Central Valley Chapter - California Land Surveyors Association
www.californiacentralvalleysurveyors.org

Central Valley Chapter THE PRISM

Volume 5, Issue 5 September 2015

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Vice President: Landon Blake
Secretary: Rich Brown
Treasurer: Tom Price
Chapter Director: Keith Spencer
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Alt. Chapter Dir: Landon Blake
Alt. Chapter Dir: Kevin Genasci

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2015 Chapter Programs

Adopt-A-Road:
Rich Brown (Coordinator)
Boy Scout Merit Badge:
Zachary Wong (Coordinator)
TrigStar:
Bill Koch (Coordinator)
Workshops:
Rich Brown (Coordinator)

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Up Coming Meetings!

Date: September 23, 2015
Time: 6:00 p.m.
Location: Perko's @ 901 North Carpenter Road, Modesto
Speaker: David Woolley, PLS - D. Woolley & Associates
Topic: Prevailing Wage Changes

Date: October 28, 2015
Time: 6:00 p.m.
Location: Perko's @ 901 North Carpenter Road, Modesto
Speaker: Jon Warren, PLS - NSPS President
Topic: NSPS Membership Benefits

Announcements

ADOPT-A-ROAD
Your help is needed. Our next Adopt-a-Road Clean-up Day is scheduled for October 3rd, 2015. If you can spare 3 hours to help, please come out and give a hand.

STATE DUES GOING UP IN 2016
Board of Directors have approved a 10% increase to the Regular Corporate Dues starting in 2016. New State dues are as follows:

- Regular Member Grade - $174.00
- Sustaining Member - $348.00 (200% of Reg. Membership Grade)
- Associate Member - $87.00 (50% of Reg. Membership Grade)
- Out-of-State Member - $87.00 (50% of Reg. Membership Grade)
- Affiliate Member - $87.00 (50% of Reg. Membership Grade)
- CE Member - $174.00 (Same as Reg. Membership Grade)
- Student Member - $17.40 (10% of Reg. Membership Grade)

CLSA President, Jay Seymour Announces...
California Advocates, Inc., Association Management Services (CAMS) to replace Association Management Services, effective August 29, 2015. The Interim Executive Director will be Jennifer Blevins, CMP while CLSA and CAMS completes a search for a permanent replacement.

After August 29, 2015 direct all association business to:
California Land Surveyors Association
2520 Ventura Oaks Way, Suite 150
Sacramento, CA 95833
(916) 239-4083 (office)
(916) 924-7323 (fax)

Classes, Training, and Continuing Education

CAD Masters - AutoCAD Level I (3-Day Course)
- Sept 14-16, 2015, Sacramento
- Sept 28-30, 2015 Walnut Creek
- Oct 13-15, 2015, Sacramento
- Oct 26-28, 2015 Walnut Creek
- Nov 9-11, 2015, Sacramento
- Nov 23-25, 2015 Walnut Creek **Register here**

CAD Masters - AutoCAD Level II (2-Day Course)
- Sept 21-22, 2015, Walnut Creek
- Oct 19-20, 2015, Sacramento
- Nov 2-3, 2015, Walnut Creek
- Nov 23-24, 2015, Sacramento **Register here**

CAD Masters - AutoCAD Level III
- Sept 17, 2015 Walnut Creek
- Nov 12, 2015 Sacramento **Register here**

CAD Masters - Civil 3D for Surveyors (2-Day Course)
- Sept 28-29, 2015, Sacramento **Register here**

CAD Masters - AutoCAD Civil 3D Intro (3-Day Course)
- Sept 8-10, 2015, Sacramento
- Sept 21-23, 2015, Walnut Creek
- Oct 5-7, 2015, Sacramento
- Oct 19-21, 2015, Walnut Creek
- Nov 2-4, 2015, Sacramento
- Nov 16-18, 2015, Walnut Creek
- Nov 30-1, 2015, Sacramento **Register here**

CAD Masters - AutoCAD Civil 3D Adv. (2-Day Course)
- Sept 2-3, 2015, Sacramento
- Sept 8-9, 2015, Walnut Creek
- Nov 4-5, 2015, Walnut Creek **Register here**

If you have information about a training or class, please submit to: **editor@californiacentralvalleysurveyors.org**

Director's Editorial

25 years ago, the Central Valley Chapter asked me, as Chapter President, to fill the remaining term of departing Chapter Representative, Doug Potts. In October 1990, I attended my first Board of Directors meeting. The first person to greet me there was CLSA Executive Director, Dorothy Calageri. She showed me where to find everything and got me involved right away. In the 70+ Board meetings I have attended since then, during the formation of the Education Foundation, while serving on many committees, and as Chairman of a Committee, the assistance and guidance of Dorothy and her staff have been immeasurable and invaluable. They will be missed.

We now have a new Management Service. I wish them the best and look forward to working with them to continue the legacy established by Dorothy Calageri and all of the staff at AMS.

If you would like to comment on this topic or suggest another, please submit it to:
editor@californiacentralvalleysurveyors.org

CLSA EDUCATION Foundation

CLSA EDUCATION FOUNDATION

Land Surveying Photo Gallery

California Land Surveyors Association Education Foundation would like to thank Bryant Sturgess for generously donating his collection of historic images.

The proceeds from the photos sold on this website will be used to fund scholarships for land surveying students.

State News

Conference Wrap Up:
CLSA-NALS Conference 2015 Reno, NV

By Carl C. de Baca, PLS

It's a dangerous thing to make subjective comparisons between the most current conference and ones that came before, where your mind is clouded by distant fond memories. Having said that, this conference rocked hard! It was well attended (500+), offered a terrific program of classes and workshops, brought together a great group of vendors, and allowed us to interact with a large and solid group of student helpers. There was a noticeable positive vibe running through the Silver Legacy from the Saturday pre-conference workshops clear through the mock trial on Wednesday. I (very subjectively) rank this as one of the best conferences we have had in several years. Following are a few of the highlights that this attendee observed during the course of the conference:

The Saturday night bowling tournament has achieved a new high. After years of trying to get us into the National Bowling Stadium, Crissy and the conference committee finally did it! I'm not sure what magic she conjured up but it was worth it. We had ten teams of 5 bowlers and plenty of spectators watching gutterball tickets thrown around like candy wrappers. Imagine hour after hour of swirling colored lights and all the seventies disco music you could ask for (or stand) and some bowling thrown in for good measure. Lots of new faces and plenty of long-time bowlers made the event a great experience.

The keynote speech on Sunday was given by a Louisiana surveyor, tinkerer and technophile named Frank Willis. Mr. Willis gave us one view of the near future where we all take advantage of the vast array of cheap emerging technologies available to those with a creative bent. He described buying a drone kit and adding his own survey tools to it. He showed us terrestrial remote-control vehicles for survey applications that he had assembled himself and gave us links to cheap and powerful microprocessors. The message to take away from his discussion was that the profession is changing rapidly but there are still opportunities to get in

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on the ground floor and adopt new methods and new tools to stay current with the industry as it evolves. Many of these things can be done cheaply if you are not afraid to innovate.

The LS Review track was a virtual cavalcade of esteemed colleagues this year. Those studying for an exam were lucky to witness the inimitable David Paul Johnson offer up his GPS and Geodesy presentation where many household items, toys, tools and knick-knacks are employed to help the audience better visualize the concepts of geodesy. Delivered with deadpan humor and uncommon energy, this is always a must-see and DPJ never fails to pack the room. Those same LS aspirants were treated to Mike Hart, who spent all day on Monday working through the Public Land Survey System in his smooth Arkansas accent, seemingly undiminished by his years out here on the west coast. Mike is an expert who knows his subject matter intimately. On Tuesday the class included Evan Page of the California State Lands Commission using his broad experience in a detailed review of water boundaries. Frank Maxim finished up with a discussion of the California LS Act. The LS Review track is a key part of these conferences and they operate in a smooth and comprehensive manner. I offer a hearty 'thank you' to the conference committee and these surveyors/instructors who work so hard to make the LS Review track a success each year.

A new innovation at this conference was the implementation of 'round table' discussions. We had a NALS board discussion, a CLSA board discussion, a discussion on the various forms of student outreach and a discussion from the CLSA legislative committee. There were also panel discussions with both the Nevada BPELS and the California BPELS (I know, that acronym has changed with the addition of geologist to the CA board, but you know what I mean). These both offered an opportunity to meet and discuss items of interest with board personnel. Another panel discussion centered on QBS (if you don't know what that is, look it up!). This more informal setting gives many people the chance to ask questions or make their voices heard. I hope we see this format at all future conferences. In particular, the youth outreach roundtable was lively, to say the least. Chuck Karayan, Jerry Jaurez, Nancy Almanzan and others offered up observations based on personal experience that should help both NALS and CLSA move forward with more focused and coordinated efforts with respect to TWiST, the Boy Scout Survey Merit Badge, TrigStar and SkillsUSA. These programs will help secure a future generation of land surveyors.

Many workshops were offered between Sunday afternoon and Wednesday morning. There were workshops by NGS, workshops on Communications for surveyors, GIS, Mineral Survey Basics, Ethics, Laser scanning, Mobile Lidar, FEMA, property law, legal descriptions and GNSS Survey Standards. Among the numerous workshops, a few stand out: Understanding Least Squares by Larry Phipps, Mineral Surveys – The Baptiste Story by Linda Smith and David Dorsett, Surveying the Future by Larry Phipps, and Business Aspects of Land Surveying by Jay Seymour. All in all, the program was terrificand if you left this conference without an abundance of PDU's and a lot of food for future cogitation, then you have no one to blame but yourself.

The luncheon on Monday featured comedian Tom Ryan who was absolutely hilarious. He did his homework and salted in among the many uproarious jokes he had a couple of survey-related pieces and one that featured California Surveyor John Wilusz by name – poking good natured fun at John's trip to Prague and subsequent geocaching experience. Bucket list item checked off– eh John? Ryan, who has opened for Jerry Seinfeld and appeared on the Tonight Show can be heard once in a while on Sirius/XM comedy stations. Hey conference committee, great catch! It's going to be hard to top this one in the future. I'm still chuckling at some of the bon mots Ryan tossed out.

The Scholarship Auction on Monday evening was, as usual, fantastic. Our old pal Lightnin', aka veterinarian and auctioneer Greg Williams, did the honors and was in great form. Many people paid more for an item than they otherwise would have due merely to a pause and a look from Lightnin'. I would have to say that based on the generous, aggressive and sustained bidding on all items brought forward, the economy must be improving! And as with all our auctions, the action is livened up both by the horde of student volunteers roaming the room challenging the bidders, and the students on the catwalk parading the auction items

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Conference Wrap Up, cont. from page 4

like runway models. The live auction brought in over $25,000 in proceeds which go to the states' foundations to fund scholarships. Money well spent – just tell yourself that when you cart that old transit home...

The Awards luncheon is always a special event where the outstanding efforts of a few are honored each year. This year's event, on Tuesday, was no exception. NALS honored Dan Church for Article of the Year for his piece entitled Perceived Value, gave the Meritorious Service award to Alan Reikki and bestowed the Surveyor of the Year award on immediate past-president Glen Armstrong. Monsen Engineering took home the Sustaining Member of the year award. Terry McHenry, retired editor of the Nevada Traverse magazine was honored with a special Distinguished Service award for his 24 years at the helm. Long time NALS member and frequent Traverse contributor Paul Pace delivered a heart-felt speech before calling Terry up to the podium to receive the award. CLSA, in addition to giving out 5 special scholarships to California geomatics students, honored the San Diego Chapter with Newsletter of the Year, the Central Valley Chapter for Website of the Year and bestowed this year's Distinguished Service Award on Bill Hofferber, past president of CLSA and indefatigable workhorse of the CLSA Foundation. Congratulations to all these awards winners. Our organizations are incalculably enriched by the outstanding efforts you put forth on behalf of our profession!

This conference runs like clockwork based on the organizational efforts of the our conference management, Dorothy Calegari, Crissy Wilson and the many members of both NALS and CLSA who volunteer their time to help make it a success. Our conference is so smooth that we tend to take it for granted and that is a shame. These folks deserve our thanks because what they get together and create each year is truly special. If you doubt that, merely attend another state's conference sometime and see for yourself. Another group of people who band together and produce a superior effort for our conference is the assemblage of student volunteers. Coming from OIT, CSUF, CPP, GBC and at least one other college that I am remiss in not recording, this group works hard to help the conference committee in a million different ways. This is their chosen profession and the time they contribute to manning the workshop entrances, carrying auction items around, assisting the vendors, working the auction, etc., is greatly appreciated. Next year, when you pass a student scanning your badge, thank them for their efforts.

No conference can be successful without the contributions of the vendors. The Exhibitors' Hall is the site of a thousand interesting conversations and many people leave the conference with a brain full of contemplative thoughts about exciting new technologies, tools and markets. The vendors host refreshments and food throughout the conference and stand patiently waiting to introduce us to software and hardware that can make our jobs easier and more profitable. This year there were several examples of remote controlled devices, both aerial and aquatic that will one day be commonplace, just as our keynote speaker, Frank Willis predicts.

If you missed the conference and are reading this to see what went on this year, I hope you will attend next year's conference, because it will be worth it both for the educational opportunities provided and for the feeling of fellowship that comes with spending a couple days with your peers and colleagues. Have a great 2015 and see you next year!

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National News

When Two Worlds Collide

Written by Mike Gundline

Not Your Garden Variety Land Survey

When anthropological research teams travel to some of Alaska's most remote communities to perform subsistence surveys, the challenges extend far beyond the average land survey. The challenges of travel in remote regions of Alaska, interviewing people of varied cultural backgrounds, and the potential for harsh climate conditions make these specialty surveys some of the most unique field projects in the country.

"Subsistence areas" are used by Alaska Natives for hunting, fishing, and gathering wild resources--all essential to the health and survival of rural communities, as well as integral to preserving Alaska Native culture. Subsistence surveys are critical to providing an accurate picture of ongoing subsistence activities across different geographic areas, against which future changes may be measured. For example, hunting and fishing areas crucial to the survival of a Native community could be endangered by new oil drilling operations or industrial development. While new development in the name of progress is often a threat to way of life for these communities, new technology is now helping us better understand and document this ancient world in ways never before possible.

Surveying the Symbiosis between Land and its Native People

Stephen R. Braund & Associates (SRB&A) is an anthropological survey and research firm based in Anchorage, Alaska. SRB&A employees combine anthropology and geographic expertise, along with a healthy passion for working in the beautiful but often harsh conditions of Alaska's most remote communities. Research teams conduct studies of indigenous communities and subsistence practices that are often centuries-old. These activities are essential to the physical health and sustenance of residents; for Alaska Natives, engaging in subsistence activities is also integral to the preservation of indigenous cultural traditions and identity.

SRB&A research teams have been providing scientific subsistence, ethnographic, and cultural research in Alaska for nearly 40 years, on topics like subsistence and traditional knowledge studies, cultural landscapes, and development impact assessment and mitigation. Since its founding, SRB&A teams have traveled to the most remote regions of Alaska with their overstuffed, all-weather gear, including the most essential survey tools of the trade--paper maps, questionnaires and forms.

Over time, new technology started making its way into the backpack. Team members began carrying a mishmash of various devices, introducing digital cameras, handheld GPS devices and various software packages to help complete subsistence surveys and studies. Most recently, the introduction of GPS-enabled smartphones and tablets opened the door to utilizing these increasingly powerful multifunction devices to improve the accuracy, quality and efficiency of the field surveys.

When Surveying Goes Off the Grid and Off the Map

There are numerous challenges to conducting subsistence surveys, and mobile technology has helped overcome many

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Picture of the Issue

This is a 3-1/2" diameter Ford Model "T" Axle. It was found 40 feet west of the Northeast corner of Section 13, T.1S., R.7E. It's origin, as of yet, is unknown. Axles were set extensively by Chas. H. Widdows. I was expecting to find a 2" Iron Pipe at this location. This Axle and a 1/2" Rebar witness corner set west of the Axle may be pivotal in determining the provenance of the monument at the Northeast corner of Section 13. This Axle is making me question County Survey No. 3842 completed May 17, 1909. County Survey No. 3842 is a 3 mile County Survey that shows the Section Corner five feet east of the current location. It was the diligent researching efforts by Warren D. Smith, Acting County Surveyor, which found the 1924 field notes that lead me to search at this location.

Submitted by: Mike Quartaroli, L.S.

If you have a historic or interesting photo you would like to see in a future edition of The Prism, please submit to: **editor@californiacentralvalleysurveyors.org**

Technology

Capturing More with Shallow-Water Multibeam

By Bill Hone

As we begin to return to normalcy after the deepest recession of most of our lifetimes, many ports, coastal authorities, and in-land waterways are starting to look at infrastructure pro-jects that have been kept on hold, and they are beginning the process of investing in future-proofing their assets. The starting point for many of these will be to determine the depth of the water within their jurisdiction and ensuring that it remains navigable.

Traditionally, this type of activity was undertaken using a basic single-beam echo sounder running parallel survey lines to produce a lattice of depth measurements, or spot depths. Following the advent of multibeam echo sounder technology, many organizations have adopted this new technique, but it has its limitations. The disadvantage of using a conventional multi-beam echo sounder, which is designed for ocean surveys, is that in shallow waters the angle of coverage is very narrow. The result is that traditional multibeam surveying in shallow waterways or ports takes a very long time as many lines are required to ensure 100% bottom coverage.

However, the introduction of a newer multibeam technology - interferometric sonar - has revolutionized the thinking in this field, and a complete port or inlet can now be surveyed quickly from a small vessel.

INTERFEROMETRIC SONARS

Interferometric sonars, sometimes referred to as phase-measuring multibeam systems, use a completely different transducer layout to those of their deep-water namesakes. Instead of creating many beams in both transmit and receive mode, these systems transmit just one beam, identical to that transmitted by side-scan sonars. This beam is very wide in the vertical direction and covers a span from immediately underneath the vessel (nadir) all the way around to the water surface on both sides of the vessel. The effective coverage angle can be up to 240 degrees in total, although it is inherently limited by the boundary of the water surface.

In the fore and aft direction this beam is very narrow, typically less that one degree, but the system can transmit and sample return echoes very quickly, creating swathes of depth points at up to 30 times a second.

The art of the system lies in its receive array where a bank of horizontally adjacent transducers measure very subtle differences in the phase of the return signal from each given point on the seabed. This phase difference gives a direction, and the two-way travel time of the sound wave gives a distance. Combining these gives the ex-act location of each point.

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Capturing More with Shallow-Water Multibeam, cont. from page 8

Because the system can sample data at a phenomenally fast rate, the number of sample points for each swath typically numbers in the thousands, thus enabling very accurate depth readings to be calculated for each of these points.

As an additional benefit, this fast sample rate, when converted to a distance using the prevailing speed of sound, maintains the system's high across-track resolution even at the extremes of the swath, so there is no blur-ring effect at wide ranges that are apparent with older "beam-forming" systems.

PERIPHERAL MEASUREMENTS

Of course, in order to map the seabed as accurately as this, it is necessary to deter-mine the vessel's location, orientation (heading, pitch, roll), and heave. In addition, the speed of sound profile from the transducer down to the bottom surface needs to be measured and monitored, as different temperature lay-ers within the body of water can cause the sound waves to be reflected and refracted. To do this, a range of additional sensors are deployed and connected to the sonar.

It is essential that all these peripheral measurements relate to the transducer face. To ensure this, an underwater motion sensor can be attached to the transducer mount alongside a sound velocity sensor, and these are typically all deployed on the end of a sturdy pole over the side of the survey vessel. To determine the vessel position and heading, a dual antenna GNSS receiver can be mounted on the top of this pole. Mounting the sensors in this way can reduce the risk of mistakes due to in-correctly measuring offsets be-tween the sensors.

DEPLOYMENT VESSELS

Because the technology employed and the method used to transmit and receive does not need any additional electronics within the transducer assembly, the transducers themselves are lightweight and portable and ideal for use on small harbor launches. These systems have even been deployed successful-ly from rigid-inflatable boats as well as AlNs and ROVs.

For extremely shallow environments where it might even be difficult to maneuver a small boat, it is possible to use a remote-controlled vessel with the system and all its sensors pre-installed. The data can be stored on board and transmitted over a radio link to monitor the survey progress.

In very shallow waters, these systems provide their best performance. In terms of multiples of water depth, the coverage in-creases as the depth decreases, so it is possible when working in depths of less than 5 meters to obtain a swath width of 50 meters, or 10 times the depth.

In the example shown above, the line spacing was 40 meters but the water depth only 2 meters, so for the majority of the survey area 20 times water depth was the achieved.

GEOREFERENCING

As mentioned above, these systems utilize a sidescan-like transmit beam pattern, so it is possible to see true sidescan data in real time, and because they employ accurate peripheral sensors and positioning equipment the sidescan images are geo-referenced. This is another beneficial side effect of these remarkable systems.

Sonar systems for hydro-graphic surveying have come a long way in a very short space of time, and new concepts, faster processors, and modern materials are driving this technology forward at an ever increasing pace. Interferometic sonars are an example of this trend and provide a new tool for the hydrographic surveyor to use in shallow-to medium-water applications.

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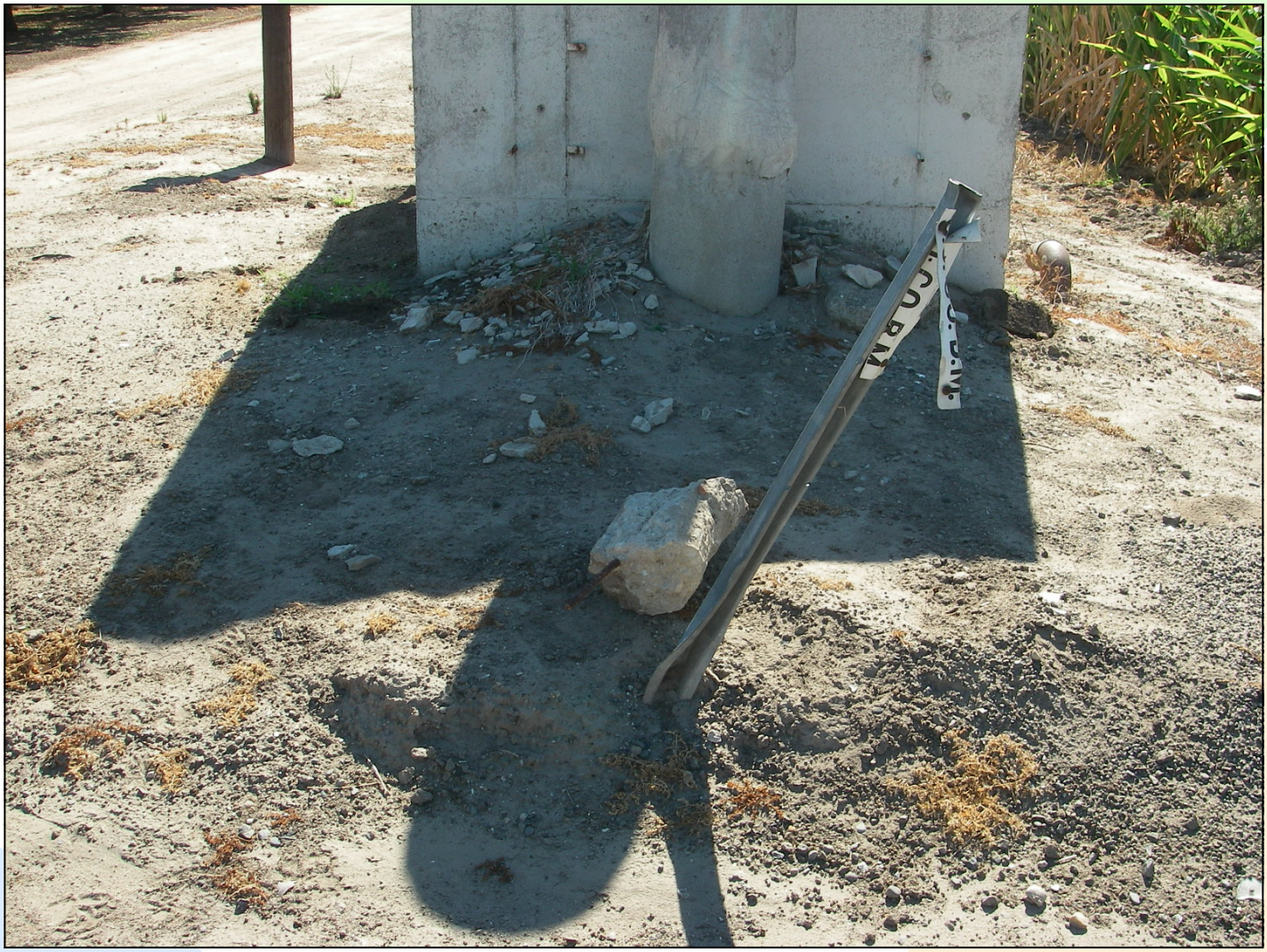
Monument Obituaries

By Mike Quartaroli, L.S.



The skeletal remains of San Joaquin County Benchmark NO – 32.5 along Prescott Road were found by a passing land surveyor. Interviewed by authorities, Michael L. Quartaroli L.S. 4450, was on his way to a boundary survey on French Camp Road when he discovered the remains. There are no surviving Benchmarks on Prescott Road. Preliminary analysis indicates that Benchmark NO – 32.5 died by blunt force trauma most likely from a road grader during the Prescott Road reconstruction. This occurred even though Benchmark NO – 32.5 was clearly identified and guarded by a steel post and sign. The steel post seen in the photograph was partially raised in efforts to investigate the crime. Any information leading to the apprehension of the hit and run driver should be given to the CLSA Central Valley Chapter Monument Conservation Chairman.

Donation of your time to the CLSA Central Valley Chapter Monument Conservation Committee is requested.

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of these difficulties while improving the quality and efficiency of field data collection. While different anthropological survey studies have specific research objectives, a common goal is capturing qualitative and quantitative spatial data that can help a better understanding and analysis of potential future impacts. With a mobile survey app, SRB&A hoped to facilitate more efficient data collection and improve the quality of resource use data in numerous areas of Alaska, thus establishing the all-important baseline of data for impact analyses.

Some of the most important subsistence surveys occur in remote regions, where network and cell connections are unreliable or quite often unavailable. Research teams need to be able to collect data in areas while offline and continue collecting data without relying on connectivity. SRB&A teams needed to be able to view US Geological Survey quad maps and imagery while surveying and conducting field research without being dependent on the network. Field research teams needed a mobile surveying solution that worked as well offline as online.

Whether studying the impact of industrial development on a fishing community or researching hunting areas for Dall sheep in the heart of the Brooks Range, field teams need the flexibility to meet diverse study and survey objectives. Needing to combine geographic mapping, data collection, and research interviews, SRB&A looked to deploy on-demand field data collection apps that were flexible enough to accommodate these disparate workflows and meet the needs of their anthropologists. One critical need SRB&A was looking to fill was the ability to map natural resource areas in any part of the state. Previously, data from areas located outside the boundaries of paper base maps were not easily recorded. They also needed a program that was not intimidating or difficult to use for field staff that were unfamiliar with GIS applications. Many mapping programs were expensive and difficult to use given their complexity and requirement for technical training.

While the field work was essential to subsistence surveys, the post-field research and analysis was equally important. In the past, a great deal of time and expense were associated with redundant manual entry and exporting data to various systems. The lack of an all-in-one solution that could provide offline maps, GPS capture, and custom data forms meant that data needed to be entered and quality controlled across different systems.

The geographic survey information was vital to the successful subsistence survey, but the anthropological perspective meant going beyond the map. Conducting interviews, gathering scientific data and researching available literature on a community were intrinsic to the method. The ability to combine spatial data with structured and unstructured data elements was at the core of subsistence research.

With all the challenges to deploying mobile technology, SRB&A considered building a custom app. But given the speed at which mobile technology changes, SRB&A did not want to build and maintain their own proprietary software. The ideal solution would allow them to customize an existing, commercially-maintained platform with offline maps and forms tailored to meet the needs of different projects and clients.

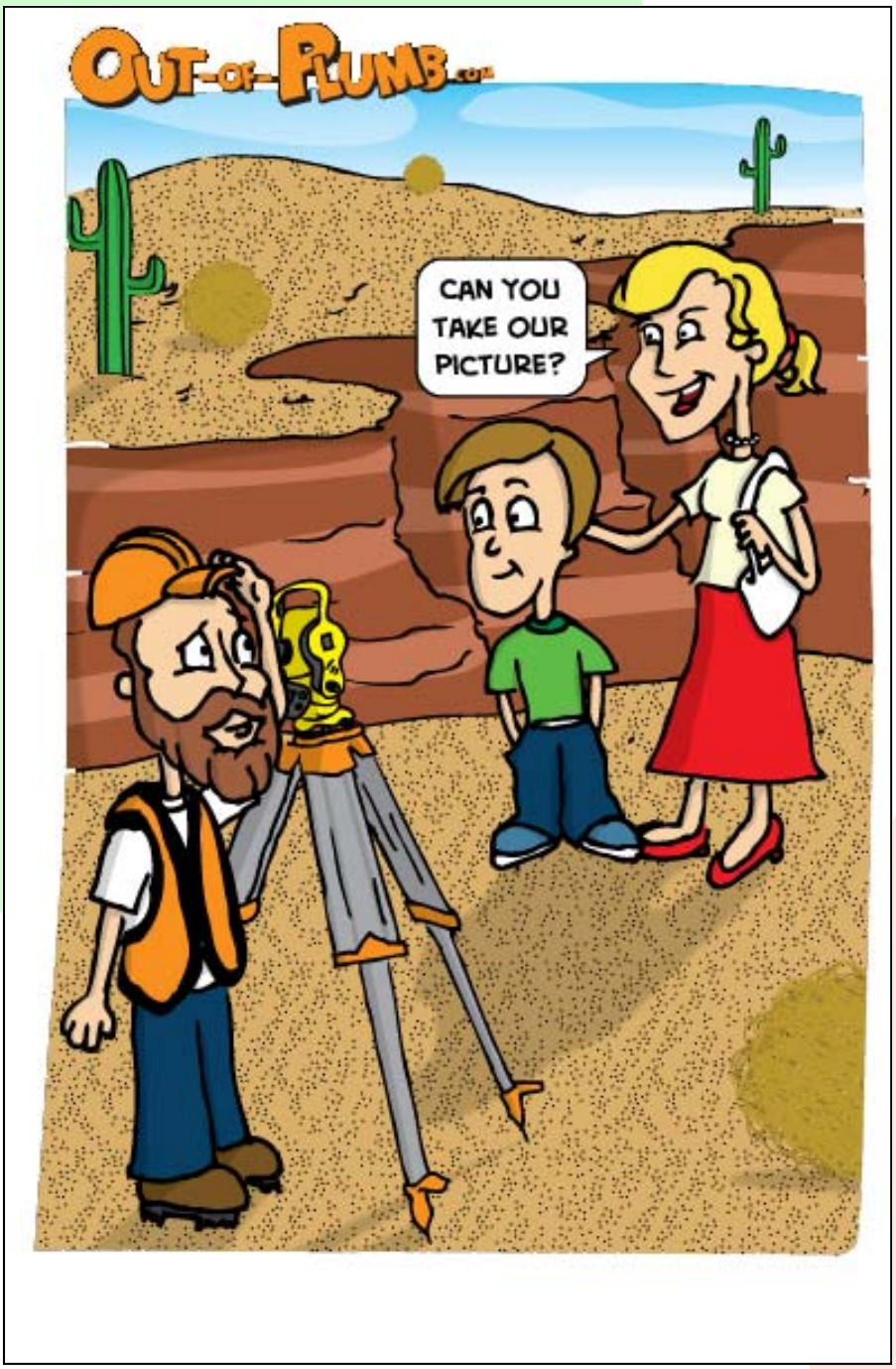
Subsistence Surveys: There's An App for That

SRB&A looked at several different surveying app solutions, eventually deploying TerraGo Edge on iPads. The surveying app gave them high-precision GPS support, offline mapping, custom forms and an open database. With the introduction of mobile technology, SRB&A field teams finally had an all-in-one solution at their fingertips. They were able to quickly and easily deploy custom apps to user iPads, replacing a number of paper maps and forms. The benefits of mobile technology were numerous.

According to Paul Lawrence, Research Associate at SRB&A, "TerraGo Edge helped to drastically simplify our data collection process. In the past we were forced to use multiple approaches and manually combine the data later. Because this software has both custom forms and maps, our field users could collect data all in one place. This saves us both time and money out in the field and back at the office, where we have to clean up the data. We also found it's one of the best apps available for handling offline maps. In Alaska, we are often disconnected and this was of utmost importance to us."

Click for Complete Article

Just For Laughs



Originally posted on October 6, 2009 Out-of-plumb.com

Again, thank you to Chase Perryman for allowing us to share his great work.

The Solution to July's Logic Puzzle:

Archie
Survey Solutions
Orange Ribbon
3/4" Pipe

Bob
City
Green Ribbon
1/2" Rebar

Charlie
Rocket Land Surveying
Pink Ribbon
1" Rebar

Doug
Blue Moon Surveying
Blue Ribbon
3/4" Square Bar

Ed
Zodiac Engineering

Classifieds

WELTY ENGINEERING, INC HAS OPENING FOR LAND SURVEYOR

Welty Engineering, Inc. is seeking a seasoned Land Surveyor who is proficient in all aspects of field surveying and able to assist in survey project management responsibilities. The successful candidate will be asked to perform the following duties:

Field:

Proficiency with Robotic Total Station (Trimble S6) and GPS Systems (Trimble), Topographic and ALTA surveys Constructions staking, Boundary and Mapping surveys, Field Personnel Training, Equipment Maintenance and Calibration, Ordering Survey Supplies, Travel (Central Valley, Bay Area), Maintain/Stock Survey Truck(s)

Office:

Construction Staking Bidding, Setup calculations in CAD for staking and mapping, Project Management assistance, Client relations, Processing field work for handover to Technicians and Project Staff, Work with Project Staff in a Professional Manner

Job Compensation:

Based on Experience

Benefit Package:

Paid Vacation, Paid Holidays, Paid Sick Leave, Health Care, Vision, Dental Plan, 401k

Job Requirements:

5+ years of field surveying experience. Possession of current California driver's license. L.S.I.T. or P.L.S. not required but is Definitely a plus.

For more information or to Apply CLICK HERE

Have equipment to sell? Looking for a great deal? Check out the CLSA Forums!

CALIFORNIA LAND SURVEYORS ASSOCIATION CENTRAL VALLEY CHAPTER

c/o: Rich Brown
2809 Carmella Way
Modesto, CA 95355

SUSTAINING MEMBERS

Keith W. Spencer, L.S. 6406, CFedS 1454

CORPORATE MEMBERS

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