



THE Central Valley Chapter PRISM

Volume 4, Issue 1

January 2014

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Vice President: Landon Blake
Secretary: Rich Brown
Treasurer: Tom Price
Chapter Rep: Keith Spencer
Chapter Rep: Bill Koch
Alt. Chapter Rep: Landon Blake
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2014 Chapter Programs

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Up
Coming
Meetings!

Date: January 22, 2014

Time: 6:30 p.m.

Location: Perko's @ 901 North Carpenter Road, Modesto

Speaker: Ed Perez - Department of Water Resources

Topic: FEMA and Elevation Certificates

Date: February 26, 2014

Time: 6:30 p.m.

Location: Perko's @ 901 North Carpenter Road, Modesto

Speaker: Pat Tami, PLS - BPELSG

Topic: NCEES New Exam Formats, Procedures and Schedules

Announcements

Incoming 2014 Central Valley Chapter Officers

- President - Kevin Genasci
- Vice President - Landon Blake
- Secretary - Rich Brown
- Treasurer - Tom Price
- Chapter Rep. - Keith Spencer
- Chapter Rep. - Bill Koch
- Alt. Chapter Rep. - Landon Blake
- Alt. Chapter Rep. - Kevin Genasci

New EIT and LSIT Procedures

Beginning January 1, 2014, the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams will be administered via computer at approved Pearson VUE testing centers. [Click for location of a center near you](#)

2014 Membership is Approaching

You should be receiving your 2014 membership bill from State CLSA shortly. When you send in your dues, please don't forget to send in your Central Valley Chapter dues. You can also pay [online through the chapter website](#).

Chapter Waives 2014 Dues for Unemployed Members

At the October, 2012 meeting the Central Valley Chapter voted to waive chapter dues for any members (or new members) who have become victims of the current economic downturn and are unemployed. Please fill out the Membership Application, enter "Unemployed" on Line 7 for the Name of Firm, Agency or College, submit your application, and your 2014 chapter dues are waived.

[Click here for the 2014 Membership Application](#)

Central Valley Chapter of CLSA Presents:

2014 L.S. Review DVD Class

January 7, 2014, through March 25, 2014

Tuesdays 6:00pm to 8:30pm & 2 Saturday Sessions (TBA)

1010 10th Street, B300 (Basement Training Room)

Modesto, CA

Mark Your Calendars

Classes, Training, and Continuing Education

CAD Masters - AutoCAD Level I (3-Day Course)

January 27-29, 2014, Walnut Creek

February 3-5, 2014, Sacramento

February 24-26, 2014, Fremont

March 3-5, 2014, Sacramento

March 10-12, 2014, Walnut Creek [Register here](#)

CAD Masters - AutoCAD Level II (2-Day Course)

January 21-22, 2014, Sacramento

March 6-7, 2014, Sacramento

March 13-14, 2014, Walnut Creek

March 13-14, 2014, Fremont [Register here](#)

CAD Masters - AutoCAD Level III

March 12, 2014, Walnut Creek [Register here](#)

CAD Masters - AutoCAD Civil 3D Intro (3-Day Course)

January 27-29, 2014, Sacramento

February 4-6, 2014, Walnut Creek

February 19-21, 2014, Fremont

February 24-26, 2014, Sacramento

March 24-26, 2014, Sacramento [Register here](#)

Central Valley CLSA - L.S./L.S.I.T. Review Course

Tuesday Evenings plus two Saturdays

Jan 7 - Mar 25, 2014, Modesto, CA [Register here](#)

East Bay CLSA - L.S./L.S.I.T. Review Course

Saturdays 9am to 12pm

Jan 11 - April 5, 2014

Contact [John May](#) or [Tom Finnagan](#) for details

Cal State Fresno - Geomatics Engineering Conference

January 24-25, 2014, Clovis [Register here](#)

Land Use Navigators - Subdivision Map Act

January 17, 2014, Davis

March 7, 2014, Dublin

March 21, 2014, Sunnyvale

April 11, 2014, Monterey [Register here](#)

CLSA-NALS Conference 2014

April 12-16, 2014, San Diego, CA [Register here](#)

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

2013 Test Results

The following are newly licensed Land Surveyors and Land Surveyor-in-Training as a result of the 2013 tests.

L.S. 9097 - Shane Barber

L.S. 9099 - Nicole Manrique

L.S.I.T. 8409 Terry Holmes

L.S.I.T. 8443 John Lanfranki

The Central Valley Chapter of CLSA would like to congratulate them on their accomplishment.

If you would like to comment on this topic or suggest another, please submit it to:

editor@californiacentralvalleysurveyors.org

National News

Florida Surveyor Rewriting Job Description

by Larry Trojak

There is a growing concern among many today that the days of the survey function, as it applies to construction work, are numbered. Much of the work that was once the sole domain of the surveyor--hard staking, documenting as-builts, determining or verifying elevations, etc.--has either been eliminated altogether or can now be done by trained construction personnel using GPS or heavy machinery with GPS-based machine control. Those tasks are indeed being co-opted; however, forward-thinkers like Dustin Martin of AngleRight Surveying are proving that the survey function need not disappear from the jobsite as much as it needs to be redefined. Working in concert with key site personnel on a number of Florida projects, the company is helping rewrite the future of their business, providing different--but highly-valued-- services for their clients.

Change of Plans

The surveying bug bit Dustin Martin right out of college, abruptly changing both his career path and his life. Upon graduation, the native Ohioan found himself and a friend in Charleston, SC seeing what life had to offer when he took a job as a rod man on a survey crew.

"I had never surveyed before, but found that I really liked it a lot," he said. "So much so, that, after a while, I went back to Ohio State and to earn a Bachelor's degree in Geomatics Engineering with a focus on Cadastral Survey. While there, I worked for a company that did a lot of construction surveying--mainly site work for tall commercial building construction. Doing that, really gave me a feel for control surveying and how everything fits together."

Continued on page 9



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CAD Tips & Tweaks



Functional Programming Principles

By Landon Blake, PLS

Introduction

In the last installment of CAD Tips and Tweaks we did a little bit of planning for the SurveyLISP Route Manager. In this installment we will:

1. Look at two principles of good functional program design. (Remember that AutoLISP is a functional programming language.)
2. Think about the very first data structure for our program, a list that holds information about a station/offset pair along an alignment.

Two Principles of Good Functional Program Design

Functional programming is based on two basic elements of software. The first is a function, which accepts some type of input, performs an operation using that input, and often returns some type of output. The second is data structures used to organize the program data. These data structures are often passed to functions as input or returned from functions as output. The first principle of good functional program design is to separate your program into its important functions and data structures.

The second principle of good functional programming design is to make your data structures “immutable”. This means that once created, the state of the data structure can’t be changed. By reducing the number of places in your program that data can be modified, you reduce the number of opportunities for bugs and data corruption. This immutability is actually enforced by AutoLISP. Once created, a list can’t be modified directly. It can only be copied and modified.

The Station Offset/Pair

Let’s think about a basic data structure in our SurveyLISP Route Manager and the functions related to it. We know we want our route manager to store data about station/offset locations related to a particular route alignment. Here is a first attempt at the data we want to associate with each station/offset location:

1. The station value. This will be a number with a decimal point, which is a Real in AutoLISP.
2. The offset value. This will be a number with a decimal point, which is a Real in AutoLISP.
3. The offset direction. This indicates if the offset is right or left of the alignment. We can use an integer value of 0 or 1 to represent the offset direction.
4. A list of attributes that we want to associate with the station/offset pair. An attribute is a name/value pair. (For example: “Feature Code” = “Edge of Pavement”)

What are some functions that we will need in our program to work with this data structure? They might include the following:

1. A function to create a station/value pair.
2. A set of functions to manage a list of station/value pairs related to an alignment.
3. A set of functions to read station/value pairs from text files and to write station/value pairs to text files.

Sneak Peek

In our next installment of CAD Tips and Tweaks we will start writing some of the code to define the station/offset pair data structure and the functions we described above.

Technology and News

Technical Details:

Sign (Click) Here: Using Digital Signatures on Professional Documents

By Jim Crume, PLS, MS, CFedS

There is a strong push under way to move from a paper environment to a digital environment. I have been intrigued with technological improvements over the years and have embraced working in the digital cloud environment. I jump at the chance to stay on the cutting edge when new tools become available that make my job faster and better. I am usually the first one to upgrade my windows operating system to the latest release.

The method that we use to sign and seal our professional documents has not changed as much as other technologies. The same method has been in place ever since the organization of state boards of technical registration for each of the states. At that time, a signatory method was instituted using a circular rubber stamp of a defined diameter with the registrant's discipline such as Professional Engineer, Professional Land Survey, Registered Land Surveyor, and the registrant's name and registration number. A handwritten signature and date would then be added, completing the signed and sealed process. This method is the recognized seal of approval and authorization that is still in use today (**Figure 1**).

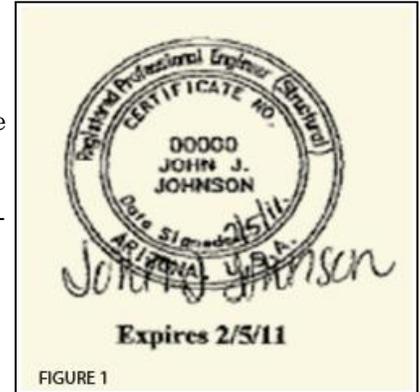


FIGURE 1

It took many years before the state registration boards authorized a computer-generated seal that could be added to drawings, even with the advancements in CAD. The wheels of progress really move slowly for some things. I am sure that all of us have experienced the use of the rubber stamp taking a long time to dry when sealing final Mylar drawings. You have to be real careful to let the seal dry before signing and placing anything on top of the drawing. I can't remember how many times I have had to erase and re-stamp a drawing because someone laid something on a signed Mylar and smeared the seal and signature.

Due to my strong interest in finding better methods to do my job, I knew there had to be a process to get my handwritten signature into CAD so that it would plot cleanly and would dry at the same time as the rest of the plotted inked drawing. It really wasn't that difficult to come up with a method to add a facsimile of my handwritten signature to my CAD drawing files. The only problem with this method is, at that time, the state registration board would not allow a facsimile of the signature. They stated that it had to be a "wet seal," which is a frequently misused term because you had to wait for the seal to dry before you could handle the drawing, therefore making it really not a wet seal in the literal sense. This "wet seal" philosophy trickled down to other governing agencies and has been a long-standing requirement. It is hard to imagine that even today there are some agencies that still require a "wet seal."

Needless to say, I was super excited when the [Arizona State Board of Technical Registration](#) (ASBTR) adopted a "Substantive Policy" on June 17, 2002 regarding the "Use of Electronic Seals and Signatures" on professional documents. The legal groundwork had been written into the Arizona Revised Statutes (A.R.S.), years earlier, allowing the use of digital signatures for all executed documents that require an authorized signature.

Starting in the fall of 2002, the AZBTR began holding seminars related to the use of digital signatures. I attended the very first seminar. I was anxious to get started using this new technology. During the seminar, there were many that had security concerns. The fear was that someone would be able to duplicate their signature and record unauthorized surveys. I pointed out that with today's technology that even our handwritten signature can be forged quite easily. It did not calm their fears.



Bill Calmes
President

Executive Airport
5999 Freepoint Blvd.
Sacramento, CA 95822
www.casmap.com

916.421.3465
866.421.3465
fax 916.421.3469
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Mark Your Calendar!

Surveying Paradise

APRIL 12-16, 2014

CLSA/NALS Conference

Town and Country
Resort and Conference Center
San Diego, CA



CONTINUING EDUCATION SCHOLARSHIP AUCTION EXHIBITS



Registration info at www.californiasurveyors.org or www.nvlandsurveyors.org
T.: 707.578.6016 F.: 707.578.4406 E.: conference@californiasurveyors.org

It's In There

Amendments to 2014 Professional Acts

Amended (or Added) Sections of the 2014 Land Surveyors Act: None

Amended (or Added) Sections of the 2014 Professional Engineers Act: None

Amended (or Added) Sections of the 2014 Geologist and Geophysicist Act: §7839.2

Amended (or Added) Sections of the 2014 Subdivision Map Act: §§66428, 66442.5, 66449

Amended (or Added) Sections of the 2014 Board Rules: §§411, 412, 419, 420.1, 442, 475, 476

Amended (or Added) Sections of the 2014 Civil Code: §§3003, 3005, 3008, 3009, 3021.1, 3035, 3060, 3061, 3064, 3065

Amended (or Added) Sections of the 2014 Street and Highway Code: §36622

State Legislation: **SB152 (Roth)** - Geologists and geophysicists must now use a written contract when providing services to consumers

SB184 - Requiring date of signature for City Engineer or County Surveyor on Maps

SB822 - Geologists and geophysicists now have the ability to retire their license

SB543 (Steinberg) - Fingerprinting required for all licensing applicants

Printed copies of 2014 Professional Acts Booklets available to purchase through [CLSA Website](#)

If there is a section in the Professional Land Surveyors Act or Subdivision Map Act that you would like to have discussed or you have a comment on, please send your request to:

editor@californiacentralvalleysurveyors.org

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PUZZLE PAGE

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 A R E O P R O C R D U R S H C O A
 P F U N A C P U O A N O C E Y R N
 M U S T T H E P R I S M H E L N I
 O E A O U L H O V O T S O A A E P
 C K N U Y S R N E O Z R N C C S H
 L D D R Z S P A G P U R S C R E I
 E E I R S A B U N S B R T S E P L
 R C E N T R A L V A L L E Y H A L
 S N G V A B H I L N U S D I I T Y
 S E O A C T D O I W A H T T A L R
 A R R C A F O M A N O R I A Y E O
 P E S L F R P T N E Z R R M G E D
 M F L I E W I B G E C T I O N T E
 O N L Y S C R N A E A Z E E I S P
 C O N C R E T E M C E B B G A M P
 C C N T R A L G A L A T Y O E H T

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 MAG NAIL
 PHILLY ROD
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 STEEL TAPE
 SURVEYOR
 THE PRISM
 TRIPOD

ANSWERS TO LAST EDITIONS PUZZLE

Sudoku: The objective is to fill a 9×9 grid with digits so that each column, each row, and each of the nine 3×3 sub-grids that compose the grid (also called "boxes", "blocks", "regions", or "sub-squares") contains all of the digits from 1 to 9

5	7	7	6	4	9	1	8	2
2	9	4	1	8	7	6	3	5
1	8	6	5	2	3	4	9	7
5	7	1	9	3	2	8	4	6
6	4	3	8	7	1	5	2	9
8	2	9	4	5	6	3	7	1
9	3	5	7	6	8	2	1	4
4	1	2	3	9	5	7	6	8
7	6	8	2	1	4	9	5	3

Gary Ochsner
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Florida Surveyor Rewriting Job Description, *cont. from [page 3](#)*

At a school-sponsored job fair, Martin says he was recruited by a Florida engineering/survey company and invited to move to Fort Myers to run their private survey operation. "I relocated to Florida, and did that for about five years," he said. "Then, in 2010, we parted ways--I started AngleRight and haven't looked back since."

Impressive Beginnings

Armed with a lot of self-confidence and some solid contacts he had established with that survey firm, Martin began doing survey work for area construction firms, landing some very big projects in the process.

"I was fortunate to get acquainted with the team from Lengemann, our Topcon dealer, and some of the bigger players in the area—companies like Ajax Paving Industries and LeeMar Construction," he said. "That allowed me to hit the ground running and get a decent workload early on. In fact, I was so busy that, not long after starting, I took on a colleague, Jacob Amann who handles most of the 3D modeling work we do for clients. He was referred to me by Lengemann's Roger Croft and it's been a great fit for both of us."



Martin said he and Amman have handled some impressive projects since startup, including the expansion of a six mile stretch of I-75 in Lee County, Florida. Together, the team manages seven or eight projects around the state, working as far north as Bradenton and as far east as Clewiston.

[Click for Complete Article](#)

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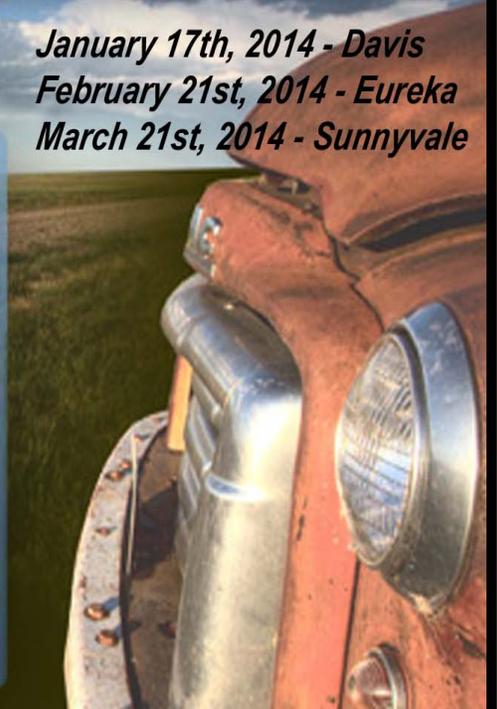
THE SUBDIVISION MAP ACT

A One-Day Seminar

January 17th, 2014 - Davis
February 21st, 2014 - Eureka
March 21st, 2014 - Sunnyvale

This seminar provides guidelines for effective use of the Subdivision Map Act.

- New Legislative and Judicial developments in 2012
- When the Map Act applies (and when not)
- What kind of Map (tentative/final or parcel map) to use
- Exemptions and Exceptions under the Map Act
- Life of Tentative Map
- Conditions of Approval/Exactions/Dedications/Fees
- Creative mapping approaches
- And more...



Pictures of the Issue



Greenwich Meridian Line

Location: Greenwich, London, England

Longitude: 00° 00' 00.00" W

When: November, 2013

Taken by Chad Johnson, L.S. 8833

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



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.

Classifieds

O'Dell Engineering is looking for a Party Chief

Applicant will work under the direction of the survey manager leading a 2 person survey crew and work independently as a single man survey crew using GPS or robotic total stations. This position may be staffed from the Modesto, Fresno, or Pleasanton office.

The successful applicant must demonstrate a strong knowledge of land surveying principles and practice, possess strong organizational skills, as well as verbal and written communication skills. Applicant must be able to work independently and lead a survey crew effectively. Although most of the survey calculations are performed by office personnel the ability to perform field calculations is required. Salary is commensurate with experience.

A minimum of 2 years' experience as a Party Chief is required.

For more information go to www.odellengineering.com/employment.html

DF Engineering is looking for an Administrative Assistant

DF Engineering, Inc. is seeking an individual with diverse administrative and business related skills. Applicants should be proficient using MS Outlook, Word, and Excel. Administrative duties include assisting in accounts receivable, accounts payable, billing, payroll and other administrative duties. The position is full time, 8-5, Monday through Friday. Salary for the position is based on education, knowledge, skills, and experience.

For more information contact Barbara DeLaMare at barbara@dfengineering.com

Have equipment to sell? Looking for a great deal? Check out the [CLSA Forums!](#)

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