and intrinsically rewarding. Additionally, employees respect and admire colleagues, and describe working environments as 'familylike.' These companies clearly communicate corporate goals as well as offer employees feedback on their role in the attainment of these objectives."

**Timothy H. Haahs**, President, explained, "From our firm's inception, we have worked hard to cultivate a healthy, intimate environment where the firm's employees can grow and develop, both professionally and personally. We are honored to be selected and acknowledged, and look forward to continuing in our efforts to create the best work environment possible." Tim is a Member and former Director of the ASCE, Phila. Section.

**Timothy Haahs & Associates, Inc.** (TimHaahs) is a multi-disciplined engineering and architectural firm that specializes in the planning, design, and restoration of multi-level parking structures. Founded in 1994, TimHaahs is known for designing parking structures that are user-friendly, cost-effective, and durable. In addition to its commitment to being a leading parking consulting firm, TimHaahs' corporate mission emphasizes assisting those in need through financial support and giving of time through charitable organizations. TimHaahs is a certified minority-owned business enterprise. The firm's clients include corporations, universities, hospitals, municipalities, developers, and private owners.

**NOVEMBER DINNER MEETING**

(Continued from Page 1)

sive experience in the design and detailing of building structures, coordination of project partners, and construction administration.

Following Mr. Calistro's presentation, several panelists who represent the project's general contractor, concrete contractor, material supplier and testing laboratory will be available to field questions on this project.

**DIRECTIONS TO SHERATON PARK RIDGE:**

**From Philadelphia via I-76** - take exit 327 (Mall Blvd.) Turn right onto Mall Blvd. at the traffic signal at the end of the ramp. Turn right onto Gulph Road at the next traffic signal. Follow Gulph Road for 1 mile. The Sheraton will be on your right.

**From Pennsylvania Turnpike** - take exit 327 from I-76 (Gulph Road). Bear right on the ramp onto Gulph Road. Follow Gulph Road for 1/2 mile. The Sheraton will be on your right.

**DECEMBER DINNER MEETING**

(Continued from Page 1)

ware River at the foot of Federal Street in South Philadelphia. At the turn of the century it relocated to League Island. The Shipyard, which at its peak employed over 30,000 civilian workers, officially closed as an active facility on September 27, 1996. As a condition of its closure, the management of the Shipyard property was passed to the City's quasi-public development agency, the Philadelphia Industrial Development Corporation, for conversion to new uses. Several Navy agencies, including the large "mothballed" reserve fleet, remain at the Shipyard.

Messrs. Longstreth and Grady will review the proposed reuse of the Shipyard, which was renamed the Philadelphia Naval Business Center, and more recently, the Philadelphia Navy Yard. There have been many diverse and different proposals for the 1100-acre site. Challenges that must be faced in the conversion of the base to new uses include connections to the adjacent areas of the City, utility service, infrastructure renewal, historic buildings, and buried contaminants, among other issues.

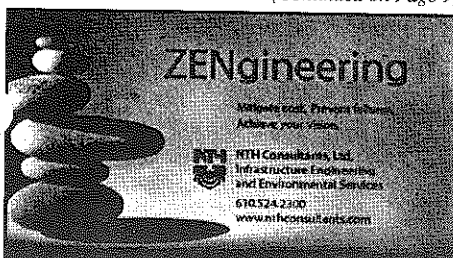
**RESERVATIONS SHOULD BE MADE THROUGH SAME'S WEBSITE.**

[www.samephiladelphia.org](http://www.samephiladelphia.org)

No reservations will be accepted through our Section's Hotline or Post Office Box. Reservations must be made by **December 3, 2004**. The cost of the meeting and dinner is \$28 per person (\$30 if reservation is made after December 3).

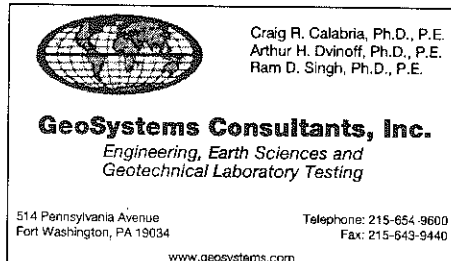
**In politics, if you want anything said, ask a man. If you want anything done, ask a woman.**

- Margaret Thatcher



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## CE NEWS

## MAKE PEACE WITH GRAMMAR AND PUNCTUATION

*This article was originally published in CE News magazine (January 2004 edition). We thought it would be appropriate to provide it for the benefit of the Section's members (not that any of us actually need this information!) You should find it entertaining and informative.*

If you see some of your own pitfalls in this article, then we at THE NEWS are glad to be of service. As Engineers, many of us tend to forget details such as punctuation, grammar, usage, spelling, etc. Even worse, the tools of today's technology that are available to us, such as spell check and grammar guidance on our computer programs, make it too easy to merely forget all the rules and rely purely on the computer. (Keep in mind that the computer's information came from humans, so the guidance is only as good as the knowledge of the inputting person — this author has often disagreed with the information offered by word processing programs.)

Additionally, there will be a quiz after this article. Really! A self-test is provided to see what you've learned from the article (or what you remember from 7<sup>th</sup> grade English?!). The answers to the quiz will be provided in the next edition of THE NEWS.

\*\*\*\*\*

Sheffield, the Duke of Buckinghamshire from 1649 to 1720, once said, "Nature's chief masterpiece is writing well." While that may be true, let's face it: writing clearly, correctly, and eloquently is difficult. Everyone — from the high school students I used to teach to Pulitzer-prize winning novelists — has found writing well to be a challenge.

As an assistant editor for CE News and Structural Engineer magazines and a graduate student in professional writing, I often spend 12 hours a day writing, reading, and revising multiple pieces in various stages of completion. If I'd spent that much time practicing the piano when I was 10, I might find playing something besides "Chopsticks" less difficult today. But for some reason, although the writing I produce has improved, all of that practice hasn't made the process of writing any easier.

Regardless of how tough it may be, writing is an important component of a civil engineer's job. You write to clients, coworkers, subcontractors, and consultants. You write e-mail, formal reports, letters, and maybe even résumés. And though using a comma splice certainly doesn't make you incapable of determining a Manning's "n"-coefficient, people may see you as ignorant or incompetent if you have errors in your writing.

You've probably judged others by mistakes in their writing. I know I have. While researching information about the Sears Tower for Structural Engineer's September "In Structural History," I found a Web site with several interesting facts about the skyscraper's construction — and an error. Although the writers of the material may have been knowledgeable about the tower's structural steel frame, I deemed them incompetent for using

principle instead of principal and quickly clicked the "back" button on my screen.

Illogical? Probably. But if the writers of the text on an educational Web site are careless enough to use a word incorrectly in a document viewed by thousands of people, maybe they are also careless enough to include incorrect information on the site.

Perhaps the most important aspect of writing is actually rewriting — and rewriting and rewriting and rewriting. No one composes a perfect first draft. Ernest Hemingway rewrote the ending to "A Farewell to Arms" 39 times before he was satisfied with it. When asked what technical problem stumped him, Hemingway replied, "Getting the words right."

Of course, you don't have time to rewrite an e-mail message 39 times. But it is crucial to proofread what you write and/or ask someone you trust to proofread your writing. Because most engineers probably haven't had a grammar class in years, I researched the common mistakes in written expression in order to provide you with some helpful hints in avoiding and catching those errors.

### The Top 10 Errors

The 10 most common errors, as published in "The New St. Martin's Handbook"

1. Missing comma after an introductory element — Though commas after an introductory phrase are technically optional, readers usually need to pause after an introductory phrase, clause, or word to locate the grammatical subject of the sentence. There are exceptions; very short and unemphatic elements may not require a comma. A good test is to read a sentence aloud and listen to whether you pause after the introductory element. If you do, you should use a comma.

*Incorrect:* Soon after starting the computer began to smoke.

*Correct:* Soon after starting, the computer began to smoke.

2. Vague pronoun reference — Remember pronouns? Words such as he, she, it, they, this, that, and which need to refer to a specific word or words within a sentence or in a previous sentence. If the reader cannot tell to whom or to what a pronoun refers, the meaning of a sentence may be lost.

*Incorrect:* They say that it's getting harder to find quality civil engineers.

*Correct:* Surveys have determined that it's getting harder to find quality civil engineers.

3. Missing comma in a compound sentence — When two complete sentences are separated by a coordinating conjunction (and, but, yet, so, nor, for, or), you must use a comma before the conjunction. The only exception to this rule is in the case of a very short sentence where the meaning is clear without the comma: I ran and so did Bob.

*Incorrect:* I ate a sandwich and ants crawled on my fruit.

*Correct:* I ate a sandwich, and ants crawled on my fruit.

4. Wrong word — Writers use the wrong words because they don't proofread or because they don't know the meaning of a word. At CE News, we've seen writers use there instead of their, to rather than too, and your in place of you're. We've also seen them use made-up words (such as humbleness) and incorrect words (such as illusions for allusions). Your best bet is not to rely on spellcheck, which doesn't catch mistakes in word usage, but to ask someone you trust to proofread all important documents.

*Incorrect:* The engineers have there own ideas about designing this project.

*Correct:* The engineers have their own ideas about designing this project.

5. Missing comma(s) with a nonrestrictive element — Nonrestrictive elements are words, phrases, or clauses that could be put in parentheses or removed entirely from a sentence without changing its meaning. They should be set off with commas.

*Incorrect:* Mark Smith the president of the organization is scheduled to speak tonight about new advances in concrete admixtures.

*Correct:* Mark Smith, the president of the organization, is scheduled to speak tonight about new advances in concrete admixtures.

6. Wrong or missing verb ending — Sometimes writers drop verb endings (such as -es or -ed) from words that aren't always pronounced clearly, and it's easy to write a long document without realizing that you've forgotten a letter or two at the end of one word. Running spellcheck will not catch this type of misspelling.

*Incorrect:* The company president's reluctance to use e-mail seems old fashion.

*Correct:* The company president's reluctance to use e-mail seems old fashioned.

7. Wrong or missing preposition — Many English words are regularly used with certain prepositions (words such as to, for, at, on, with, and of) to mean certain things. Since most prepositions are short and not always pronounced clearly, they may also be used incorrectly or accidentally omitted.

*Incorrect:* At first, the newly-hired engineer refused to comply to company policy.

*Correct:* At first, the newly-hired engineer refused to comply with company policy.

8. Comma splice — A comma splice is a type of run-on sentence. I used to tell my students that a comma is a wimpy mark of punctuation — it simply isn't strong enough to hold together two complete sentences. There are several ways to correct a comma splice. Without changing any of the words in the sentence, you could simply replace the comma with a semi-colon, change it to a period and create two sentences, or add a conjunction after the comma.

*Incorrect:* The project was finally finished, I was relieved.

*Correct:* The project was finally finished, and I was relieved.

9. Missing or misplaced possessive apostrophe — To show possession, you have to add an apostrophe and an -s to the end of a word. In the

(Continued on Page 5)

## Grammar and Punctuation

(Continued from Page 4)

case where this rule would lead to awkward pronunciation (CE News' staff), or in the case of a plural noun ending in -s (the engineers' decisions), an apostrophe alone is used. Pronouns never require apostrophes to indicate possession (hers, its, his, yours); this explains why its is possessive, while it's is a contraction for it is. With multiple nouns, consider your intended meaning. Adding an apostrophe only to the final noun indicates joint possession (Cathy and Paul's anniversary). Using an apostrophe after each noun indicates separate possession (Cory's and Shanon's birthdays).

**Incorrect:** Executives in the company reconsidered its strict dress code policy.

**Correct:** Executives in the company reconsidered its strict dress code policy.

10. Unnecessary shift in tense — Sometimes writers shift between present, future, and/or past tense without realizing it. Many people switch tenses when they tell stories (I was at the bank, and she comes up to me). In written expression, this confuses the reader.

**Incorrect:** Each project team is assigned three or four clients at a time. The team will determine the client's expectations for each project.

**Correct:** Each project team is assigned three or four clients at a time. The team determines the client's expectations for each project.

### Other common errors

#### Problems in subject/verb agreement

Obviously, singular subjects take singular verbs, and plural subjects take plural verbs. But sometimes determining the subject of a sentence is difficult, especially if there are many words between the subject and the verb. It may help to remember that the subject of a sentence is never found in a prepositional phrase (in the rain, over the river, through the woods).

**Incorrect:** Today's generation of engineers use CAD for most projects.

**Correct:** Today's generation of engineers uses CAD for most projects.

#### Using which/that for who/whom

Many writers incorrectly use which or that instead of who or whom to describe a person. It may help to remember that you wouldn't want to be called a that.

**Incorrect:** She is the engineer that designed the structure.

**Correct:** She is the engineer who designed the structure.

#### Comma with quotation marks

The most common error we see in the correspondence we receive from engineers is a comma used incorrectly with quotation marks. Ironically, this is one of the few rules in the English language that has exceptions. In the United States, commas and periods always go inside quotation marks; semicolons and colons always go outside.

**Incorrect:** Tomorrow, I plan to read "The Reference Guide to Famous Engineering Landmarks of the World", which is a book about bridges, tunnels, dams, roads, and other structures.

**Correct:** Tomorrow, I plan to read "The Reference Guide to Famous Engineering Landmarks of the World," which is a book about bridges, tunnels, dams, roads, and other structures.

#### Trying to be too technical

Michael Crichton, author of "Jurassic Park" and other famous books, once said that some writers choose complicated language to mask weak ideas and to impress those who confuse difficulty with substance. If you try to be too technical, you may not make grammatical or punctuation errors, but you're probably confusing your readers. When your readers don't understand your message, it is worthless.

**Confusing:** At the board meeting, it was asserted that the performance of the company failed to meet the obligations designated in the contract.

**Better:** Board members think that the company didn't meet the contractual terms.

### Conclusion

Many problems in writing are unrelated to correctness. For example, the editors of CE News and Structural Engineer frequently receive correspondence addressed Dear Sir, despite the fact that both editors are female. Today, Dear Sir or Ma'am or To Whom It May Concern are most correct for general correspondence. Most women also prefer Ms. before their last names instead of Miss or Mrs.

Along those same lines, you should avoid the sexist use of pronouns. One way to correct this problem is to use the plural form — instead of writing, A good engineer should listen to his clients, simply write, Good engineers should listen to their clients.

Of course, it's impossible to list and explain all of the errors in written expression in one article, and some rules change with time. Writers no longer use thee and thou as they did in Shakespeare's day. Along those same lines, I remember a teacher telling me not to begin a sentence with and or but — today, however, most English teachers agree that beginning a sentence with either word is acceptable.

I admit it. Writing well is not easy. But to earn the respect of your employers, employees,

clients, and consultants, developing the ability to catch your mistakes is an evil necessity. Perhaps Gene Fowler, a U.S. journalist, famous for his 1944 biography of John Barrymore, put it best when he said, "Writing is easy. All you do is stare at a blank sheet of paper until drops of blood form on your forehead."

Some sources (and excellent desktop references) used in researching this article include:

- "The New Century Handbook," by Christine A. Hult and Thomas N. Huckin;
- "The New St. Martin's Handbook," by Andrea Lunsford and Robert Connors;
- "Shoptalk: Learning to Write with Writers," by Donald M. Murray;
- "Writing Remedies: Practical Exercises for Technical Writing," by Edmond H. Weiss; and
- "Style: Ten Lessons in Clarity and Grace," by Joseph Williams.

### Grammar and Punctuation Quiz

How well do you remember? Each of the following sentences contains one error in grammar or punctuation. Can you correct all of the errors?

1. A group of young engineers are working together to boost company morale.
2. Just because many of our competitors are filing for bankruptcy is no reason that we should lay down on the job.
3. The most likely candidate is a P.E. with five years of experience; someone who has worked in both the public and private sectors.
4. Any software which exceeds \$1,000 must be approved by the chief financial officer.
5. The grammar course was a pre-requisite for the composition course I took at the university.

The answers to the quiz will appear in the next edition of THE NEWS.

The Interim Editor welcomes any reader's comments, especially if he managed to somehow violate any of these rules in the production of THE NEWS!

We thank the staff of CE News for its permission to reprint this article, in particular Cathy Murphy, author and Assistant Editor, and Bob Drake, Editor.

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## FROM THE ANNALS OF THE SECTION'S HISTORY...

### The Center City Commuter Rail Connection (also known as the Center City Tunnel)

You might look at the topic of this month's installment and wonder, how is the Center City Commuter Tunnel (for simplicity's sake, this will be called the Tunnel throughout this piece) the subject of a history article? Well, old timer, believe it or not, the Tunnel is 20 years old this month. Before you say, how can this be, I remember the opening publicity, I attended the dedication ceremony for the Outstanding Civil Engineering Achievement honors, etc., well, you must be a little older than you like to admit!

The Tunnel, as you may recall, was ASCE's Outstanding Civil Engineering Achievement (OCEA) in 1985. It is the most recent recipient of this honor within our Section's boundaries, although some others have been submitted for consideration in the past 19 years. *Civil Engineering* magazine featured the photo accompanying this article on the cover of its July 1985 edition (above).

So is the Tunnel really 20 years old? Yes, it is. We know it seems like only yesterday that it opened for service in its entirety on November 10, 1984, after an intense 6+ years of construction through the heart of Center City. As you may know, it ties the former Reading Lines and Pennsylvania/Penn Central Railroad commuter rail networks together, linking 12 separate routes with over 500 combined rail miles.

The ex-Pennsylvania services that formerly terminated at Penn Center Suburban Station were extended through the 1.7 mile Tunnel and tied into the Reading's system, which used to operate into Reading Terminal. This merger of the two once-separate operations created a truly regional network. The operation of the combined lines be-

came more efficient as all routes ended in Center City before the Tunnel.

The Tunnel allowed commuter rail services to be through-routed, resulting in better equipment turnaround and utilization. Trains that once ran from Paoli, Wilmington and Media, for example, would no longer end their runs at Suburban Station, but would continue on to places like Lansdale, Warminster and West Trenton. With reverse commuting (traveling from city to suburbs) increasing in popularity, this enhanced efficiency has become even more critical in the SEPTA Regional Rail operations.

The Tunnel was first envisioned in the 1930's by officials of the two private railroads, but the redevelopment of the Penn Center area in 1958 prompted City leaders to bring the first serious proposal to the table. At that time, it was estimated to cost \$28 million to build.

After much consideration, discussion, and careful design, ground was formally broken for the Tunnel on June 22, 1978. Construction proceeded at a rapid pace through the maze of utility lines in its path. It had to break through the wall at the end of Suburban Station, cross above the Broad Street Subway, thread carefully beneath the Reading Terminal (requiring extensive underpinning of the Terminal, which remained an active rail station throughout construction), dive under the planned Vine Street Expressway, and climb a new ramp north of Brown Street that tied the new route to the existing Reading viaduct. It affected several busy Center City streets, which had to be kept open and usable at all times. The final cost of the Tunnel was \$330 million, or about twelve times the 1958 estimate.

Limited service began with some trains extended from Suburban Station to the new \$75 million Market East Station on June 7, 1984. (By the way, Market East is the only new station on the route of the Tunnel!) The last train from Reading Terminal left the 91-year-old station at 8 PM on November 6, 1984, its nine cars packed with rail fans and other history buffs. After it passed the junction point with the Tunnel ramp, the rails to the Terminal were severed and the former Reading main line was connected to the Tunnel's tracks. The Terminal itself was extensively renovated for a new use as part of the Pennsylvania Convention Center in 1993.

In September 1985 the Section celebrated the Tunnel's honor as the Outstanding Civil Engineering Achievement with a dedication and reception on site.

## WORD ORIGIN CORNER

Recently, the ASCE, Phila. Section's Younger Member Forum President, **Alyson Lester**, and the Interim Editor traded e-mails on a subject, and Alyson expressed a concern that her information might throw a monkey wrench into the works. And that got us both to thinking... the term MONKEY WRENCH is one that Engineers, as well as our non-technical friends, tend to use. What exactly is this, and why is it something that is thrown into the works that consequently makes things not work well?

According to one source, the monkey wrench was so named because the wrench's sliding jaws reminded someone of a monkey's chewing apparatus. However, there is reason to believe that the tool was named after its inventor, a London blacksmith named Charles Moncke. If you've been to Britain, or heard the British speak English, they do not commonly call the tool a monkey wrench, using instead the term "adjustable spanner wrench" or just "spanner." So much for this theory!?

A more likely explanation turned up some years ago in a Boston doctor's collection of clippings on word origins. An article from the "Boston Transcript" in 1932 attributed the wrench's invention to a Yankee mechanic by the name of Monk employed by Bemis & Call of Springfield, Massachusetts. Monk supposedly invented the movable jaw for a wrench in 1856 and although it was given another name at first, workers in his shop were soon calling it "Monk's wrench", which degenerated into monkey wrench. The tale has not been confirmed, but the 1856 date coincides with the first use of the word in the Oxford English Dictionary (1858).

So now you know... the next time you need a monkey wrench, or one is thrown into your well-oiled machinery, you'll know more about it. Or you'll know enough to say that someone tossed an adjustable spanner wrench into the works, if you'd prefer to use the British term.

Thanks to wordwizard.com for this information.



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**PLEASE CHECK YOUR MAILING ADDRESS**

We receive several returned copies of THE NEWS each mailing. The usual reason for the return is insufficient mailing address.

As you renew your ASCE dues in the coming months (and you probably have already received your renewal package), please check your preferred mailing address for correctness. In order to have your mail delivered to you, your address needs to be as complete as possible – if you work in an office building or complex, the street address AND the office/floor/suite number needs to be included.

You can also check your information on ASCE's database at any time through National's website ([www.asce.org](http://www.asce.org)) in the Member Profile section. You may need to establish a username/password for your account to do this, if you have not previously done so.

Another option remains our e-mail service which will get THE NEWS to your computer literally "hot off the presses". This option is outlined elsewhere in this edition.

We appreciate your cooperation on this to ensure that THE NEWS and other ASCE mailings find you efficiently and quickly.

**FUTURE CITY COMPETITION**

The Delaware Valley Engineers Week Council is proud to once again host the Philadelphia Regional Future City Competition! Schools from throughout the Philadelphia region are working hard on their cities. Teams made up of 7th and 8th graders are working with their teachers and engineer mentors to:

- Design a city of the future using Maxis SimCity 3000™ software.
- Build a working model of a portion of their city using recycled products.
- Write an essay about city planning and design issues.
- Verbally present their city to a panel of judges from the engineering, planning, and architectural communities.

Volunteers are needed for school mentors and other activities at the regional judging, scheduled for **Saturday, January 29, 2005** at Villanova University. If you are interested, please sign up on-line at [www.futurecityphilly.org](http://www.futurecityphilly.org), or contact **Jennifer Wetzel** at telephone (215) 573-3935, fax (215) 746-6606, or [volunteer@futurecityphilly.org](mailto:volunteer@futurecityphilly.org).

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If you would like more information or would like to enroll in the e-mail list, please contact us through the Section website, our electronic message hotline, or via "snail mail" through our Post Office Box.

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– Maryon Pearson

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**THANKS TO OUR SPONSORS**

The Section Sponsorship program for this season is proving to be a success, with 25 firms participating so far. The Section extends its collective "thank you" to our sponsors for their commitment and continued support of the Section.

There are several benefits available to you as a Section Sponsor. For a low \$200 annual fee, you too can be a part of this program and have your business card appear in each edition of THE NEWS, among other perks. You may have seen the cards of those who have decided to become Section Sponsors for the current season throughout this edition. If your firm is not in this esteemed group, and you would like to become a sponsor, this is the time to consider it.

For information on the program, please contact our Interim Editor, **Bob Wright** at (215) 686-5538 or [robert.wright@phila.gov](mailto:robert.wright@phila.gov).

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## OCTOBER JOINT DINNER MEETING

October 21, 2004

The Union League, Philadelphia, PA

### "The Cira Center"

By Bob Wright, Interim Editor

A lively crowd of over 120 attendees filled the room at the Union League as the Section officially opened its 2004-05 meeting season. They were in store for an insightful presentation on the new Cira Center building at 30th Street Station.

The evening was kicked off with some remarks from Section President **Brian Stover**, who handed the microphone to Drexel University Student Chapter President **Drew Sirianni**. Mr. Sirianni spoke briefly about Drexel's program and then presented an award from ASCE National to Section Past President **Darin Gatti**. This honor cited Mr. Gatti's efforts on the Concrete Canoe Race in 2002 and his ongoing assistance to Drexel's Student Chapter as its Practitioner-Advisor. To complete Drexel's night in the spotlight as the featured university, Professor **Joseph Martin** gave a short overview of other happenings at the University.

In addition to the Section's officers, members and guests, the **Mid-Atlantic Chapter of the Construction Management Association of America (CMAA)** participated as a co-sponsor of the meeting. Chapter President **Michael Griffin**, the Section's 2003 Philadelphia Civil Engineer of the Year, highlighted the Chapter's activities and coming events. The Chapter had 19 members in attendance.

President Stover cited the meeting's sponsor, Timothy Haahs and Associates, and thanked all current Section sponsors. He also introduced the new Section officers and Board members present.

Section Younger Member Forum President **Alyson Lester** highlighted the Forum's current and planned events, and then introduced the meeting's speakers, **Anthony Ziccardi** and **Andrew Bush** of Brandywine Realty Trust, the Center's developer, and **Craig Bryson** of Pennoni Associates, part of the Center's Engineering Team.

### The Cira Center

Mr. Ziccardi briefly covered the project background. The Cira Center is on the "other" side of the Schuylkill River with respect to other high-rise office buildings in Center City. As Cesar Pelli, the project's world-renowned architect observed, America allows rivers to divide cities, while the rest of the world forms cities around rivers.

Mr. Ziccardi listed the members of the development team, which included the various design groups as well as a security consultant because of the extreme importance of the area as a transportation hub. The Center will rise to a height of 440 feet, with 28 stories and 728,000 square feet of rentable space. It has a unique, six-sided shape that is described as prismatic, with two prominent "diagonal" sides rising from the southeast and northwest corners. The front façade is actually 15 feet out from the base of the building at the top. It is located on the former north parking deck across Arch Street from 30th Street Station. He added that one of the early challenges in the design of the Center was its location on "stilts" at the same

elevation as the surrounding streets, which are on structure roughly 25 feet above grade. Thus, the Center would not have traditional basement or sub-levels to house building functions and loading areas.

An earlier effort constructed the current parking garage which utilized a portion of the north deck. The garage was completed and opened in May. Both the garage and the Center occupy areas that formerly accommodated railroad tracks. Amtrak Northeast Corridor and 30th Street Station trackage hugs the east edge of the site.

Mr. Ziccardi explained that the Center has a unique outside lighting system, with LED units in the structure that would be controlled by a central computer. The computer will allow changes in the color and pattern of the lighting. The lights will be on the four "non-diagonal" sides.

The Center's main entrance has a driveway off Arch Street which is covered by a 19-foot overhang that is not a canopy but actually part of the building structure. Laybys for parcel delivery have been constructed on Arch Street. The adjacent garage is also served by the Center's driveway, although the garage exit will move to the west side of the Center, lining up with 30th Street, once the Center is completed.

### The Many Site Constraints

Mr. Bryson focused on the several site constraints, especially those related to soils and utilities. Since the site had been a railroad yard for years, contamination monitoring and soil analysis had to be performed to get clearance from environmental agencies. Limited contamination was found, and this was encapsulated in place by the structural supports.

The use of piles was limited by the site constraints and the eccentric loadings imposed by the building. Mr. Bryson noted that caissons were used for support, with roughly 40 drilled to depths of 40 to 60 feet, often carefully around underground facilities that served the former rail yard.

The provision of utility services would be tricky since no trunk utility lines were close to the Center, the nearest ones being a block away, under Market Street. Additionally, these were below grade and well below the roadway decks, which would present access problems. Bryson explained that a former baggage/mail tunnel along the west side of 30th Street Station was put to new use as a utility corridor, and water, sewer and electric services were placed in it. Unique structural systems were placed in the tunnel to carry these lines. As is commonplace with large structures, redundant systems were built in case of failure of any primary lines.

### The Structure Itself

Andrew Bush of Brandywine highlighted the complex design and erection of the main column at the southeast corner, which "wyes" to form one of the diagonal sides. It is built up from plate steel

and was specially fabricated. There are complex supports around the perimeter of the Center, with lateral support a mixture of moment frames and braced frames. Several of the columns have a unit weight of 1200 to 1400 pounds per foot. This complicated erection and called for site-specific procedures to get these large members into place.

The six-sided shape was used to avoid the usual "wedding cake" setback arrangement. The shape contributed to the complexity of members. Two tower cranes are on site to place the steel, and one of these should be ready to be removed shortly.

### The Finished Product

Mr. Ziccardi showed renderings of the lobby, which will have a 50-foot ceiling height and angular walls and ceilings. A skywalk, cable-supported from the lobby ceiling, will run through the lobby, connected directly to 30th Street Station on the south (crossing above Arch Street) and the parking garage on the north. This will allow protected all-weather access among the Center, the Station and the garage.

The 27th and 28th floors will be partially rentable space but will primarily house building utilities. A window-washing system, with gantries, has been designed into the roof cap.

Construction began on the Center on December 29, 2003. The Center is scheduled to open on October 21, 2005. The basic structure is in place as of the meeting and can easily be viewed from several vantage points. The total construction cost is \$120 million.

The attendees asked several in-depth questions on specific aspects of the project. YMF President Lester and Section President Stover closed the meeting and presented the speakers with tokens of the Section's appreciation.

### NEW MEMBERS

The ASCE, Phila. Section would like to welcome the following members who have recently joined the Section. Thanks for your support! Matthew Bencotter, Robinson Blair, Srilaxmi Dosapati, Frank Falzone, Leonard Geraci, David Gibbons, Stephanie Gilpin, Ghassan Henaïdy, Scott Herold, Mary Hoppe, Christopher Jensen, Justin Kirchoerfer, Colin Kraucunas, Juan Levy, Amanda Matthews, Steven McKessey, Stephen Mignogna, Bradley Midgette, Ram Mohan, Feliks Plotnikov, Jennifer Polaski, Adam Powell, Bill Rinker, Joe Romano, Eric Rupanrian, L. Patrick Spellman, Patrick Strenk, Philip Tiewater, Neelima Thota, Alexis Turner, Matthew Vanaskie, Jennifer Wong, William Wood, and Moises Young.

### FUN FACT

Panama is the only place in the world where you can watch the sun rise over the Pacific Ocean and, later that same day, watch it set over the Atlantic Ocean.



## MEET THE ASCE, PHILA. SECTION'S OFFICERS & BOARD MEMBERS

Here is information on some of the ASCE, Phila. Section's Officers for the 2004-05 season. More will follow in upcoming editions of THE NEWS.

### Brian A. Stover, P.E., President

Brian is a 1980 graduate of the University of Pennsylvania, and has worked in the construction management field since graduating from college. He is a Senior Vice President with Urban Engineers, Inc., overseeing the Construction Management and Inspection and Program Management divisions within the firm. Since graduation, he has worked nearly exclusively within the City of Philadelphia. He is a member on the National Board of Directors of the Construction Management Association of America, past President of the Delaware Valley Section of the American Society of Highway Engineers, and on the Board of Directors of the Mid-Atlantic Section of the Construction Management Association of America. He is also the Chairman of the Pennsylvania Partnership for Highway Quality Awards Committee. He promotes involvement in the civil engineering profession and community.

### Christopher J. Menna, P.E., President Elect

Chris is a Senior Projects Engineer employed by the Philadelphia Streets Department's Bridge Section. Chris is currently managing two bridge projects, one retaining wall project, and helps to oversee the City's Bridge Rating Program. He also is the master programmer for the Strawberry Mansion Bridge Light System. In addition, he earned his BSCE from Temple University in 1994 and his MSCE from Villanova University in 1999. Chris, the 2003 Delaware Valley Young Engineer of the Year, was just recently named the 2004, ASCE Zone I, Young Government Civil Engineer of the Year.

### David C. Hanly, P.E., Treasurer

Dave is in his third term as Treasurer. He previously served the Section as President of the Younger Member Forum. Dave graduated from Temple University in 1992. He works in the Philadelphia Office of DMJM+HARRIS, an international consulting engineering firm. He and Marsha, his wife, live in Center City.

### Christopher W. Wright, P.E., Director

Chris is a Senior Civil Engineer for the Philadelphia office of DMJM+HARRIS. His responsibilities include project engineering, project management, and serving as the Civil Department Manager. Chris is currently on the Section's Board of Directors and was the 2001-2002 President of the Younger Member Forum. Chris earned his BSCE from Villanova University in 1991 and his MSCE at Drexel University this past Spring. Chris was the 2003 recipient of the Section's Young Civil Engineer of the Year Award.

## FROM THE ANNALS OF THE SECTION'S HISTORY...PART 2

### Stuff We Missed Last Year

As you may recall, in the pages of THE NEWS last season we included "snippets" of notable events in the history of the Section in a month-by-month format, generally focusing on the month of the edition of THE NEWS. This year, we're doing it a little different.

Of course, the staff of THE NEWS is human, and we miss things once in a while. Yes, we know that's hard to believe, and we hope no one is in great shock or has suffered any medical catastrophe after reading this. Anyhow, there were two notable events that did not get into the History articles last year. These were the following momentous occasions:

**October 1999** – On the 6th, the Section dedicated its mural on the Schuylkill Expressway. A ceremony was held at the Water Works across the Schuylkill River in Fairmount Park. Section President **Faruq Siddiqui** presided over the festivities, which were attended by over 120 Section members and other dignitaries. (Unfortunately, the mural had to be removed from its location earlier this year after it suffered some damage.)

**November 1986** – The Section was swept into the high-tech era when, for the first time, THE NEWS was printed using a new-fangled device called a "laser printer." Prior to this edition, THE NEWS was produced through the typesetting process that, basically, dated back to the days of the Gutenberg printing press. The change in technology allowed a slight change in format and photos became easier to include in THE NEWS.

## MEMBERS IN THE NEWS

### David A Half-Century Young

Section Past President and heir-apparent to the General Good Guy position **Ruben David** celebrated a milestone of his own on August 13 (a Friday — we hope Ruben's not superstitious!), with the 22nd anniversary of his 29th birthday. Don't do the math — believe it or not, the youthful Ruben hit the big 5-0 this year. A big bash was held on August 15, 2004 with over 200 of Ruben's family and close friends in attendance. The party guests were treated to, among other things, Ruben's life story in video format.

*Congratulations, Ruben!*

## Technical Group Activities

*(Continued from Page 2)*

### Delaware Valley Geotechnical Institute (DVGI)

*Dinner Meeting*

**DATE: Tuesday, November 16, 2004**

**SUBJECT: Interface Friction of a Geomembrane with a Fiber Reinforced Soil**

**SPEAKER: Andrea L. Welker, P.E.**

**LOCATION: Wyndham Valley Forge, 888 Chesterbrook Blvd., Wayne, PA**

**TIME: 5:30 pm Social hour, 6:30 pm Dinner, 7:15 pm - Presentation**

**Contact: Ms. Cindy Bruce at (610) 280-6666**

**Cost is \$30 per attendee, \$5 for students.**

## YMF News

*(Continued from Page 3)*

Section, Institute of Transportation Engineers (MASITE) and the Philadelphia Younger Member's Forum (YMF) hosted a dinner meeting entitled "Advice from High Level Executives in our Industry – A Panel Discussion" at the Hilton Valley Forge, in King of Prussia. While the panel was truly distinguished and included **Thomas Caramanico** of McCormick Taylor, **Edward D'Alba** of Urban Engineers, **Karen Jehanian** of KMJ Consulting, **Rodney Plourde** of McMahon Associates, and **Joseph Syrnick** of the City of Philadelphia, the operative word in the title of the event was clearly "discussion." Each member of the panel made a point of engaging the audience about topics ranging from qualities that hiring managers look for in employees, to lessons learned throughout the panelists' careers. Our own **Jenn Walsh** did an excellent job of moderating the event and ensured that the evening proceeded smoothly.

### Happy Hour

The YMF kicked off its season on October 7, 2004, with a happy hour at the Fox and Hound, a sports bar located near the Avenue of the Arts. Approximately 25 members came out for the event. There were plenty of munchies for all.

Special thanks to **Jamie Phillips** for organizing this event and making it so successful.

### Wissahickon Park Clean-Up

On the crisp afternoon of October 23, the YMF joined forces with the Friends of the Wissahickon and the Fairmount Park Commission to help restore trails damaged in recent storms. Work included grading, trail stabilization and the removal of exotic trees that presented a threat to native species. Special thanks go to coordinator **Catherine Chomat** for putting together this event.

### Member Spotlight

**Dave Petrucci, E.I.**, a graduate of University of Delaware, joined Pennoni Associates Inc. in January of 2003 in the Transportation Division. Prior to joining Pennoni he worked for Century Engineering in Wilmington, Delaware. At Pennoni, his primary responsibilities include preparing traffic impact studies for municipal and private clients. He is also heavily involved in the design of traffic signals in Pennsylvania and Delaware. Lately he has been trying to determine the local traffic impact of adding slots to the existing racetrack at Philadelphia Park in Bensalem PA. Dave is an active member of ASCE, and is the current Professional Development Chair of the Younger Member Forum. He is a resident of Philadelphia, and plans to settle here with his fiancé Emily after they get married in 2005.

## HAVE AN ARTICLE? SEND IT IN!

THE NEWS welcomes articles, submissions, photos and just about anything that can be printed if you think it would be of benefit to the Section membership. If you have something you would like to share in these pages, please contact the Interim Editor about it.

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**TENTATIVE SECTION MEETING SCHEDULE  
2004-2005 SEASON**

**MARK YOUR CALENDAR NOW!** The schedule for the Main Philadelphia Section, ASCE meetings for the upcoming season has just started to take shape. Many interesting topics and speakers are being considered. At this time, the details are not all finalized, but we would suggest that you mark the following dates in your calendar as "ASCE Meetings." Details will be provided in future editions of THE NEWS.

Please keep in mind that this information, as always, is to the best of our knowledge at press time, but it is also TENTATIVE and subject to future change.

**ALL DINNER MEETINGS** (except as noted): Cocktails – 5:30 pm; Dinner – 6:30 pm; Meeting – 7:30 pm. All dinner and/or luncheon meetings have discounted prices for students. In addition, all are welcome to attend meetings without having the meal, at no charge.

- Wednesday, January 19, 2005** Joint Meeting with American Society of Highway Engineers (ASHE), Delaware Valley Section • **South Street Bridge and Schuylkill River Park Development** • Radisson Hotel, Valley Forge, PA
- Thursday, February 17, 2005** Joint Meeting with ASCE South Jersey Branch • **PATCO's Future Plans** • Wyndham Hotel, Mount Laurel, NJ
- Thursday, March 17, 2005** Joint Meeting with Women's Transportation Seminar, Philadelphia Section • **South Jersey Transportation Authority Master Plan** • Union League
- Thursday, April 21, 2005** **Philadelphia International Airport Expansion** • Union League
- Friday, May 6, 2005** **The Annual Spring Social and Dinner Dance** at the Sugarloaf Conference Center in Chestnut Hill.

*This schedule will be updated and repeated in THE NEWS throughout the coming season.*

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