

ASCE

AMERICAN SOCIETY OF CIVIL ENGINEERS SAN BERNARDINO & RIVERSIDE COUNTIES BRANCH LOS ANGELES SECTION , REGION 9-SINCE 1953

PRESIDENTS MESSAGE

February 2013



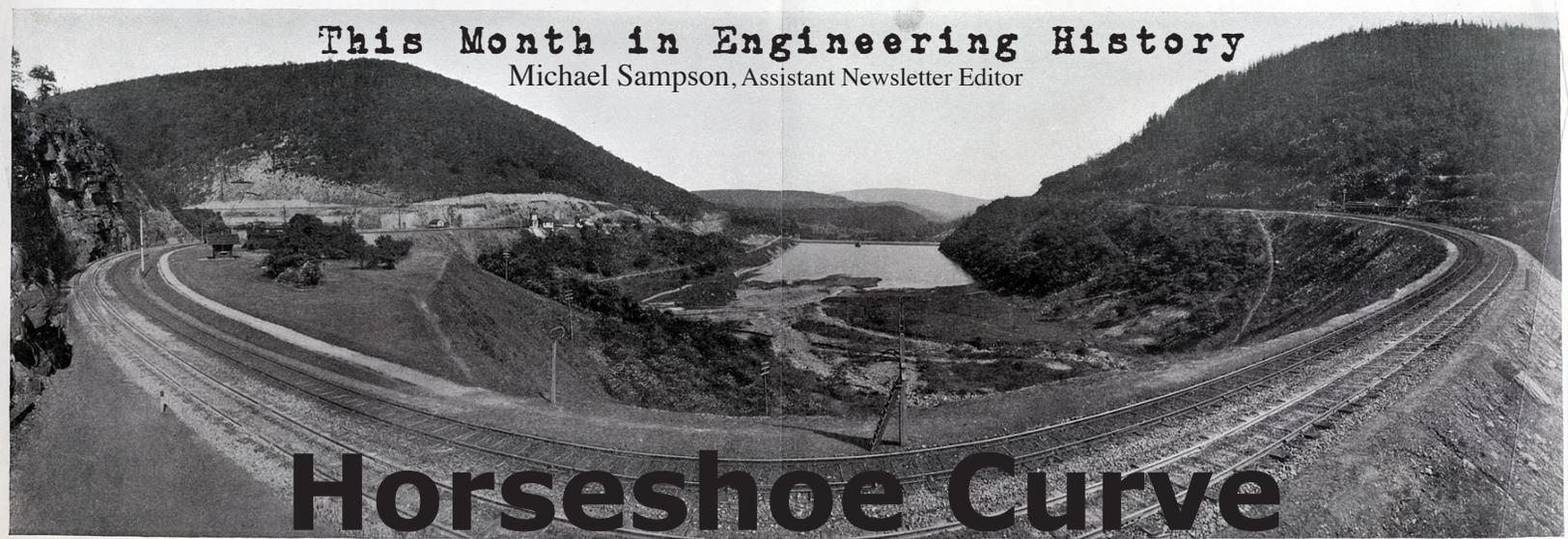
February is a very important month for all engineers and the members of the American Society of Civil Engineers. This is the month where we join our engineering colleagues from the other branches of engineering to celebrate Engineer's Week. In addition, your local Riverside-San Bernardino Branch coordinates volunteers to visit local high schools introducing junior and senior high school students to the profession of engineering, of course emphasizing Civil Engineering.

National Engineers Week is the third full week of February kicking off with President's Day. National Engineers Week is observed by more than 70 engineering, education, and cultural societies, and more than 50 corporations and government agencies. The purpose of National Engineers' Week is to call to attention the contributions to society that engineers make. It is also a time for engineers to emphasize the importance of learning math, science, and technical skills.

The celebration of National Engineers Week was started in 1951 by the National Society of Professional Engineers in conjunction with President George Washington's Birthday. President Washington is considered as the nation's first engineer, notably for his survey work.

Your Riverside-San Bernardino ASCE Branch is preparing presentations to our local high schools to encourage our next generation to pursue studies in the field of engineering and science. Show your pride as a Civil Engineer; become a role model, and share your knowledge and experience with students. A role model is a person who inspires others; a person who encourages and serves as an example, demonstrating the values, attitudes, ethics and behaviors associate with a positive role. If you would like to be a role model and either go solo in making a presentation or co-presenting to your son's or daughter's high school, please contact your Branch Vice President, Brandon Reyes. His contact information is on page 5.

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Horseshoe Curve

HORSESHOE CURVE

Throughout the years there were many horseshoe-like projects carried out on America's railroads in an attempt to keep a particular line's ruling grade at a manageable level. However, none became as famous as the Pennsylvania Railroad's Horseshoe Curve. It was credited as an engineering marvel in the mid-19th century when it was constructed and was so well planned and designed that it remains in regular use today, as an important main line artery between the east coast and Chicago. Rail fans have become enamored by the location, not only because of its unique design but also because of the number of trains that traverse the curve on a daily basis.

Entire libraries could be written on the Pennsylvania Railroad ranging from its history to the different businesses it owned, far, far too much to cover here which is a mere brief history of the railroad. The Pennsy was an institution to the City of Philadelphia and State of Pennsylvania. For over 100 years the keystone represented the PRR as much as it did the State of Pennsylvania itself. The PRR had been in existence for just under ten years when it reached the area around Altoona, Pennsylvania in the south-central region of the state. Thus far during the company's construction it had been able to keep its ruling grade to no greater than 1.8% by hugging river valleys whenever possible such as the Juniata and Susquehanna.

Altoona, and the area west of the city (both of which sat at the foot of the Allegheny Mountains) became a real challenge as the topography made it extremely difficult to keep the ruling grade at or under 1.8%, as required by top management. To solve the dilemma the Pennsylvania Railroad's chief engineer, John Edgar Thomson in the late 1840s looked to improve a survey that had been done by Colonel Charles Schlatter in 1839. Thomson's new idea was to head south through

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Presents

“To Mars, To Explore, the Drive for Curiosity”

Mr. Tyler Nordgren.

Professor of Astronomy at the University of Redlands, California

In 2012 NASA’s Curiosity rover touched down on the surface of Mars. With its rover named Curiosity, Mars Science Laboratory mission is part of NASA’s Mars Exploration Program, a long-term effort of robotic exploration of the red planet. Curiosity was designed to assess whether Mars ever had an environment able to support small life forms called microbes. In other words, its mission is to determine the planet's "habitability."

Date: Tuesday, February 19, 2013

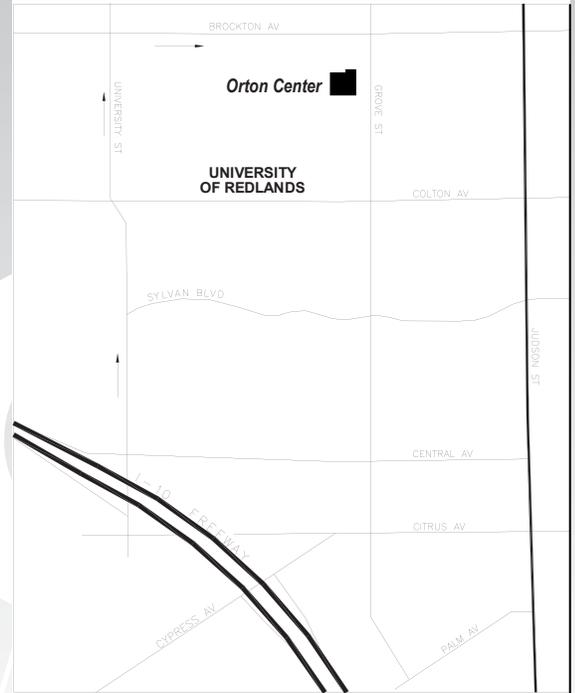
Location: University of Redlands, Orton Center

Times: 6:00 p.m. Social
 7:00 p.m. Dinner
 7:30 p.m. Society Announcements
 7:45 p.m. Program
 8:45 p.m. Question and Answer Period
 9:00 p.m. Adjournment

No Host Bar:
 Wine, beer,
 Martinelli sparkling
 cider and soft drinks
 by glass or bottle

Directions:

From **eastbound** Interstate 10: Take the University Street exit and turn left onto University Street.
 From **westbound** Interstate 10: Take the Cypress Avenue exit and turn left. Drive two blocks to University Street and turn right.
 Continue north on University Street 0.8 miles to the Brockton Ave. stop sign and make a right. Go pass Ted Runner Stadium and Farquhar Soccer Field (both on your left). Turn right into the last driveway before Grove St. to enter the parking lot.



CUT ALONG DOTTED LINE AND MAIL BOTTOM WITH CHECK – PLEASE INDICATE YOUR MEAL SELECTION

Advance Reservations Required

Name: _____ Telephone: _____ Number of Guests: _____

E-mail: _____ Name(s) of Guest(s): _____

Organization: AIAA ASCE ASME CSPE IEEE SAME APWA Other

Meal Selection: Beef Chicken Mushroom and Spinach Ravioli (Vegetarian)

Total Amount Enclosed: _____ (\$25 per engineer or guest; \$15 per student)

Seating is limited.

Please mail reservations and mail checks (payable to IECES) for receipt on or before Feb. 15, 2013 to:

IECES, c/o Tom Crowley, Treasurer, 115 Hillside Way, Redlands, CA 92373
 Phone (909) 213-7055 E-mail: t.j.crowley@verizon.net

January Branch Meeting

January 23, 2013



For the Branch's January meeting we invited John Gillison, City Manager for the Rancho Cucamonga to come present on the ideas and innovations the City is using to be successful and move forward in 2013.

Mr. Gillison explained how most Cities are still reeling from loss of Redevelopment Agencies and the focus is on economic development in moving forward. He stressed working across city boundaries and incorporating regional assets (e.g. Ontario Airport and Fontana Speedway), all of which have impacts on surrounding communities (i.e. shopping, hotels, hospital, and schools). The mentality of "What's good for the region, not just city".

The City focus on efficiency is evident in streamline business development process. That is possible through inter coordination and consistency with building and safety, engineering, and community service programs. Providing a good experience to potential businesses can only benefit the City. The City is in the process of updating their land management software. The new software will include mobile options that allow the City to work seamlessly with businesses, GIS, and tracking, reviewing, and approving projects digitally. City inspectors can make use of the mobile application to stay in the field longer, decreasing wasted drive time and lowering overhead, again focus on efficiency.

The San Bernardino County and portions of Riverside County are experiencing growth from rural communities to urban communities, similar to the San Gabriel Valley, adapting to this change is key. Mr. Gillison left us with the following statement, change is occurring, you can either adapt to or migrate away from change. Mr. Gillison's passion and persistence to make Rancho Cucamonga a desirable place to live, work, and do business is evident.

Steve Ledbetter

Branch Newsletter Editor

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E-Week Volunteers:

We are looking for engineers willing to volunteer to speak in front of groups of high school or junior high kids about our profession. We at the local branch will organize a group of interested schools in the area, but if you have a nearby school in mind please let us know. If you would like to help or need more info, please contact Brandon Reyes.

Date: Friday, February 22nd 2013.

Contact: Brandon Reyes, Vice President ASCE,
breyes@rbf.com

Presidents Message

Continued

Your Branch Board encourages everyone to attend the annual joint February meeting with the Inland Empire Council of Engineers and Scientists to celebrate National Engineers Week. This year's program will feature Mr. Tyler Nordgren, professor of astronomy at the University of Redlands, on "To Mars, To Explore, the Drive for Curiosity". I'm sure this program will be out of this world. This joint meeting is on Tuesday February 19th at the University of Redlands Orton Center starting at 6 pm. Come early to socialize with your fellow engineers. Please refer to the meeting flyer included in the newsletter for more information on the program and registering.

As always your ASCE Branch Officers look forward to hearing your comments regarding any ideas you may have for the newsletter or activities. We are always looking for new and exciting topics for the monthly meetings. If you have any suggestions or your company has a challenging project to share with the engineering community please send us an email and let us know. We can feature your challenging project in an upcoming newsletter or even schedule you to make a presentation at our monthly meetings.

Matthew Addington

San Bernardino/Riverside Softball Tournament

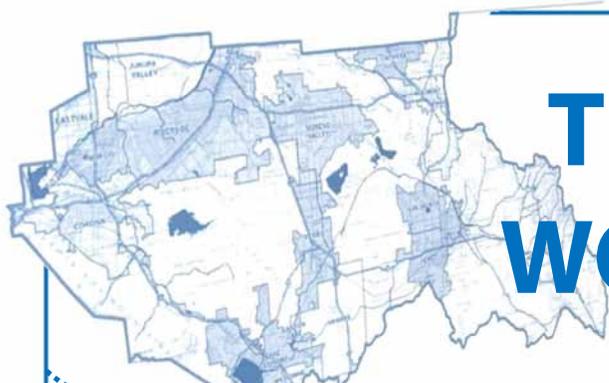
By: Sarah Watrous, P.E.

On a bright sunny January day, members of the San Bernardino/Riverside (SB/R) ASCE Younger Member Forum (YMF) met with members of the SB/R Branch and the Cal Poly Pomona ASCE Student Chapter for a friendly softball tournament and barbeque. The games started at 10:30AM with the YMF team versus the Cal Poly Pomona student team. Even though the students slammed the YMF team 5 to 0 at the bottom of the first inning, the YMF team scraped out a 9 to 10 victory by the bottom of the 6th inning (to save time games were kept to an hour time limit). Then the students played the branch and, though they played valiantly, lost to the Branch 28 to 12.



After the second game, everyone took a lunch break and headed over to the covered picnic tables for barbequed hamburgers and hot dogs. Lunch was a welcomed break from the games and the heat of the unseasonably warm southern California winter day. Then the winners of the two morning games, YMF and the Branch, competed against each other for first place in the softball tournament. It was a fierce game, but the Branch emerged the victor of the tournament with a final game score of 15 to 3. When all was said and done, everyone had a good time and we all got to know each other a little better. Thank you all for coming out! See you on the field next year.





TRAINING WORKSHOP

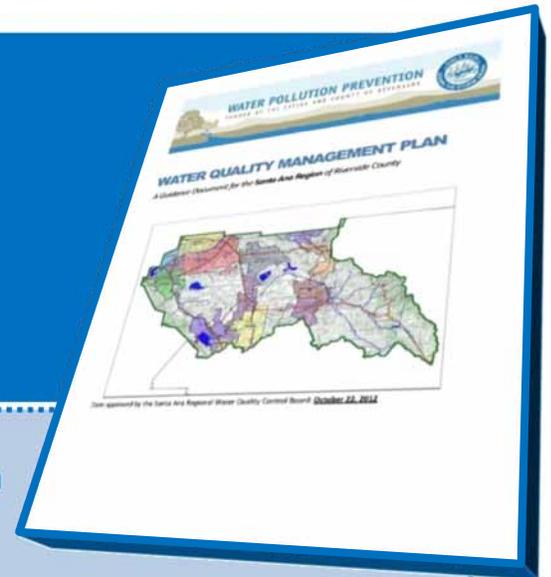


ASCE
LOS ANGELES SECTION
San Bernardino-Riverside Branch
YOUNGER MEMBER FORUM

INTRODUCTION TO THE UPDATED WQMP FOR RIVERSIDE COUNTY

When: Wednesday February 13,
8:00 a.m. ~ 12:00 noon
(7:30 a.m. registration)

Where: Corona City Hall
400 South Vicentia Avenue
Corona, CA 92882



New WQMP requirements in effect for projects approved December 6, 2012 or later:

- What works for most projects
- Avoiding common mistakes
- Using the new Project-Specific WQMP Template
- Low Impact Development Site Design
- Selecting and Designing LID BMPs
- Hydromodification Comps

Instructor:

Lisa Skutecki (P.E., CPESC)
(Brown & Caldwell)

Dan Cloak
(Dan Cloak Environmental Consulting)

Please download and print the following documents available at:

- <http://rcflood.org/NPDES/SantaAnaWS.aspx>
- WQMP approved October 22, 2012
- Exhibit B: Project-Specific WQMP Template
- Source Control Checklist
- Exhibit E: WQMP Applicability Checklist
- Exhibit H: Glossary

Brown AND Caldwell

DAN CLOAK
ENVIRONMENTAL CONSULTING

← Most of these documents are also available at:
http://waterboards.ca.gov/santaana/water_issues/programs/stormwater/docs/rcpermit/wqmp/final/Santa_Ana_WQMP_FINAL.pdf

(Clip & Se)

Santa Ana Region WQMP Training (February 13, 2013 Session)
First Come, First Served – Limited to 50 Attendees
Registration Cost: \$60 per person (non-members) / \$45 per person (ASCE members)
Continental breakfast included.
Only checks accepted – NO CREDIT CARDS – MUST BE PAID PRIOR TO EVENT
Make checks payable to ASCE SB/RV

Name of Attendee: _____

Total Number Attending: _____ Amount Enclosed: \$ _____

Contact Name: _____ Contact Phone Number: _____

Contact Email: _____

Mail Form & Check to:
RCFC & V
Attn: Julianna Gonzalez
1995 Market Street
Riverside, CA 92501

Questions? Contact Julianna Gonzalez
juliannagonzalez@rcflood.org
951.955.8064



ASCE's Younger Member Forum Need Your Help

What: ASCE YMF 19th Annual Popsicle Stick Bridge Competition

Where: Los Angeles Union Station

800 North Alameda Street

Los Angeles, CA 90012

When: Saturday, February 16th, 2013

8am- 5:30pm

Contact: Sarah Watrous, Volunteer Coordinator

SB/R YMF

snwatrous@gmail.com

(951) 334-3956 (Cell)

Website: <http://bridge.mlab-ymf.org>



Event Description: Popsicle Stick Bridge Competition is a FREE event that brings together hundreds of local high school students to participate in a full-day celebration of math, science and engineering. Sponsored by the American Society of Civil Engineers' Younger Member Forums, student groups are challenged to design and build a popsicle stick bridge based upon provided rules. At the competition, students submit a technical design report, present their bridge to their peers and local engineering professionals, and then test the strength of their bridge on a loading machine.

With the biggest turnout in Popsicle Stick Bridge history we need many volunteers to help facilitate the event so that we can ensure a great day for all participants. Volunteers will assist with registration; bridge testing; judging bridges, presentation, and posters; scoring; facilitating various portions of the day; and much more. Every year students, teachers, and volunteers alike enjoy all the day has to offer. Come join in the fun!





RRPictureArchives.NET Image Contributed by David Abeles

Horseshoe Curve

Continued

Altoona using the Juniata River valley then turn west hugging the foothills of the mountain range.

To reach the other hillside and keep the grade under 1.8% Thomson opted to fill in the valley floor between the hills, which crossed two small creeks (Kittanning Run and Burgoon's Run). This created an almost perfect horseshoe and once on the western hill the line then headed due east for a short distance before turning south and then back west, all of the while hugging the hillsides as much as possible (it should also be noted that roughly six miles west of the curve is the location of Gallitzin Tunnel).

What became known as Horseshoe Curve began construction in the early 1850s and was officially opened on February 15, 1854. While the route initially only featured one track it grew to four around the turn of the 20th century not only because of the PRR's fast and low-grade route between New York and Chicago but also because the railroad's primary locomotive and maintenance shops were located right nearby in Altoona.

Today, Horseshoe Curve features only three tracks with the loss of significant passenger train traffic.

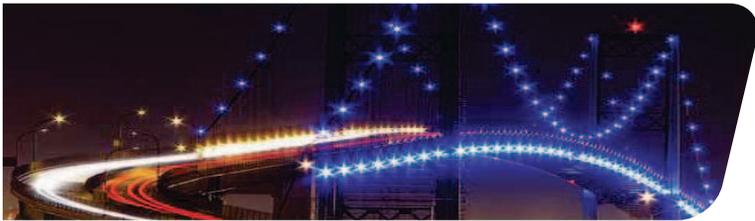
However, today the line remains as busy as ever, usually hosting more than 50 Norfolk Southern freight trains and a few Amtrak passenger trains every day.

As early as 1879 a park dedicated to the engineering marvel has been located in the bowl of the curve. In 1932 an access road was completed to the park and in 1957 the Pennsylvania Railroad dedicated a retired Class K4 Pacific steam locomotive (#1361) to be featured at the park. In 1986 the curve was adorned with the rare status as a National Historic Landmark and in the late 1980s the National Park Service became involved by permanently helping to maintain the park's facilities and overall grounds. Today, the park is part of the nearby Altoona Rail Roaders Memorial Museum (which preserves the PRR's massive shop complex located in the city) and sees thousands of visitors and tourists each year.



GAME ON!

Addressing California's Infrastructure Challenges in the 21st Century



**Wednesday, March 6, 2013
8:00 am to 4:00pm**

**at the LOS ANGELES UNION STATION
800 North Alameda Street Los Angeles, CA 90012**

**ASCE ANNUAL CALIFORNIA INFRASTRUCTURE SYMPOSIUM
and LOS ANGELES SECTION CENTENNIAL CELEBRATION**

Reception 4:30PM, Awards Dinner 6:00PM

TRANSPORTATION | PORTS | HIGHWAYS | HIGH SPEED RAIL | WATER SUPPLY | WASTEWATER | RECYCLED WATER



Metro

For registration and pricing info, go to ASCE L.A. Section website:

www.ascelasection.org



February 2013 Geotechnical Committee Presentation

Technical Presentation

Ground Improvement Verification Testing and Analysis Methods

Thang V. Nguyen, PE

Engineer

Hayward Baker, Inc.

Mr. Nguyen presentation will discuss the methods used to verify ground improvement techniques. Also discussed will be the adjustment required to the usually applied geotechnical analysis methods to account for the changes in the ground conditions after various ground improvement techniques have been carried out. Information will be presented on the data needed prior to ground improvement from the geotechnical investigation for comparison with post ground improvement information.

Date: February 27, 2013
Time: 6:00 - 6:45 PM Registration and socializing
6:45 - 7:15 PM, Dinner
7:15 – 8:30 PM Technical presentation
Location: Zendejas Mexican Grill,
8106 Milliken Avenue, Rancho Cucamonga
Cost: \$30 members w/ RSVP
\$35 non-members or no RSVP
\$10 students

Registration and Additional Info: RSVP by February 25, 2012 to Monty Schultz at: mschultz@petra-inc.com or Maihan Noorzay at: mnoorzay@twininginc.com

Upcoming Events

This year the ASCE Geo-Congress will be held in San Diego from March 3 to 6. The topic is: Stability and Performance of Slopes and Embankments III. For information on the conference and how to register please view the following web site: <http://content.asce.org/conferences/geo-congress2013/index.html>.

Future Chapter Meeting Please save the date of May 15, 2013 for our next chapter meeting.

Stormwater Committee Meeting

January 16, 2013

The Stormwater Committee met for dinner at Mexicali Grill in Riverside in January to learn about the CEQA and Lake and Streambed Alterations Program with the California Department of Fish and Wildlife (CDFW) presented by Mr. Daniel Orr (Environmental Scientist). Mr. Orr held an open forum during the presentation which sparked some great question and answers on the stream bed alteration process.

Mr. Orr explained that the CDFW two roles under CEQA, one as a Trustee Agency for fish and wildlife resources, and two as a Responsible Agency regarding any discretionary actions. He described how CEQA Impacts are categorized as permanent, temporary, and cumulative; and various methods in mitigating impacts. In addition, Mr. Orr covered CDFW common review topics including: incomplete documents, biological and hydrological sections, jurisdiction delineation, impact analysis, species of special concern, mitigation measures, and alternative analysis.

One thing was made clear, the CDFW make some interpretations and assumptions that engineers don't always agree with, but the CDFW is there to assist you and answer any questions you may have regarding the environmental documentation process.

Steve Ledbetter Branch Newsletter Editor

Professional Directory

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Please see contact information below to have your companies business card displayed here.

If you'd like to have your business card or company information listed in the Professional Directory, Please Contact: The Branch Treasurer, John B. Rogers at 951.698.1830, or email at jrogers@cleengineering.com

# February 2013

- February 16 YMF Popsicle Stick Bridge Competition at Los Angeles Union Station
- February 19 IECES Meeting at University of Redlands Orton Center
- February 27 Geotechnical Committee Presentation at Zendejas Mexican Grill in Rancho Cucamonga
- March 6 Section Infrastructure Symposium at Los Angeles Union Station

## Membership Information

Type of Membership and Annual Dues (National)

|                               |                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Students:</b>              | Free                                                                                                         |
| <b>Associate Member:</b>      | \$50 year of baccalaureate Degree and first year after, Then incremental increases to \$205 over five years. |
| <b>Member:</b>                | \$205 annually                                                                                               |
| <b>Affiliate:</b>             | \$205 annually                                                                                               |
| <b>Section (Branch) Dues:</b> | \$45/year                                                                                                    |

1. National ASCE Student Membership is now FREE! Those who have chapters or clubs still must be a member of them before joining National. Log onto <https://www.asce.org/online/> fill out the short application and instantly become a member of ASCE or call 1-800-548-ASCE (2723)

2. Online Membership renewal available, go to <https://www.asce.org/renewal/inforenewal.cfm>. You need your membership number, all payments must be made with a major credit card. An e-receipt is transmitted to the member upon completion of the transaction.

## NEWSLETTER INFORMATION

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| 1/2 Page (per issue)              | \$125 |
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