Mayor Johnson Honors Civil Engineers at Awards Dinner

by Fareed Pittalwala, P.E., Past President

On February 17, 2010, 300 civil engineers packed into the ballroom of the downtown Hyatt to celebrate the achievements of civil engineers and civil engineering students in the greater Sacramento area. The annual Sacramento Section American Society of Civil Engineers Project Awards dinner was a tremendous success, bringing in record attendance from a variety of guests, including the mayors of Sacramento, Elk Grove and Folsom.

The night began with introductions by Larry Smith, President of the ASCE Sacramento Section, and the emcee for the evening, Darla Givens of News10. Givens introduced the night’s guest of honor and keynote speaker, Mayor Kevin Johnson.

Mayor Johnson spoke of the future of Sacramento and why civil engineers play such a vital role in ushering California’s capital into a new age. As he reminisced about his basketball career and visits with mayors from across the country, the Mayor urged the civil engineers in the room to help him overcome the stigma that Sacramento is just the “half way point between San Francisco and Lake Tahoe.” Mayor Johnson cited many new infrastructure and building projects that have played a vital role in the economic growth of the greater Sacramento Valley, which included the local Globe Mills Project, the Section’s Structural Project of the Year Award winner.

The evening continued with a slough of achievement awards for students from each of the four universities represented by the Section, including CSU-Chico, CSU-Sacramento, UC Davis and the University of the Pacific. Over $8,500 in scholarships were awarded to highly accomplished students and ASCE leaders from the universities. These students will be continuously highlighted in this publication in the monthly “Where Are They Now” column.

Givens then announced the Section’s project of the year award winners for the Projects of Merit and the individual category award winners. This year, the Section was pleased by the tremendous award submittals, and was able to present awards in twelve categories, ranging from the Water Project of the Year, the Freeport Regional Water Project, to the History and Heritage Project of the Year, the El Dorado Trail Trestle Segment.

The Project of the Year for the ASCE Sacramento Section was awarded to the Folsom Bridge, a towering achievement for the City of Folsom and the US Army Corps of Engineers. Folsom Mayor Jeff Starsky and Col. Tom Chapman of the Corps accepted the award on behalf of the large, multi-disciplinary team. The Mayor thanked the City and its residents for their support of the project, and both he and Chapman stressed the importance of the team environment and collaboration that brought the project to success.

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Thank You From the President

To all of the 320 ASCE members and guests attending the Engineers’ Week Awards Banquet, I say “Thank You” for attending! This event was a celebration for all engineers who serve as designers and builders of the Quality of Life. It was an event honoring students for Professional Service and Achievement, presentation of the Alfred R. Golzé Scholarships and recognition for the Outstanding Projects of the Year.

Great events are created by teams that volunteer their service to ASCE and to our Sacramento Section. I would like to give thanks to the following individuals and teams who made this year’s Engineers’ Week Awards Banquet such a success:

- Awards Chairman – Mr. Thor Larsen and Awards Committee: Fareed Pittalwala, Greg Zeiss, Martin Farber, and Vivian Mevorah.
- Scholarship Chairman – Mr. Eric Polson and Scholarship Committee: Kimberly Brown, Greg Zeiss and Vivian Mevorah.
- Speakers – Mayor Kevin Johnson, News 10 Meteorologist Ms. Darla Givens, Eric Polson, Mayor Jeff Starsky, Col Thomas Chapman, and all the Project of the Year recipients.
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For more ASCE activities if you wish to be active in a committee, career opportunities, complete text for the legislative activities, go to the Sacramento Section web site at www.asce-sacto.org, or contact a current officer. To MAKE CHANGES OR RENEW YOUR MEMBERSHIP, go to website: www.asce.org. For MEMBERSHIP APPLICATIONS, please e-mail to memapp@asce.org.
Taking advantage of National Engineers’ Week – In just one week the Sacramento Section was able to send our message outward that engineering is a profession centered around people, and that we impact lives and change the world. On February 9, 2010 Sacramento Section Engineers and Projects were recognized by ASCE Region 9 at their 4th Annual Awards Dinner. California Assembly Member Anna Caballero and California State Senator Dave Cogdill were recognized as Legislators of the Year. On February 17, 2010 ASCE Sacramento Section honored the area’s most distinguished engineers and outstanding projects of 2009 along with the winners of the Golzé Scholarship Awards and Student Achievement Awards. Sacramento Mayor Kevin Johnson gave an excellent keynote speech full of engineering inspiration and News 10 Meteorologist Darla Givens brought fun to the event as the evening emcee. On February 20, 2010 Engineers’ Day at the Mall gave our Section another opportunity to share our profession with the community. This full month of celebration continued the emphasis on four focus areas to build and transition our Section for tomorrow.

Building and Enhancing Careers: On January 28, 2010 the Transportation and Development Institute hosted a Brown Bag Luncheon featuring Mr. Randy Iwasaki, Director California Department of Transportation. This event was well received by the members of our Section.

Three Projects of Merit and sixteen Projects of the Year recognized the project delivery teams from all around our Section. Congratulations to all of the project teams.

Recognition: This month I recognize another one of our Section ASCE Fellows - Mr. Eddie Kho, P.E., F.ASCE of Morton & Pitalo, Inc. Eddie was selected by California State University, Sacramento for a 2010 Distinguished Service Award. Eddie was also received the 2009 ASCE Region 9 Outstanding Civil Engineer in Private Sector Award. Congratulations Eddie. Mr. Maurice Roos, P.E., was recognized for a Lifetime Achievement Award by ASCE Region 9. Maurice is a great example for all of us with a lifetime of service to engineering.

Outreaching to Young Members: Our congratulations to the nine students recognized for Professional Service and Academic Achievement Awards and the nine students receiving Alfred R. Golzé Scholarships.

Vision: Vision 2025 Outcome 1 – Master Builders: “Entrusted by our Society to create a sustainable world and enhance the global quality of life, civil engineers serve competently; collaboratively; and ethically as master: planners, designers, constructors, and operators of society’s economic and social engine - the built environment.” On February 18th I had an opportunity to address the American Council for Construction Education Mid-Year Meeting in Albuquerque, NM. Our 2009 ASCE Infrastructure Scorecard gave a great platform to emphasize that Academia plays a huge role in the education of Master Builders of tomorrow. I encourage each of you to take advantage of the remaining 51 weeks of every year to send out a message that engineering is about people and enhancing the built environment.

In closing I invite each of you to communicate your ideas to the Board of Directors. Please send your comments or ideas to: sacramentosectionsd@ermail.asce.org.

EWRI and ASCE Visit with Congresswoman Doris Matsui

By Robert Shibatani and Fareed Pittalwala

On Friday, January 29, 2010, executive members of the EWRI/ASCE Sacramento Section met with Congresswoman Doris Matsui and staff at her District 5 offices in downtown Sacramento. The EWRI/ASCE members started the meeting by applauding the Congresswoman’s ongoing commitment to bringing federal funding to the Sacramento region. Specifically, we acknowledged her work in helping fund the numerous flood control projects that are vital to the greater Sacramento metropolitan area, one of the most at-risk urban areas in the nation. For Fiscal Year 2010, Congresswoman Matsui has secured $63 million for the critical Folsom Dam Joint Federal Project. This project involves construction of a new auxiliary spillway, adjacent to the current dam that, when completed, will provide much of the Sacramento region with over 200-year flood protection. She also obtained over $22 million designated to improve the levees on the Sacramento and American Rivers. The 2010 funding comes on the heels of $18 million of stimulus funding allocated to Sacramento area levee improvements in 2009 ($4 million of stimulus funding was allocated to South Sacramento Streams Group, $14 million to American River Watershed Common Features).

While flood control clearly remains a major focus for the greater Sacramento metropolitan area, the discussion covered a wide range of other topical water issues. Water supply, water quality, environmental habitat restoration, and infrastructure improvements were agreed to be equally important. Looking beyond flood control, a broader watershed or regional approach to water resources management was also discussed; one that could promote a stronger emphasis on long-term water resource sustainability. For example, combing our efforts to integrate ongoing levee work in the Natomas Basin and South Sacramento with those of the Folsom Dam Joint Federal Project, as well as other upstream initiatives in the American River watershed, could provide a more effective means of assimilating our limited resources. Water resource infrastructure and associated management actions could also play a vital role in enhancing local and regional economic stimulus and job creation. The EWRI/ASCE members shared with the Congresswoman our thoughts of building a regional forum on water sustainability. We committed to working closely with the Congresswoman, providing her with a technical resource base through our members, and keeping her apprised of our planned initiatives for 2010.

Continued on Page 4
During these challenging budget times ($20 plus billion deficit), our State legislature faces very difficult decisions to balance the budget. And, as in every year, infrastructure funding, and cuts thereto, is always being considered. As our society, regions, sections and branches have advised, through our report card efforts, infrastructure is fast approaching failure. The catastrophic earthquake in Haiti in January is a clear message that when, not if, such an event occurs here combined with our neglected infrastructure, grave results will likely occur.

In spite of the budget challenges, the legislature and Governor worked together to produce historic water bond legislation this past year during a special session to begin the enormous task of fixing the State’s crumbling water system. Although not perfect in view of many, the $11.14 billion bond funding program will be matched with federal funds and local funds producing an estimated $40 billion for repair of the delta and related conveyance facilities as well as regional and local water infrastructure funding.

With all of that said, over 40 ASCE members made our annual trip to our State Capitol February 10th. Members met with representatives from Governor Schwarzenegger’s office and over 100 legislators. We first thanked the members for their exhaustive efforts on the water legislation and advised that any diversion of funds. Lastly, we advised our leaders how important a significant investment in our infrastructure is needed. The investment will create jobs, improve the State’s economy, and will provide better communities for our children and grandchildren.

The next step for members will be to identify important legislation and meet with legislators locally, encouraging sponsorship of infrastructure legislation and opposing legislation that diverts funding from infrastructure, and to begin planning for next year’s program. In addition, the Government Relations Committee will actively support the water bond ballot measure with a radio campaign to inform the electorate on National Public Radio. Listen to your local stations come summer.
We Hold the Key to Stimulating the Economy

by David M. Schwegel, PE, Past-President (2006-2007)
(This is the second of a two-part article, which began in last month’s issue.)

3. Project Promotion: Promote high-profile projects such as the California High-Speed Rail project that offer new and unique benefits to the traveling public. While high-speed ground transportation systems have been operating overseas effectively since the early 60’s, the US is still without a system that meets the full definition of high-speed. This project, identified as “one of the seven colossal projects in the world,” gives California an opportunity to pioneer a new mode of transportation for the nation on a large scale while stimulating the economy in some of the more impoverished areas of our state like the Central Valley. It also demonstrates the positive tangible benefits of our work to the traveling public.

4. Tangible Benefits Promotion: Become actively engaged in organizations like Engineers Without Borders (EWB) that provide projects demonstrating tangible quality of life benefits. The Orange County Chapter of EWB is currently working on a bridge project in Kenya, allowing residents on one side of the river easy access to a health clinic on the other side. Currently the residents need to follow a circuitous eight-mile route to reach the clinic or brave the raging waters. Many have passed away braving these waters. The health team actually notes the immediate tangible health benefits residents will be able to enjoy through an easy journey, giving them much more immediate access to health care.

5. Beyond our Borders Development Education: Note the widespread infrastructure developments and practices outside of the US and the potential creation of “infrastructure envy” among US decision makers. Vancouver, British Columbia, Canada is embarking on the nation’s most ambitious transportation planning exercise in history to get the City and the surrounding region ready for the 2010 Winter Olympics. China is actively engaged in widespread infrastructure development as the nation rapidly forges ahead on nationwide freeway and high-speed rail systems. By next year, China is expected to have 1,600 miles of high-speed rail line, twice the length of the California High-Speed Rail project. Three years from now, China is expected to have more miles of interstate freeway than the US. Plus China’s interstate system is new, while the US system has long exceeded its useful life. Also, note engineering practices in nations such as India, where engineering is regarded as a highly prestigious profession.

The decisions we make and actions we take today have effects that ripple through the generations. Decisions in Sacramento in the early 70’s to limit the number of freeways, and to limit the number of bridges across the American River forced engineers like me 35 years later to relocate to Southern California to find work. Let us make decisions today that stimulate local and regional economies, and have positive ripple effects through generations. We must rise to the occasion now to be known as the profession that helped our nation out of the worst financial crisis since the Great Depression. Then we will be able to attract numerous professionals to our profession, and regain our competitive edge in the global economy.

Outstanding Projects and Leaders

Story by David Jermstad, PG, CEG, REAII, Principal/Geotechnical Manager
Carlton Engineering, Inc., Shingle Springs, CA
photos by Carlton Engineering

This month’s outstanding project:
El Dorado Hydroelectric Project – Flume 51 Replacement

History
The El Dorado Canal is currently owned and operated by the El Dorado Irrigation District. Operating since 1876, the canal traverses the steep canyon walls of the South Fork of the American River and flows over 22 miles to the El Dorado Power House. Capable of conveying 160 cubic feet of water per second, the canal system provides more than one-third of the drinking water supply to El Dorado County. The project also conveys water to the El Dorado Powerhouse which is capable of generating 21 MW of renewable green power before the water is returned to the river.

In 1876, the El Dorado Water and Deep Gravel Mining Company completed the entire system, including the dams, canals, flumes and tunnels. When completed, the El Dorado Canal and water storage system was one of the largest and most expensive in the state.

In 1916, Western States Gas and Electric Company acquired the system for hydroelectric purposes; however, a failure of the Echo Lake Dam in 1917 delayed the project. Work on the system (including installation of the 36-inch diameter pipe by 1922) continued until a hydroelectric system finally went on-line in 1924 generating up to 21 MW of green power. Since 1928, when PG&E acquired the system, the canal has undergone maintenance and modifications under the jurisdiction of the Federal Energy Regulatory Commission (FERC).

Terrain Challenges

Flume 51 was a raised wooden structure traversing steep and unstable landslide-prone slopes, and the slope supporting the flume has distinct geomorphologic evidence of active instability evidenced by exposed soil, pistol-butt trees, and over-steepened slopes. The local bedrock is a contact area between Shoefly Formation metamorphic rock and granodiorite, and the residual soil is relatively strong and well drained. The canal failure record indicates that Flume 51 was subject to a landslide in 1985 and experienced a failure from snow and a falling tree. The landslide failure resulted in 60 days of outage and severe environmental impacts to the surrounding forest. With steep slopes, identifying stable bedrock and landslide paths were critical to the success of this design.

Vehicular access is not available at this flume, but vehicles can access the downstream end of nearby Flume 49/50 from the Pony Bridge.

Continued on Page 6
Outstanding Projects and Leaders - Continued from Page 5

Express Trail. Access to Flume 51 is currently limited to foot or, during an outage, by ATV traffic in the canal. Heavy equipment and construction equipment must be brought in by helicopter.

Design Challenges

Carlton Engineering assessed the landslide conditions and provided construction documents for the design period and met FERC required factors of safety. Carlton Engineering utilized detailed topographic mapping combined with detailed geotechnical and geophysical data to ascertain the limits of landslide material and used the methods of slices to estimate the pre-construction Factor of Safety against failure.

The project design focused on the FERC mandated Factors of Safety for the new construction and included hillside drainage control, landslide material removal, slope grading, extensive use of woven geotextile fabric at subgrade to promote drainage and to improve soil strength, and MSE wall construction.

Tensar’s Sierrascape® MSE wall system was selected as the supporting structure, because it is freely draining and easily transported to this remote and steep site. The MSE design normally requires a minimum width of geogrid with select backfill. Carlton Engineering optimized the MSE design by providing for three geogrid conditions:

Type 1 MSE - standard MSE design geogrid width in soil;
Type 2 MSE - geogrid width decreased due to in-place strong bedrock; design capacity improved by doweling into strong bedrock and installing a load-bearing connection pipe with a bodkin connection to the geogrid;
Type 3 MSE - geogrid replaced with W2.6xW2.6 welded wire fabric and cast in Control Density Fill where strong bedrock was closer than 3' to the wall.

In addition, Carlton Engineering designed the geogrid to allow for the reuse of the excavated material which was crushed to a maximum size of 6 inches. Following FHWA methodologies and in concert with Tensar, Carlton Engineering up-sized the geogrid strength to completely reuse the excavated material and saving the removal and import of approximately 3,000 cubic yards of soil.

Carlton Engineering’s Structural Engineers re-designed the pre-cast flume boxes to deal with flexure and thermal expansion due to severe exposure conditions. One of the challenges was designing the light-weight concrete mix to meet both the FERC criteria for design as well as to facilitate placement.

Other innovations used on the site included the use of woven geotextile fabric behind the shotcrete shell to promote drainage and minimize hydrostatic pressures behind the shotcrete. This drainage enhancement is coupled with rock anchors with welded wire fabric to provide a hillside rock fall protection system. Shotcrete was chosen for the lower and steeper portions of the up-hill slope because much of the rock was “poker-chipped” into small blocks of rock. An anchor trench joins the seeded and netted slope designed above the shotcrete shell. The seeded and netted slope used North American Green’s C350 erosion control fabric to cover USFS approved seed and fertilizer. While not on USFS property, Carlton Engineering designed the erosion control to meet the approval of the USFS because they own lands adjacent to the project. Erosion control measures included the installation of a “brow ditch” uphill of the slope grading area to intercept and divert surface water away from the slope. Carlton Engineering took advantage of an old access road by redesigning it to be in-sloped with a rock-lined ditch. The brow ditch flows across the access road near the flume in a widened rock crossing and flows into the canal.

Conclusion.

All of these innovations culminated in a successful construction window from October 2009 through December 15, 2009. Weather delays from rain and snow were minimized due to the design methodologies and drainage controls. The flume and canal were back in service and flowing 160 CFS as of December 14, 2009.
The Sacramento Water For People Committee is holding a fundraiser soirée on March 11, 2010 to celebrate World Water Day 2010: Communicating Water Quality Challenges and Opportunities.

The event will be held at the Urban Hive (http://theurbanhive.squarespace.com/), which is an amazing renovated 100-year old brick warehouse in the heart of Midtown Sacramento (1931 H Street). This event’s Keynote Speaker will be the CEO of Water For People, Ned Breslin, who has incredibly inspirational stories of his worldly experiences with several NGOs in the water and sanitation sector since the 1980s. Come enjoy free appetizers and refreshments, live music, a side display of short films on water issues in developing countries, and raffle with several incredible items! Tickets are $10. Beer/wine will be sold at the event. We look forward to seeing you all at the soirée. This is a public event, so please spread the word!

Sacramento Water For People is a local committee of Water For People (http://www.waterforpeople.org/). Water For People is an international non-profit organization that assists people in developing countries to improve quality of life by supporting the development of locally sustainable drinking water resources, sanitation facilities and hygiene education programs. For more information on Sacramento Water For People, see our website at http://sacramentowaterforpeople.org/.

Dr. Fred Lee Has Been Elected to Fellow

G. FRED LEE, Ph.D., P.E., BCCEE, F.ASCE, earned his PhD degree in environmental engineering from Harvard University in 1960. For 30 years he served on the graduate civil and environmental engineering faculty of several major US universities where he taught, conducted research, mentored the Masters and PhD work of 90 students, published extensively in professional journals, and actively undertook public service for the regulatory, professional, and lay communities.

In 1989, Dr. Lee retired from his academic career to focus on private consulting and public service; he is president of G. Fred Lee & Associates. Areas of emphasis include domestic water supply water quality focusing on how land use in a water supply watershed impacts water supply water quality; investigation and management of surface and groundwater quality, stormwater runoff, contaminated sediments, land surface activities that impact groundwater quality, and use of reclaimed wastewater; and investigation and management of impacts of solid and hazardous chemicals including MSW and hazardous waste landfills, Superfund, and other hazardous chemical sites.

Dr. Lee has served on the editorial boards for several professional publications, and currently serves on the editorial board for the Journals Stormwater and Remediation. Dr. Lee has long served on the American Academy of Environmental Engineers’ (AAEE) examination board for AAEE professional engineer certification; he currently serves as Chief Examiner for Northern California in Water Supply and Wastewater.

Dr. Lee has published more than 1100 professional papers and reports many of which are posted on his website [www.gfredlee.com]. In addition, out of the need for greater influence of science and engineering in water quality regulation and management, he created and authors an email-based Stormwater Runoff Water Quality Newsletter which he has distributed about monthly for the past 12 years, at no-cost, to about 10,400 subscribers.

Announcement - Engineer of the Year

The San Joaquin Engineer’s Council is proud to announce the recipient of the 2010 Engineer of the Year, Tom DeLaMare. Mr. DeLaMare was honored at the annual Engineer’s Banquet, held on February 18th at the University of the Pacific.

Please contact DeeDee Antypas
Public Relations Chair
209-598-5556

Is Your Membership Information Current?

by Fareed Pittalwala, Past-President

The Sacramento Section ASCE has recently made significant changes to the way we communicate with our membership. Many of you have already noticed the new way we distribute the Engineerogram by email, and the links to registration for events found in our email announcements. We have already received tremendous positive feedback about these changes. Our Institutes are also using the new email system to streamline their announcements and ensure that we are not sending out mass emails to those of you who prefer not to get them. For that reason, we need your help!

Please ensure that your membership information is up to date with ASCE’s national database, as our local system is dependant on your information being current. It’s a quick and easy fix that you can accomplish in less than five minutes by going to: http://tinyurl.com/yhl6pvd
Some Words of Wisdom

This will likely be an article that will cause you to say, “Well, I know that ... isn’t it obvious...” Yet, it can be helpful for someone else to state the obvious where you might step back and realize that you have not noticed something in your own business. Call them “nuggets of knowledge,” “general guidelines,” or “whatever” to help avoid disputes and claims.

Only do business with good, honest, well-financed people and/or entities for clients. Wouldn’t it be nice to be able to pick and choose only the cream of the crop? Unfortunately, experience has shown that there are bad people out there, and that even the best communication and documentation will not disable their efforts to ruin an otherwise ideal project. Just try to avoid them. The same goes for consultants as well.

Be clear in the beginning as to what is expected of each party to the contract. The failure to meet expectations is a great catalyst for litigation and disputes. If all parties are fully aware of what is expected of the other, there will be fewer surprises and fewer disputes. It is not only important in the beginning, but as the project continues.

Communication is the key. Do not assume that your client fully understands what you are saying as you understand it. A good rule is to “say what it is,” and “say what it isn’t.” It is important that your client understand and appreciate the scope and limitations of what you will do. If you have worked with the client before and on the same type of project, you can have a reasonable expectation that your client’s understanding of your work corresponds with your own. Your client, however, may not fully understand what your work involves and may not be willing to admit it. In that case, you have the special burden of asking enough of the right questions so that you feel comfortable of your client’s position.

Be aware, especially when trying to win a job with a new client, not to lead the client to expect something that you cannot realistically deliver. Some clients may not be so willing to forgive the differences between what was represented, either directly or impliedly, in the beginning and what was delivered at the end. While there may be any number of reasonable explanations as to why the originally represented deliverables ended up not being possible, the client may have particularly relied on the engineer’s sales pitch and anticipated a particular result from the beginning. Failure of that expectation can set up the relationship for claims against and damage to the reputation of the engineer.

The author’s discussion of legal ramifications of the particular case(s) are provided only for educational purposes and should not be relied on as legal advice. If you have a specific legal problem, please consult with your attorney.
Josh Cannan – CSU, Chico
Academic Achievement Award
Josh is graduating this May with a B.S. in Civil Engineering. He has interests in water resources or underwater structures engineering and a desire to pursue a Master’s Degree.

Amber Kirk – CSU, Sacramento
Professional Service Award
Amber is about to graduate this May and she has served here student chapter as Treasurer and currently as President. She has passed the EIT exam and is involved in the Wastewater Treatment Competition and the Society of Women Engineers. Her interests are in Sustainable Design, Construction, Wastewater Engineering and attaining LEED certification.

Gillian Montgomery – CSU, Sacramento
Academic Achievement Award
Gillian is looking forward to graduating this coming May and she’ll be the first in her family to do so. She is an active member of ASCE and SAOCC and has been involved in the Steel Bridge Competition. Her goals are to obtain an advanced degree in structural analysis and design and obtain her PE.

Rosa Aguilar – UC Davis
Professional Service Award
Rosa is preparing to graduate with a BS in Civil Engineering and she is interested in the hydrology and hydraulic engineering fields. She is her student chapter’s current co-president and is interested in pursuing a Masters degree. She also has a heart for outreach to underserved students through work with the Early Academic Outreach Program (EAOP).

Caldean Biscocho – UC Davis
Professional Service & Golzé Scholarship Award
Caldean has interests in transportation and environmental engineering. He also has a desire to use this experience to help develop infrastructures in other countries. He is proud to be studying Civil Engineering and likes to state that “Giving back to my community is always a goal.”

Jason Fuller – UC Davis
Academic Achievement Award
Jason spent 6 years serving our country in the Navy aboard a fast attack submarine and is looking forward to graduating this coming June. He currently serves as the activities and community service co-chair and has interests in geotechnical and structural engineering.

William Grant – UOP
Professional Service & Golzé Scholarship Award
Will is a senior and has served his student chapter as President (twice), VP and Treasurer. He has been a student advisor for the incoming engineering students and has served as staff for the Haybourne Leadership Academy. William is looking forward to graduation, and plans on attending Grad school.

Audrey Puah – UOP
Academic Achievement Award
Audrey is looking forward to completing her undergraduate degree, senior project and research with some of the environmental engineering faculty at her school. She has been on the Dean’s Honor Roll and the Pacific Powell Scholars this past year and has served her school as student photographer, Resident Assistant and math tutor.

Samuel Baumgardner – CSU, Chico
Golzé Scholarship Award
Samuel is an undergraduate in the Civil Engineering field, has passed the EIT exam and is currently the VP and Steel Bridge Head Captain of his Student Chapter. His primary focus is in bridge and steel design. Samuel intends to further his education and receive a Ph.D. Samuel also serves his school by leading a review program to prepare students for the EIT.

Samantha Moose – CSU, Chico
Golzé Scholarship Award
Samantha has served her student chapter by organizing community outreach events and is currently the Chapter President. She hopes to pursue her Master’s Degree or Ph.D. in the field of structural engineering.

Continued on Page 15
Our guest speakers for our March 23rd luncheon are Mr. Charles C. Rutter, PE, who will be speaking on the Sierra College Public Safety Training Center (PSTC), and Mr. Russ Wenham, PE, who will be speaking on the Clear Creek George Trailhead and Overlook.

1st Presentation

Project Title: Sierra College Public Safety Training Center (PSTC)

Project Location: Sierra College Nevada County Campus, City of Grass Valley.

Summary: OMNI-MEANS Engineers & Planners was selected to be teamed with NTD Architecture by Sierra Joint Community College District for the PSTC college expansion project. The project required a unique collaboration with the College and local Fire Districts to determine the project needs for teaching students and also training of the City of Grass Valley and Nevada County public safety responders.

Project Features for the $2.5 million facility included:

- 2.5 acre Concrete Training Pad.
- Master planned utilities for future expansion and construction of Classroom Building and Burn Tower facilities.
- Dual use Storm Drainage collection and Automated Fire Hydrant System with hose spray for a recirculating pump system.
- Detention basin and water quality features.

The project’s successful completion, in June 2009, has provided new and enhanced Public Safety Training college courses, and requests for using the facility are now coming in from surrounding counties.

Presenter: Charles C. Rutter, PE, was the Principal-in-Charge/Project Engineer for the project. Mr. Rutter, a Principal with OMNI-MEANS, began his tenure in 1998. Mr. Rutter oversees Public Works, Higher Education, Commercial Development, and Healthcare projects for the firm. With over 22-years of experience, areas of specific expertise include Site Development, Feasibility and Access Design, Infrastructure Design, Storm Drainage Analysis and Sustainable Design.

2nd Presentation

Project Title: Clear Creek Gorge Trailhead and Overlook

Project Location: In Shasta County, near the City of Redding on Clear Creek Road.

Summary: OMNI-MEANS Engineering was retained by the Western Shasta Resource Conservation District to design and provide construction management for a salmon viewing platform, parking lot, picnic area and trailhead. The project involved approximately a dozen agencies. The project progressed from commencement of design to completion of construction in only 12 months. The construction cost was $600,000. In addition to being selected as the ASCE Sacramento Section 2009 Small Project of the Year, the project was also named the APWA 2009 Parks and Trails Project of the Year by the Sacramento Chapter.

Presenter: Russ Wenham, PE, MASCE, was the project engineer and senior resident engineer for the project. Wenham is a 20-year veteran of Caltrans, including 10-years as a deputy district director in Redding, and has worked for OMNI-MEANS for 5-years. Wenham provides a full range of traffic, transportation and civil engineering services to both public and private clients from his office in Redding. In the last five years, Wenham has delivered projects ranging from roundabouts to public works construction management. Wenham serves on the CSUC Civil Engineering Department’s Professional Advisory Board and is past-president of Redding West Rotary.

For more information about the Capital Branch meetings, please contact Jennifer Wheelis at jennifer.l.wheelis@usace.army.mil, or 916-616-5987.
ASCE Region 9 held the Fourth Annual California Infrastructure Symposium on February 9, 2010, in Sacramento. This Symposium assessed the State’s infrastructure, particularly water and transportation issues, as well as fiscal concerns. The vitality of California’s infrastructure is an essential key to growth and prosperity, however, investment in this infrastructure continues to be restricted due to California’s poor fiscal condition and other interests competing for available funds.

The following topics were addressed during the Symposium by various California agency officials and leaders:

• California Water Bills - Impacts on the Delta and State
• California Water Bond SB2 - Funding for the Water Infrastructure’s Future
• Major Levee and Water Projects on the Horizon
• Transportation and American Recovery and Reinvestment Act - Stimulus Package & Funding Initiatives
• California High Speed Rail

Some of the presentations are posted on the Region 9 website. I invite you to visit this site:

Mark Cowin, newly appointed Director of the Department of Water Resources, gave the keynote address and provided an overview of California water resources. Senator Dave Cogdill, one of the primary authors of the water bonds, provided insight on the bonds.

The American Recovery and Reinvestment Act was signed into law by President Barack Obama on February 17, 2009. Since its enactment, $130 billion have been spent on construction, although this is merely a drop in the bucket compared to the $2.2 trillion needed for the next five years as indicated in the 2009 ASCE Infrastructure Report Card. In the Report Card, the Nation’s infrastructure received a grade of “D”.

It has been reported that a significant number of construction jobs were saved because of the Stimulus Program, although it did not create all the jobs everyone expected. The following statistics were presented on current status of the Recovery Act:

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The California HSR Project

An MSNBC article dated November 3, 2009 identifies the world’s seven colossal construction projects as follows: (1) International Space Station, (2) Ancient Roman Road Update in Greece, (3) New Orleans Storm Protection System, (4) Panama Canal Expansion, (5) London Crossrail Commuter Rail, (6) China Water Diversion, and (7) the $45 billion, 800-mile California HSR project, the largest “new public-private partnership venture” in the US. While the $45 billion price tag for this California HSR project may be steep, the price tag for the airport and freeway expansion alternative is three times as high to meet California’s mobility needs in 2030. Several key decision makers note this enormous investment must be dealt with now. The longer we wait, the more expensive the project becomes. French, German, and Japanese consultants have thoroughly reviewed plans for California’s HSR project, and found them to be “sound,” identifying California as the “perfect corridor” in terms of length and topography. Construction contracts could be awarded as early as 2011. 54 million passengers are expected to use this system by 2030.

This HSR project consists of a series of corridors linking the major cities of Sacramento, San Francisco, San Jose, Fresno, Los Angeles, Anaheim, Irvine, Riverside, and San Diego. Passengers are expected to complete the 465-mile San Francisco to Anaheim journey in 2 hours and 57 minutes, less than half the time it takes the Acela Express to complete the slightly shorter 432-mile Washington DC to Boston journey. By comparison, it takes a motorist between 6 hours 30 minutes and 7 hours to make the same 465-mile journey traveling by freeway between 65 and 70 miles per hour in uncongested conditions.

Key corridors on the California HSR project include: (1) Sacramento to Merced, (2) San Francisco to San Jose, (3) San Jose to Merced, (4) Merced to Fresno, (5) Fresno to Bakersfield, (6) Bakersfield to Los Angeles, (7) Los Angeles to Irvine, (8) Los Angeles to Riverside, and (9) Riverside to San Diego. None of the two high-speed ground transportation concepts to Las Vegas are a part of this project.

Each of these nine corridors is at various stages of planning, preliminary engineering, and funding. The Los Angeles to Irvine corridor is way ahead of the pack thanks to initial funding from the Orange County Transportation Authority (OCTA) and advocacy from Anaheim Mayor Curt Pringle. STV is performing the Engineering functions for this line out of their Los Angeles Office.

The California HSR Authority (www.caighspeedrail.ca.gov) has been diligently promoting HSR in California since 1996. Among the Authority’s numerous promotional activities was getting Proposition 1A on the November 2008 ballot. The Authority is running the California HSR project. Mayor and HSR Advocate Curt Pringle is the HSR Authority Board Chairman.

The HSR authority has hired numerous consultants to prepare the Alternatives Analyses, Environmental Impact Statements (EIS), and Preliminary Engineering functions. Parsons Brinckerhoff is the program manager under the direction of Project Manager Mr. Bruce Armistead (Los Angeles), orchestrating the efforts of the nine consulting firms, each assigned to a different corridor. The primary focus right now is getting each corridor through the environmental process. The consultants and other transportation professionals are actively involved in the scoping and public comment meetings. Overall the project is well received, but there are several oppositions that need to be overcome including “not in my back yard” (NIMBY-ism). Parsons Transportation Group is handling the 125-mile San Jose to Merced corridor under the direction of Project Manager Dave Mansen (San Francisco). Mr. Mansen notes the tremendous pleasure and satisfaction of working on such a fascinating and high-profile project.

California HSR’s key hurdle is procuring additional funding to make this project a reality. Much of the funding is expected from bonds. California’s widespread economic hardships over the past decades may pose challenges in attracting investors. In addition to the Proposition 1A starter funding, the Obama Administration has earmarked $8 billion in economic stimulus funds for HSR projects throughout the US. The California HSR commission has requested $4 billion of these funds. A decision could be made as early as January. However, regions throughout the nation have put in a total of $38 billion in requests for these limited funds.

California’s ability to present the state as competent to take on the pioneering of this new mode of transportation for the US will be integral in successful funding procurement.

In addition to California’s promise to pioneer HSR in the US, key selling points for the HSR technology in general and the California project specifically include environmental preservation and cost-effectiveness relative to other modes. Take the 255-mile Fresno to Los Angeles corridor as an example. The HSR trip takes 1 hour and 24 minutes and saves 191.25 lb CO₂. The $38-HSR trip cost is slightly less than the $49 automobile cost, and significantly less than the $175 air cost.

The Civil Engineering Professional’s Role

Civil Engineering professionals must play numerous roles as the California HSR project moves through the environmental, engineering, public participation, and construction processes.

First, become educated on the technological aspects of this new mode of transportation as well as project specific developments. If successful, this California HSR project will serve as a model for other states to follow as they embrace this technology. Get on the mailing lists for the corridors, especially those that are closest to your business and residence. Dave Manson notes there are 5,000 subscribers on the San Jose to Merced corridor mailing list alone. Review articles. Watch the simulations and study the statistics on the California HSR Commission website. This website has a wealth of information including articles from around the nation on this new...
technology. Use this as a vehicle to educate transportation professionals around the nation on this unique mode of travel.

Second, review the Alternatives Analyses, EIS’s, and Preliminary Engineering documents readily available on websites and at project scoping and public participation meetings. Civil Engineering professionals bring a wealth of expertise to the table. Engineers must remain at the forefront of this project in whatever capacities they can take on. Engineers are charged with “protecting the public health, safety, and welfare,” and improving the quality of life for our citizens. Become actively involved politically and professionally. Let your views be known by politicians, elected officials, project leaders, and the public. Take a proactive role in reshaping our profession for future generations.

Third, attend as many scoping and public meetings as possible, and provide insightful comments for the benefit of engineers, elected officials, and the public. Engineers are often significantly underrepresented at such meetings. Consequently key decisions are made by officials with limited engineering expertise. The Texas TGV experience indicates competing interest groups may inflate and distort projected project impacts thereby confusing the public and killing high-profile projects that are critical for mobility improvement, congestion relief, economic stimulation, and environmental preservation.

Fourth, encourage partnerships among compatible interest groups. In Germany, for example, Lufthansa Airlines is heavily involved in HSR projects, operating HSR service in connection with its flights2. Recognize that HSR is not necessarily in competition with other transportation modes. It simply allows each mode to focus on those distances for which they are most suited. Automobile travel is best suited for one-way trips of up to 150 miles. Air travel is best suited for trips over 600 miles. HSR is best suited for 150- to 600-mile trips. As indicated in Mr. Jeffrey Lower’s presentation at an October 21, 2009 Institute of Transportation Engineers (ITE) Southern California Section Luncheon in Buena Park, HSR stations are a “fireplace” for the new downtown, integrating multiple modes of transportation, and significantly changing the downtown landscape within a one-to-two mile radius of the station. The Anaheim Regional Transportation Intermodal Center (ARTIC) for example is projected to be a “drop-your-car-off” destination featuring an 18,000-space parking structure, significantly larger than Disneyland’s Mickey and Friends 11,000-space structure. This Anaheim center is strategically located to provide convenient foot and transit access to Disney attractions, Angel Stadium, and the Honda Center.14

Fifth, proactively anticipate how HSR is changing the practice of Civil Engineering and mobilize yourself accordingly. The transportation aspect of the Civil Engineering profession has been primarily geared toward the airplane and automobile entailing the planning and design of features complementing these modes of travel. The introduction of HSR demands the design of considerable direct access (1) vehicle connections for freeways to intermodal center parking structures and (2) pedestrian connections to the high-trip

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14 Jeffrey Lower, ARTIC: Moving Cooler, presented at ITE Southern California Section Luncheon in Buena Park on October 21, 2009.

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UPCOMING EVENTS


For more information, visit www.sacymf.org

GOLF TOURNAMENT NEWS

James Pangburn, our new Golf Committee Chairman for Sacramento YMF, has successfully booked Catte Verdera Country Club for the Make-a-Wish charity golf tournament again this year. The tournament will be held on Monday, July 12th. Mark your calendars! More details will become available in the coming weeks.

YMFBOWLING SOCIAL

The ever-popular annual Bowling social will be held again this year on Wednesday, March 3rd from 6 to 8 pm at Country Club Lanes. This year, we are also using this event as an opportunity to raise money for the local students to compete in the Concrete Canoe, Steel Bridge and MidPac competitions. Suggested donation is $5.00. Please RSVP to Elias Karam at Elias.Karam@jacobs.com by Monday, March 1.

WELCOME TO OUR NEW OFFICER!

The YMF would like to extend a warm welcome to Rachel Radell, our first Government Affairs Chair. Rachel has experience in government affairs within the ASCE Congressional Fellow Program and as part of her fellowship she spent a year working with Senator Diane Feinstein. We are fortunate to have someone with her experience to take on this important role for our club. Please join us in welcoming Rachel to the team!
**SENIOR GEOTECHNICAL ENGINEER**

Hultgren-Tillis Engineers is seeking a senior level GEOTECHNICAL ENGINEER to join our growing practice. We are looking for a seasoned engineer to lead projects, lead technical efforts, develop sound relationships with clients, and a desire to be part of the management team. The candidate will be a licensed Geotechnical Engineer with a strong technical background and strong project management skills. Requirements include a Masters degree in Geotechnical Engineering, at least ten years experience, and excellent communication skills. Candidates must have permanent resident status.

We have a strong, diversified practice focusing on levees, foundations, soft ground engineering, marine structures, and mass grading. We are a leader in levee design and upgrades in the Delta. We have a strong backlog of projects including contracts with the United States Army Corps of Engineers, marsh restoration projects within the Sacramento-San Joaquin Delta and Salton Sea, and foundation engineering for industrial facilities and buildings.

If you wish to find out more about the firm and what we do, please send a resume to Kevin Tillis in confidence at jobs@hultgrentillis.com or call (925) 685-6300.

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Jeffrey Meyer II – CSU, Sacramento
Golzé Scholarship Award

Jeff is a civil engineering major currently in his junior year with a desire to work in water resources or geotechnical engineering. Jeff serves as the co-captain of the Concrete Canoe Team.

William Wen Yu – UC Davis
Golzé Scholarship Award

William has interest in structural engineering and hopes to pursue a graduate degree and ultimately attain his PE license. William serves as an Engineering Joint Council Representative and is currently doing undergraduate research on mechanism-based fiber composite bi-stable structures and its applications to deficient bridge infrastructures.

Caroline Grant – UOP
Golzé Scholarship Award

Caroline is a sophomore studying Civil Engineering and currently serves as the Student Chapter VP, a Secretary for SWE and SWE Region A Conference Program Director. She has interests in specializing in water management and is a member of her school’s Steel Bridge Team. Caroline has also acted as a researcher on wetlands as a form of wastewater treatment with Dr. Camarillo.

Thanh Do – UOP
Golzé Scholarship Award

Thanh is a sophomore majoring in Civil Engineering and he currently serves as student chapter Event/Meeting Coordinator. This year, he initiated and is the project manager of the Steel Bridge Competition team. Upon graduation, Thanh plans to continue his education with interest in Structures and Materials in Construction.

Pictures can be found here:
ASCE Section Awards Dinner