It is one of life’s small mysteries how often the items of greatest value are lost in our daily routines and will go unnoticed until one day. Similar to many local residents I have often passed the streets, buildings, and waterways that comprise the Sacramento area and seldom thought of the stories and people behind them. While our lives are shaped by the work of civil engineers, we often forget the journey of our profession that led to these breakthrough achievements. Yet, it is in the story of these journeys that some of the greatest virtues of our profession are revealed. It is often said that, “Adversity has a way of revealing the truth.” For civil engineers, adversity has often stimulated milestone achievement.

For the last few years the civil engineering profession has faced many challenges, including both the effects of economic hardship and the increase in project considerations and regulations. Society today demands more of the civil engineer. As technology and our understanding of the world evolve, so too have the constraints and considerations of the engineer. In spite of these hardships and demands, the response of the engineer has been with some of greatest innovation and achievements in recent history. The projects stand as monuments of this success, and buried behind them are the stories and people that made them possible. I was fortunate enough to see a small glimpse of these successes on February 22, 2012 at the ASCE Outstanding Project Awards Banquet Dinner in Sacramento.

90th Anniversary & Outstanding Project Awards Banquet:
This year’s Outstanding Project Awards Banquet showcased not only the achievement and excellence of our profession, but the value of its people and next generation. In spite of economic adversity, record numbers of project applications were received this year spanning from Redding to Lodi. Yet, more impressive were the complexity, diversity, and innovation of these projects. Project winners included achievement in nearly every discipline of civil engineering, including both large and small projects, in transportation, infrastructure, environmental, water resources, waste water, alternative energy, sustainability, and even emergency repair projects. As impressive as the projects are, it was the people that made the event.

Only fitting for a profession based on continued learning, the backdrop for the banquet dinner was the Tsakapolis Library Gallery in downtown Sacramento and the Celebration of the 90th Anniversary of the Sacramento Section. It was an event to recognize excellence in the projects of today, the history and heritage of yesterday, and the students that carry the profession tomorrow. With over 250 people in attendance, nearly 10% of them were outstanding students and Golze Scholarship winners. These students and the event raffle were generously sponsored by companies and people in attendance. The raffle prizes included such items as Kings Tickets, gift cards, power tools, and even an iPad. With proceeds supporting our scholarship funds and local younger member and ASCE chapters, the event was a success on the backbone of the companies and people of our profession. The event was a testament of the generosity and devotion to excellence of Sacramento area engineers, a devotion that has not only shaped the area, but also ASCE for over 90 years.

On a night to honor excellence and achievement, the parting message was one of investment and legacy. In the January Engineerogram, an article by Don Alden was featured entitled, “The Time Capsule.” The article was about the 1930 National Convention in Sacramento, and a time capsule monument that was left by these engineers for the next generation. The time capsule was filled with the engineering items of importance, and to this day it has remained unopened. The article was a historical reminder of
The Engineerogram is the official publication of the Sacramento Section of the American Society of Civil Engineers and made available to ASCE members paying local dues to the Section. It is published regularly at the beginning of the month. To contribute articles, mail, fax, or e-mail to ASCE/Sacramento Section Executive Secretary, Vivian Mevorah, at asce@asce-sacto.org. Deadline for articles is on the 20th of the month prior to the issue.

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(To our contributing writers: The Engineerogram reserves the right to make revisions, correct spelling and grammatical errors, to prioritize information and to summarize content. Articles may be shortened as editorial requirements dictate. Questions regarding this policy may be directed to the President of the Sacramento Section. Thank you for your understanding. Editors.)

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.
President’s Message - Continued from Page 1

the history of the profession in Sacramento, and the treasure that awaits an opening celebration. But buried beneath the surface, the article was really about something more; it was asking the question of what are you leaving behind? What is your time capsule? For Sacramento, I think we had a glimpse of our time capsule.

To all the volunteers, companies, and professionals that contributed so much, thank you. To all the sponsors that continue to give and make these programs possible, thank you. And to all the engineers, students, life members, and professionals, thank you for making a difference in Sacramento. If you would like to get involved, or just want to share some thoughts, please contact us at: asce@asce-sacto.org.

Sincerely,

Jon Balzer

By Eugene L. Bass, Esq.

Liability to a Neighbor Without Failure of the Design

The guest speaker for the March 27th luncheon is Yong-Pil Kim, P.E., who will be speaking on the Seismic Retrofit of the Antioch Toll Bridge. For more details about the luncheon, please see Page 15 in this newsletter. For more information about the Capital Branch, you may email or call Alfred R. Mangus at mangusalf@yahoo.com or 916-205-1962.

For more information about the Shasta Branch meetings, please contact Dale Roper, P.E., at droper@shn-engr.com.

The Law and Civil Engineering

Continued on Page 4
for the services of the engineer that the engineer only owes a duty of care to the client and can only be liable to that client. That is not the state of the law.

A soils engineer was hired by an up-slope landowner to investigate a landslide and to submit recommendations for reconstruction of the slope. The engineer prepared a report in which three alternative remedial plans for rebuilding the failed slope were proposed. A contractor later reconstructed the slope based upon one of the proposals.

After the repairs were completed the landowner downhill from the slide repair sued the soils engineer for negligence. The repairs had not failed and there was no physical damage to the down-slope property when the lawsuit was filed. In the lawsuit the down-slope owner alleged that the soils engineer owed a duty to him to competently and professionally inspect and test the slide area; to determine the source and cause of the initial failure; to submit recommendations that would adequately protect his property from future slide damage; and to competently and professionally rebuild the slope for his protection. The complaint also alleged that the soils engineer breached its duty to the down-slope owner by negligently inspecting the property and failing to perform necessary tests to determine the condition of the slope; by failing to search the files and records of the department of building and safety which would have revealed prior slope failures; by submitting recommendations that did not bring the slope into compliance with current building codes and that inadequately protected his property from future slide damage, and by repairing and rebuilding the slope in a manner which did not ensure its stability for his protection. As a direct and proximate cause of this negligence, the downhill owner sought damages for the substantial diminution of the market value of his property as well as damages for the future risk of slide damage, and by repairing and rebuilding the slope for his protection.

The engineer argued that he did not owe a duty to the down-slope plaintiff because his contract was with the up-slope owner who owned the property where the slide repair was made. The court rejected this argument and held that the soils engineer, acting in a professional capacity in designing corrective measures for the slide, owed a duty to those persons who were foreseeable plaintiffs and that the adjacent down-slope landowner was a foreseeable plaintiff. The court held that the down-slope property owner’s complaint adequately alleged that as a direct and proximate result of the negligent action, his property was in immediate peril of future slide damage and that the property had a substantially diminished market value and that the case could go forward.

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.

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2 to 5+ years experience preferably with a geotechnical firm. Responsibilities include performing geotechnical engineering analysis, report writing, developing field investigations and laboratory testing programs, managing field investigations and/or construction monitoring, and preparing proposals. Excellent communication skills both written and verbal. Must possess a valid driver’s license, and acceptable driving record.

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Legislative Update - Continued from Page 4

a vote of 2-0. The sponsors were energized by an opinion from the Legislative Counsel that only civil engineers could practice civil engineering. AIChE is reportedly considering the reintroduction of the bill in 2012.

Changing your address? Don’t forget to tell your Board.

The rules of the Board for Professional Engineers, Land Surveyors and Geologists (BPELSG) require that any certificate or license holder notify the Board of a change of address within 30 days of such change. BPELSG has created an on-line change of address form so that this does not have to be done by a paper submittal any more. It is important (and in some cases critical) that the Board have current addresses. Please be sure to tell your Board (and your Mom) when you move.

https://www.dca.ca.gov/webapps/pels/address_change.php

Recent Reports

The Bureau of State Audits has released its report, “American Recovery and Reinvestment Act of 2009: Energy Follow-Up Update,” which finds as of December 20, 2011 the Energy Commission had spent a total of $117.5 million (52%) of the $226 million that was awarded by the American Recovery and Reinvestment Act of 2009 (Recovery Act), and says the Energy Commission must spend the remaining $108.6 million by April 30, 2012.

CA Senate Office of Research has released its report, “Federal Transportation Funding: How Does It Work and What Will the New Transportation Act Mean for California,” which says Federal funds allotted to states for transportation projects are up for renewal by Congress in the coming months, and outlines “what California stands to gain or lose is significant.”

The Bureau of State Audits has released its report, “High-Speed Rail Authority Follow-Up: Although the Authority Addressed Some of Our Prior Concerns, Its Funding Situation Has Become Increasingly Risky and the Authority’s Weak Oversight Persists,” which finds the Authority “has not provided viable funding alternatives in the event that its planned funding does not materialize,” and says in its 2012 draft business plan, the Authority “more than doubled” its previous cost estimates for phase one to between $98.1 billion and $117.6 billion and has only secured “approximately $12.5 million to date.”

The CA Senate Office of Research has released its report, “Sales Tax Add-Ons: A New Trend in Local Government Finance,” which highlights the state now has “132 special taxing jurisdictions” which generate “more than $3.7 billion in local government revenue.”

The Legislative Analyst’s Office has released its report, “The 2012-13 Budget: Overview of the Governor’s Budget,” which calls the Governor’s tax initiative the cornerstone of this budget plan, and says revenue estimates for high income Californians are “an even bigger question mark than usual.”

Public Policy Institute of California releases report, Transitions for the Delta Economy, which finds restoration, storage and conveyance initiatives would hurt economic activity in the Delta’s primary zone more than in the “fast-growing secondary zone”, recommends investing in levees to protect “most valuable land,” encouraging growth in Delta recreational opportunities, further research on the effect of a “dual conveyance system” on water salinity, and developing “mitigation strategies” for landowners.

Staff members of the CA High-Speed Rail Authority have released its “I-5 Conceptual Study,” which says the Antelope Valley corridor “still has fewer potential environmental impacts and greater connectivity” than the I-5 corridor.

**ASCE Region 9**

Mobilizing for the Year of Infrastructure
by Yazdan Emrani, P.E.
Co-Chair, Region 9
Statewide Infrastructure Report Card Committee
Senior Vice President/Principal
Hall & Foreman, Inc.
yemrani@hfinc.com

Not too long ago when you mentioned the word infrastructure in a conversation with a non-engineer, you either got a blank stare or like the Spelling Bee, the listener asked you to spell it and use it in a sentence! Well, the good news is that “Infrastructure” has seeped into our national lexicon and you even hear leading politicians talk about needed infrastructure investments. The bad news is there is still not enough funding to even maintain what we have got, let alone invest in new infrastructure. The current recession has obviously made matters worse.

Historically, recessions tend to trigger a drop in tax revenue and an increased demand for government services, which stresses government budgets. The current recession is no different, but this time, declines in municipal tax revenues have been more severe. This is due to a prolonged period of high unemployment, and a sluggish economic recovery. Another factor that is contributing to the current sharp decline in tax revenue is the shrinking of the property tax base because of the high rate of property foreclosures and continually falling home prices. Stable home prices provide stable tax revenue, which is used to fund many critical city and county services, such as the local police force, fire department, public education, and infrastructure projects. The fall in property values that began in the recent recession, and that continues in many markets across California today are amplifying the budget crises across California.

Well, that was cheerful information! Should we fold up our tents and wait for the economy to get better and hope for more infrastructure funding at that time? Or should we mobilize behind a unified message and become individual “Infrastructure Champions” advocating for a cause that directly impacts our career, our county’s well being, as well as California’s economic health? I would argue for the latter and we have the tools to do it.

ASCE Region 9 (California) has decided to do an update of the 2006 California Infrastructure Report Card (CAIRC). I was asked by ASCE California’s Board of Governors to resume my role as the Co-Chair for this effort. Our task is to do an update of the categories examined in 2006 and release the grades as part of ASCE’s Legislative Day visit in Sacramento on February 29, 2012. To that end we have assembled a great group of volunteers from all across California who have been working tirelessly on this project since October of last year. By the

Continued on Page 6
time you read this article, we will have finalized the results and gone to print so that the CAIRC will be ready for distribution by the end of February.

It will be interesting to see whether or not the grades have changed from almost six years ago and what is the new investment estimate for bringing California’s infrastructure up to par. In September of 2006, when the first CAIRC was released, we estimated a need for a 10-year investment totaling $370 B to improve the grades for the then infrastructure categories. In November of that year voters in California approved infrastructure bonds worth $42 B. Although not quite enough, it was a great start and it did show the important role the report card plays as a tool for ASCE in shaping public opinion through infrastructure investment advocacy. So, I ask you to get involved and join this campaign and become an “Infrastructure Champion” in your own right. Get a copy of the 2012 CAIRC and talk to your friends, neighbors, and state, and national legislators about the importance of infrastructure investment and the fact that now is exactly the time to increase, not cut, spending on our infrastructure. We have a long road ahead of us to recovery, but as Lao-Tzu said over 3000 years ago, “Journey of a thousand miles begins with a single step.”

For information on the 2006 and 2012 California Infrastructure Report Cards, please visit www.ascecareportcard.org.

Alfred R. Golze Scholarship Awards

The Golze Trustees, consisting of Eric Polson (Chair), Kimberly Brown, Laura Luce, Beverly Mason, Larry Smith, and Greg Zeiss, are proud to acknowledge the sponsors and winners for the 2012 Alfred R. Golze Scholarship year.

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2012 Alfred R. Golze Scholarship Winners

California State University, Chico

Nathan Millangar

- ASCE President, GeoChallenge Captain, Membership Chairman and Steel Bridge Team
- Works as Lab Tech and Grader, and also works for NRCS as Engineering Technician
- Interested in working in the public and private sector, and wants to practice in a wide variety of disciplines

Katherine Wade

- ASCE Community Outreach Chair, Concrete Canoe and Steel Bridge Teams, MidPac committee
- Works as assistant for 2 professors, and on the Engineer It project
- Civil Engineering major, 3.0 GPA, and Anthropology minor
- Graduating December 2013
- Interested in transportation engineering

California State University, Sacramento

Joel Shinneman

- ASCE Treasurer, Steel Bridge team and Water Treatment team, Engineers Without Borders
- Works at CSUS Office of Water Programs
- 3.4 GPA, Tau Beta Pi Honor Society, Deans List 3 times
- Interested in Structural and Water Resources Engineering
- Graduating December 2012

Continued on Page 7
The Sacramento Regional Science & Engineering Fair will be held on Friday, March 23 through Saturday, March 24, 2012 at Rosemont High School, in Sacramento.

The annual Sacramento Regional Science & Engineering Fair showcases students in the greater Sacramento region who will become our future scientists, technology experts, engineers, and mathematicians in the fields of Computer Science, Environmental Science, Medicine & Health, Chemistry, Biology, and a dozen other categories.

Engineers, scientists, and mathematicians, volunteer as judges which is a rewarding experience. We hope you will consider registering as a judge for the Fair. Judges are expected to attend a mandatory orientation Friday, March 23 at 6:00 PM that will include a free dinner catered by Griseldas Tex Mex. Orientation will provide judges with an explanation of the guidelines and evaluation criteria for judging projects and a review of the judging score sheets.

Judges will receive their project assignments and be given the opportunity to do a preliminary review of projects. Judging will commence Saturday, March 24 at 8:00 AM.

To volunteer as a judge, please visit www.srsefair.org and complete the on-line form.
ASCE Sacramento Section 90th Anniversary & 2012 ASCE Outstanding Project Awards Banquet

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CALTRANS ABC DOCUMENTARIES

Caltrans produced documentaries, including the “The Bridge,” about Pine Valley Segmental, which follows the construction of the first segmental concrete bridge in the USA. This film was created by Caltrans Graphic Services, with time-lapse construction sequences provided by the Caltrans Photo Lab. The Director was Richard Jones, the cinematographer was John McCue, Audio was by Robert Souza, Art Direction was by David Douglas and Phil Walusek of the PCA (Portland Cement Association). The engineering documentary about Pine Valley Creek Bridge (renamed the Nello Greer Memorial Bridge), features interviews and narration from the Caltrans Division of Structures on Bridge Design by Bert Bezzonne and Ostap “Joe” Bender; Bridge Architecture by Bill Wells; and Bridge Construction by Caltrans Resident Engineer Ralph Sommariva. The film credits recognize lead highway designers Norm Larsen and Nello Greer, and Highway Resident Engineer Tom Drake of Caltrans. The General Contractor was S.J. Groves of New York City, plus London, UK. Pre-stressing contractor was Dyckerhof and Widmann. A companion 4:13-minute color sound short film for general audiences was created, plus about 10-minutes of silent color time lapse of the entire bridge for concrete cast-in-place slip forming of the columns, plus segmental slip forming of the twin superstructure girders.

Another Caltrans produced Documentary with companion book “Spanning the Carquinez Strait - The Alfred Zampa Memorial Bridge,” documents the Alfred Zampa Memorial Orthotropic Suspension Bridge in Crockett-Vallejo, California on west-bound interstate I-80. The movie is 35 minutes long. This was the first aerodynamic orthotropic wing shaped suspension bridge completed in 2003. Contact www.dot.ca.gov/hq/esc/CHPC/historylinks.html, the CHPC Caltrans History and Preservation Committee, for remaining inventory of booklet and CD-ROM.

A third Caltrans Video, “No was not an Answer” (59 minutes long), discusses the reconfiguration of the approach spans in San Francisco for the San Francisco / Oakland Bay Bridge. Streaming video clips which highlight construction of the East Span of the SFOBB, narrated by Caltrans spokesman, Bart Ney, are available for free at www.baybridgeinfo.org/, a unique SAS (Self Anchoring Suspension) bridge with an orthotropic superstructure is featured.

OTHER ABC DOCUMENTARIES

The use of entertaining documentaries is also a staple of cable TV shows such as the History Channel. “The Pacific Coast Highway” (14) features ABC techniques used on a very difficult terrain. Caltrans employees are featured in this film. Bob Pavlik, Caltrans Historian; David Galarza, Caltrans Bridge Structure Representative; John Duffy, Caltrans Senior Engineering Geologist; Dan Freeman, and Frank Lotf, Bridge Structure Representatives; are interviewed about technical details of this dramatic and scenic highway.

TV REALITY SHOWS

The use of entertaining reality shows is also a new staple of TV networks, such as the NBC America’s Toughest Jobs, which features a Caltrans Bridge Painting Crew on the Vincent Thomas Suspension Bridge in Long Beach Harbor. American Trucker featured Caltrans Maintenance Crews removing snow and assisting truckers stuck in slick roads with a pusher truck.

This documentary, which was shown in November, 2011 at our 4th Tuesday luncheon, describes entertaining case histories that show how to entertain, but inform the general public about various techniques. Director Brown informs, and simultaneously entertains, with film of construction, interviews of key individuals, and satirical cartoons and animated graphics of principals and techniques. The Next Frontier: Engineering the Golden Age of Green, is a positive movie that focuses on proven renewable, clean, civil engineering energy technologies that can improve our future, and create a healthier place to live. This DVD movie, 56:46 long, is an entertaining documentary that takes the viewer around the world in search of technologies and policies that will ad-
dress the serious problem of excessive carbon dioxide emissions, and our dangerous dependence on fossil fuels. Successful solutions for Geothermal, Solar, Tidal, and Wind are filmed, with operators/users interviewed by ABC’s Good Morning America’s, Becky Worley. Without the general public’s support, these technologies will not be continued to be expanded, designed and built by firms managed by civil engineers. A successful tidal power generation in Ireland is featured in this movie. Harbor Seals can swim without harm by the underwater propellers. The owners’ representative and fishermen are interviewed and are pleased with this green coastal energy solution. Wind and solar examples shown are applicable to coastal sites and communities.

CONCLUSION

The use of entertaining documentaries, developed by the union, Professional Engineers in California Government, and others to highlight the excellent and cost-effective work and oversight provided by engineers working in the tax payer’s interest, has been a successful public education effort. Each of the documentaries receiving broad critical acclaim and distribution through the PBS (Public Broadcasting System), The Bridge So Far, the first in the series of documentaries, was recognized with two Emmy Awards, and the Span in Time, the third in the series, was recognized with an Emmy as well. Each of the documentaries has been seen in major television markets across California and the nation. Along with their positive message about engineers who have built our existing infrastructure, they have introduced the concepts and advantages of accelerated bridge construction, marketing the approach through repeated demonstrations of successful projects, and illustrating the advantages to the community of this technique. The documentaries have a common theme that includes interviews with engineers, members of the public, political figures, and reporters and contractors. There is a simple, yet profound sense of enthusiasm for each of the engineering projects featured that is easy to sense and share. So, I am proud to be a member of ASCE.

Engineers Without Borders

by Andrew Bambauer, P.E.

The Engineers Without Borders (EWB) Sacramento Valley Professional Chapter is considering adopting a new project in Ecuador that will involve securing potable water supply by either developing new water supply and/or remediating existing water supply in a region of widespread petrochemical contamination. If you have water resources engineering, or water treatment expertise and are interested in joining our volunteer effort, please come to the next EWB meeting at 6:00 rm on March 21st, held at the office of The Louis Berger Group, 1050 - 20th Street, Suite 200. At this meeting, we will be assessing our Chapter’s capacity (in terms of qualifications and commitment) to pursue this exciting and worthy new endeavor.

For more information, please contact Dustin Harrison at sacpropresident@gmail.com.

Capital Branch

by Alfred R. Mangus, P.E.

75th anniversary of the Golden Gate Orthotropic Bridges

Introduction: For those of you who do not know me, my name is Alfred R. Mangus, PE, and this is my second time as President of the ASCE Capital Branch (last 2003-2004)—another area of interest is seismic resistant design.

Who’s on First?: Thor is Past President, Mario was elected President-elect, Dick Weitzenberg is Treasurer, Doran Glauz is our Secretary, and Vice President of Education is Ajay Sehgal.

Hats-off to Professors Anderson & Fell who hosted a very successful evening event on the new SFOBB. The presentation by Dr Maroney, Ms. Wang and Mr. Cross was excellent, and had hands-on samples of bridge components, scale bridge models, and welding testing equipment. PECG movies were won by students Kyle Cameron, Thang Nguyen, Jonathan Eggert, Lakshika Jeewanial, Jennifer Ramponi, Amin Islam and Michael Powers. It was a great experience for all who attended.

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What’s up?: Please provide us with news about your project in our area. We are also seeking tours, including “hardhat” tours of local projects. A portion of your section dues go to funding this newsletter, let’s all utilize this communication resource. Please email us any topic(s) or commitment to our President-Elect, Mario at carreon@att.net. Mario has been mentoring younger engineers. Please also contact Mario if you want to stay with Radisson, now called the “Woodlake Hotel,” or switch to a brown bag meeting location in a government building.

Our International Bridge Event: Advertising for the third www.orthotropic-bridge.org will be in the British Magazine, Bridge Design and Engineering. It’s planned for the last full week in June 2013 in a hotel between Sacramento and the San Francisco Bay Area. The abstracts are due by September 15, 2012. Please see attached flyer.

Presidential Pulpit: The Great Alaska Earthquake of March 27, 1964 changed my life forever.

As I type away, it’s the night of the 3-year anniversary of my father’s death. Marvin Dale Mangus earned a Master degree in Geology at Penn State University in 1946. He saw a slide show about Alaska by the USGS (United State Geological Survey). Dad’s first work trip for the USGS was in 1946. After 11 years working summers in Alaska, and in an office in Washington, DC, he quit. Dad was hired by Atlantic Refining Company (now the “A” of “ARCO” owned by British Petroleum) in 1958. Our family lived in Guatemala City. They had “earthquake season,” and I remember clinging to my mother’s skirt scared from an earthquake. Next we moved to Calgary, Alberta, Canada, and we lived there for about 24 months. In the summer of 1962, we moved to Anchorage, Alaska where I started 4th grade in the fall of 1962. Anchorage had about
40,000 people, with a population of about 160,000 throughout the entire state. Alaska was the least populated state in 1962. My parents decided not to live in “Turnagain By The Sea.” It was a better middle-class neighborhood, with views of Mt. McKinley on a clear day. They had a new home built in a different mid-town location, and we moved into it during the fall of 1962.

March 27, 1964 was Good Friday, and there was no school on that day. There was about 6 inches of snow on the ground (normal snow is on the ground from November through April in Anchorage). The houses are called split-levels, with half basements of about 4 feet to the top of concrete floor below ground level. Our favorite TV show was a British Marionette show called “Fireball XL-5.” The show started at 5:30 pm. I went to my friend, Robert Gregory’s home. Just when the bad guys were going to fire a missile (5, 4, 3, 2, 1) the TV went black and the electrical power went off about 5:35 pm. Then, I could feel the ground moving. I knew it was an earthquake. The intensity got stronger. It was not a “slam-on-the-brakes” type of earthquake motion. I ran up the ½ basement after an orange vase broke by falling on the floor. I ran outside in the snow. I remember the top of the wood telephone pole vibrating one to two feet. My mother told me that she could see the shock waves moving through the neighbor’s, which was gravel. The ground could be felt moving for two minutes. It had the 2nd strongest ground motion recorded.

I ran back to my parent’s house. The electricity and natural gas were out. My Dad was an expert at winter camping, so he built a fire in our fireplace. The fireplaces in the basements in the neighborhood were built with reinforced concrete block. The houses used timber balloon framing with plywood shear walls. About 1% or less of buildings were damaged in Anchorage. Damage in the neighborhood was limited to a few carport failures, with posts popping out, and face brick failures inside some homes. My parents’ house was undamaged. Furniture had moved, but our property losses were close to zero.

Communication was out except “HAM” radios. My dad’s best friend, Mr. Elder Liebert, in Fairbanks, Alaska, loaded up his carpenter tools and drove in his pickup truck over 400 miles to help rebuild our house. After he arrived, he stayed in our house. There was nothing to rebuild, so we later drove around to survey the building damage. Soldiers from the adjacent Fort Richardson stood guard with their weapons and arctic clothing to prevent looting. So, I was about 10 years and 9 months old at this event. My parents subscribed to the National Geographic Magazine, which covered the earthquake in its Vol. 126, No. 1, July 1964 issue.

I went to College at Penn State University from 1971-76, earning a 5-year degree in Architectural Engineering. My Professors at Penn State had no interest in seismic design issues. They kept telling me to go to California to learn more about the subject. So, I earned my MSCE at UC Berkeley in 1977. Later, I purchased National Academy of Sciences 1973 volume on Engineering Issues about this Quake, while designing buildings in Alaska. I am referring to these references as I type. The last standing structure repaired was the Million Dollar Bridge near Cordova, Alaska. It took about forty years to get around to repairing the damage span that collapsed into the Copper River. Cordova did not really want a road into its small community. This steel bridge was built as a private railroad bridge to haul copper in 1910. The state bought it in 1960, or so, and converted it from a railroad bridge for vehicular traffic.

Seward and Valdez, Alaska were built in the end of Fiords where fresh water runs into the ocean. Tsunami waves killed most of the 120 people in the 1964 quake. Seward and Valdez were greatly damaged by Tsunamis. Collapse of the air traffic control killed two FAA employees. Liquefaction destroyed several areas in Anchorage. The 4th Avenue liquefaction slide damaged small shops and bars. Government Hill Elementary School split in half due to liquefaction. “Turnagain by the Sea” became “Turnagain in the Sea.”

Other concrete buildings collapsed, or were severely damaged. Horizontal torsional forces damaged other buildings. About 25 construction workers quit early at 5:00 pm after working on the six-story, Four Season Apartment Building. It was scheduled to open soon for renting. At 5:35 it totally collapsed. West Anchorage High was a 2-story building. The upper concrete frame was severely damaged, so it was repaired or renovated as a one-story building. Lives were lost in the J C Penny’s department store torsional damage. Any loss of life is a sad thing. It was a big adventure, or story to tell as kid. As an adult, I described this drama to other engineers and others.

Non-engineers ask me if I worry about earthquakes. My real fear today is that I wonder if lessons learned will be lost, or passed on to the next generation. I tell people that I worry more about volcanoes than earthquakes. I also tell them that I am proud to be a Civil Engineer.
### New Members of the Sacramento Section for January

**Capital Branch**

<table>
<thead>
<tr>
<th>Member Name</th>
<th>ASCE Grade</th>
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<tbody>
<tr>
<td>Troy R. Adams</td>
<td>S.M.ASCE</td>
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<tr>
<td>Daniel Jaime Arceo</td>
<td>S.M.ASCE</td>
</tr>
<tr>
<td>Caitlin Miyuki Asato</td>
<td>S.M.ASCE</td>
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<tr>
<td>Kevin Phillip Bagley</td>
<td>S.M.ASCE</td>
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<tr>
<td>Erikson Betts</td>
<td>S.M.ASCE</td>
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<tr>
<td>Amy Dykstra</td>
<td>S.M.ASCE</td>
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<tr>
<td>Bridget Ashley Eckhardt</td>
<td>S.M.ASCE</td>
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<tr>
<td>Nicole Evans</td>
<td>S.M.ASCE</td>
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<tr>
<td>Alban Gjongecaj</td>
<td>S.M.ASCE</td>
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<tr>
<td>Vladislav Khashchuk</td>
<td>S.M.ASCE</td>
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<tr>
<td>Jennifer Lynn Marion</td>
<td>S.M.ASCE</td>
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<tr>
<td>Casey McEndree</td>
<td>S.M.ASCE</td>
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<tr>
<td>Bryan Thomas Moore</td>
<td>S.M.ASCE</td>
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<tr>
<td>King B. Ng</td>
<td>S.M.ASCE</td>
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<tr>
<td>Rommuel Cabigan Obida</td>
<td>Aff.M.ASCE</td>
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<tr>
<td>Marcowen Manalili Roxas</td>
<td>C.Eng, Aff.M.ASCE</td>
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<tr>
<td>Brooke Steininger</td>
<td>S.M.ASCE</td>
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<tr>
<td>Alvin Kent Wong</td>
<td>S.M.ASCE</td>
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<tr>
<td>Matthew Wong</td>
<td>S.M.ASCE</td>
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**Central Valley Branch**

<table>
<thead>
<tr>
<th>Member Name</th>
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<tbody>
<tr>
<td>Joseph Dela Cruz Gallardo</td>
<td>P.E., M.ASCE</td>
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<tr>
<td>Joshua Kenneth Easter</td>
<td>S.M.ASCE</td>
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<tr>
<td>Shawn Leyva</td>
<td>S.M.ASCE</td>
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<tr>
<td>Daniel St. Pierre</td>
<td>S.M.ASCE</td>
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<tr>
<td>Francisco Salcedo</td>
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**Feather River Branch**

<table>
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<tr>
<th>Member Name</th>
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<tbody>
<tr>
<td>Francisco Anaya</td>
<td>S.M.ASCE</td>
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<tr>
<td>Michael Bryce Belanger</td>
<td>S.M.ASCE</td>
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<tr>
<td>Travis McCollester Chatters</td>
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<td>Jacob Dean Clapp</td>
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<td>Samuel Cromwell</td>
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<tr>
<td>Jason Emmette Haller</td>
<td>S.M.ASCE</td>
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<tr>
<td>Allen J. Javitz</td>
<td>P.E., M.ASCE</td>
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<tr>
<td>Ranvir Kaur Jawanda</td>
<td>S.M.ASCE</td>
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<td>Whyatt Joseph Nixon</td>
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<tr>
<td>Lance Cary Patchin</td>
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<tr>
<td>Dustin Paris Rainey</td>
<td>S.M.ASCE</td>
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<tr>
<td>Sue Vang</td>
<td>EIT, S.M.ASCE</td>
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<tr>
<td>Brian Winter</td>
<td>S.M.ASCE</td>
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**Shasta Branch**

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<th>Member Name</th>
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<tr>
<td>Michael Harris Kennedy</td>
<td>S.M.ASCE</td>
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<tr>
<td>Robert Parker Milton</td>
<td>S.M.ASCE</td>
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<tr>
<td>Robert Dale Towne</td>
<td>S.M.ASCE</td>
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### Continuing Education Schedule

Geographic Services is proud to announce the Continuing Education Schedule of seminars and workshops for Spring 2012 and Summer 2012 scheduled in your geographic area. These seminars/workshops have been produced by ASCE’s Continuing Education Department with your members in mind.

This new schedule has been placed under the Links (http://www.asce.org/Regions-Sections-Branches/Region-9/Links/Links/) tab on each Region website.

<table>
<thead>
<tr>
<th>Seminar/Workshop</th>
<th>Date</th>
<th>City / State</th>
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<tbody>
<tr>
<td>Seismic Design of Liquid Storage Tanks</td>
<td>April 20, 2012</td>
<td>Sacramento, CA</td>
</tr>
<tr>
<td>Wind Loads for Buildings and Other Structures – Newly Updated</td>
<td>May 3-4, 2012</td>
<td>San Diego, CA</td>
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<tr>
<td>HEC-RAS Computer Workshop for Sediment Transport</td>
<td>May 9-11, 2012</td>
<td>San Diego, CA</td>
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<tr>
<td>HEC-RAS Computer Workshop</td>
<td>June 6-8, 2012</td>
<td>San Francisco, CA</td>
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<tr>
<td>Introduction to Tunnel Design and Construction</td>
<td>June 13-15, 2012</td>
<td>Sacramento, CA</td>
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<tr>
<td>Risk- Based Seismic Design and Evaluation</td>
<td>June 28-29, 2012</td>
<td>Los Angeles, CA</td>
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<tr>
<td>Earthquake Induced Ground Motions – Newly Updated</td>
<td>July 26-27, 2012</td>
<td>San Diego, CA</td>
</tr>
<tr>
<td>Water Hammer in Transmission and Distribution Systems</td>
<td>September 13-14, 2012</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>Design and Construction of Microtunneling Projects</td>
<td>September 19-21, 2012</td>
<td>San Diego, CA</td>
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</tbody>
</table>
Dr. Brian Maroney of the California Department of Transportation and his team recently spoke to an audience of 200 ASCE SEI professional engineers, students and professors on the San Francisco Oakland Bay Bridge Seismic Retrofit Projects.

Photos by Joyce Copelan, P.E.

Below: Dr. Maroney interacting with participants.
Memorial for Shelly Bailey

Shelly Nathan Bailey, a retired civil engineer, died at 9 AM on Thursday, Feb. 16, of complications of diabetes and cancer at Kaiser’s South Sacramento Hospital. He was 84.

Shelly was born in Los Angeles on Jan. 16, 1928 to Lloyd G. Bailey and Emma Grayer-Bailey. He was known for his kindness, relentless determination to succeed and business sense.

“If you told him he couldn’t do something, he’d say, ‘We’ll just see about that,’” said his daughter, Shellette Bass of Sacramento. Shelly worked hard to prove to himself and others that he could achieve whatever he set his mind to. And he had as many life and career goals as he did freckles.

Shelly excelled at high school sports, earning awards in track and field and basketball. After graduating from Los Angeles’s Thomas Jefferson High School in 1946, he found work as a pear picker in Pear Blossom, Calif. But he knew in his heart that farm labor was not his calling — engineering was.

In 1948, he found a job with the California Department of Justice in Sacramento as a fingerprint technician. He worked there for 10 years before leaving to study for a degree in civil engineering at Sacramento City College. He eventually took a job as a junior drafting aid for the California Division of Highways (now Caltrans) in Los Angeles.

By then, he was married to Betty Jane Gray and had three children. He worked in Los Angeles for two years with new family in tow before returning to Sacramento to work for Caltrans as an engineering aide—and to escape the Los Angeles smog that had been triggering his eldest son’s severe asthma attacks.

Shelly returned to school, studying part time for his degree in civil engineering at Sacramento State College (now University). He was grateful that the school had received accreditation in civil engineering by the time he graduated in 1965.

While still in school, he worked full-time in the concrete and materials testing lab at the California Department of Water Resources. In nine years, Shelly had advanced from an engineering aide to an engineering associate. He then transferred to the Water Resources Division of Design and Construction. Returning to Caltrans, he managed the quality assurance program of materials and products used for highway signs, traffic safety, and on- and off-ramps.

In 1978, at age 50, Shelly retired from the State to start his own engineering and construction firm, attracting clients such as Aerojet, Pacific Gas and Electric, the Mather Air Force Base, Sacramento Regional Transit, state and local municipalities, and residential and retail clients.

Shelly was known for working long hours and mentoring younger engineers, including two of his three sons. He often said engineering was a difficult science for him to learn. But his hard work paid off. In 1964, he discovered “abnormally slow-hardening concrete,” a material used in the construction of the Orville Dam, ensuring the dam would hold water for decades on end. In 1968, the American Society of Civil Engineers named him California’s Outstanding Engineer for Community Activities. He was recognized in the 1977-78 edition of Who’s Who in Black America. The Observer Newspaper honored him in 2008 for working to improve his community through his profession.

He served as president of the Northern California Council of Black Professional Engineers, the Northern California Chapter of the American Concrete Institute, and the Sacramento Section of the American Society of Civil Engineers. He also taught engineering labs at Sacramento State University on weekends.


He is predeceased by son Schuyler Wayne Bailey of Sacramento and baby sister Kathryn Bailey-Baines of Los Angeles.

At Shelly’s request, funeral services will not be held. His family will hold a memorial service at the Sacramento State University Alumni Building in late-March. In lieu of flowers, the family is requesting that donations be made to the Shelly Nathan Bailey Memorial Fund.
ASCE, Sacramento Section,
Capital Branch
March Luncheon

Seismic Retrofit of the Antioch Toll Bridge
A Short Abstract and Biography

Speaker: Yong-Pil Kim, P.E.

Short Bio: Mr. Kim is a Senior Bridge Engineer at Caltrans with 24 years of bridge design experience. He has received his B.S. and M.S. from the University of Illinois at Chicago. He was responsible for the delivery of major projects, like the replacement of the Central Viaduct in San Francisco, and the structural portion in the extension of Routes 180, 41, and 168 in Fresno, consisting of 27 bridges. Mr. Kim also has participated in the design of the new Bay Bridge and the emergency replacement of the McArthur Maze structure.

Short Abstract: The existing Antioch Toll Bridge is a continuous steel plate girder bridge with four intermediate hinges. The bridge is 1.8 miles long and carries two traffic lanes. There are 40 piers that consist of portal frames of hollow concrete columns supported by piles.

The analysis of the existing structure showed vulnerabilities in the column shear, bent cap shear, premature failure of the main column rebar mechanical couplers and the likely plastic hinging of the exterior piles. In addition, transverse offsetting of the steel girders at the intermediate hinges under severe earthquake forces could fail the existing pin hanger connections.

The retrofit design consists of replacing all the existing bearings with low profile friction pendulum isolation bearings. In addition, many piers in the middle of the bridge were stiffened transversely with the installation of steel cross bracings between the columns. This was necessary to make the isolation system perform effectively in tall, flexible piers.

There is a steep profile rise and fall at the beginning and end frames of the bridge. Since the isolation bearings are restrained only by friction it was feared that a frame can creep towards its lower elevation under service conditions. Longitudinal restraining brackets were added at midpoints of each frame to prevent uncontrolled drifting of the superstructure. These brackets will not hinder seismic isolation of the superstructure.

The construction of the retrofit is about 92% done and it is scheduled to be completed by July, 2012. Its total cost is estimated at about $40 million dollars.

Hope to see many of you there!

Alfred R. Mangus, P.E.
President
ASCE- Capital Branch

RSVP by Thursday, March 22nd through Eventbrite
ORTHOTROPIC BRIDGE CONFERENCE

Call for papers due on or before Sept 15, 2012
E-mail to: Abstract_3OBC_ASCE@hotmail.com

Three-Day Conference with Workshop and Tours

Northern California, USA, June 25, 26, 27, 28 & 29, 2013

The American Society of Civil Engineers, The Metropolitan Transportation Commission and the partner organizations invite you to attend and participate in the third Orthotropic Bridge Conference. The objective of this Conference is to present the latest developments in the design and construction of orthotropic deck bridges worldwide, and visit California orthotropic bridges in operation. Many of the world's leading engineers and researchers who contributed to the spectacular advances of orthotropic design and construction present their views at the 2004 & 2008 conferences. Many notable bridge engineers from across the USA and more than ten other countries have participated in 2004 and 2008. The conference hotel selection has not been finalized and hotel will be located between Sacramento, California USA and San Francisco California USA.

Tentative Schedule

Attendees may register for all events, or events may be selectively attended, including a one-day registration for any day of the 3-day conference. See www.orthotropic-bridge.org for more details subject to changes.

Tue 25 June: One-day workshop “Orthotropic Deck Bridges”, Separate registration details to be provided later

Wed 26-Fri 28 June: Orthotropic Bridge Conference
Opening times:
Wed - Thur: 8:00 AM to 5:00 PM
Friday: 8:00 AM to 11:00 AM
Separate registration includes two luncheons and included

Tours:
Thur 27 June: Bus trip (6:00 PM to 11:00 PM) tour of the San Francisco
Oakland Bay Bridge East Spans (SAS - Self-Anchoring Suspension

Fri 28 June: Optional boat tour East Spans SAS & Golden Gate Bridge (12:00 PM to 6:00 PM) Separate registration

Sat 29 June: Tour of nine orthotropic bridges in the San Francisco Bay Area (7:00 AM to 10:00 PM); Separate registration includes bus fare and meals.

CD Rom copies of 2004 OBC proceedings, @ $125 USA Dollars
CD Rom copies of 2008 OBC proceedings, @ $80 USA Dollars
Costs will include tax and shipping charges - shipped 1 to 2 weeks
USA funds required - payable to ASCE Capital Branch

ASCE, Sacramento Section, Capital Branch
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Phone: +1 (916) 961-2723
E-mail: orthotropic_bridge_org_asce@yahoo.com
http://www.orthotropic-bridge.org

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