



THE Central Valley Chapter PRISM

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Next Meeting!

Date: July 27, 2011

Time: 6:30 p.m.

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

Speaker: Ian Wilson, member ALTA/ACSM Re-write Committee

Topic: 2011 ALTA/ACSM Standards

Editor's Message

Summer heat is upon us!

The calendar has moved into July and the thermostat is in triple digits. Be sure to have yourself and your crews drink plenty of water and stay away from sugary and caffeinated beverages. It is recommended that you drink 8 ounces of water every 15 minutes you are exposed to extreme temperatures. Keep hydrated, keep healthy.

If you have information on an upcoming event, training or class, please submit it to: editor@californiacentralvalleysurveyors.org

Announcements

Stanislaus County is in the process of placing all county Corner Records on GIS. Go to the [County GIS](#) site for viewing.

Just Announced!!!

CLSA-NALS Conference 2012
March 23-28, 2012
Silver Legacy Resort & Casino
Reno, Nevada

The April 2011 State Specific Land Surveying Exam results are expected to be released by July 15th.

The final filing date for the October, 2011 LSIT/EIT Exam is August 12, 2011. Dates for the [2011-2013 Land Surveyors Exams](#) have been posted

Chapter Waives Dues for Unemployed Members

At the December meeting the Central Valley Chapter voted to waive 2011 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 2011 Dues are waived.

[Click here for the 2011 Membership Application](#)

Classes, training, and continuing education

CalTrans — LS/LSIT Video Exam Preparation Course

Online Video Course — [View online videos here](#)

PESI Law & Accounting — Easements & Rights of Way for Surveyors in 2011

July 26th, 2011, 12:00 PM — 1:30 PM, Webinar — [Register here](#)

PESI Law & Accounting — Why Can't Surveyors Agree? Understanding Discrepancies in Boundary Determinations

August 9th, 2011, 12:30 PM — 2:00 PM, Webinar — [Register here](#)

Lorman Education Services — Law of Easements: Legal Issues and Practical Considerations

August 16th, 2011, Holiday Inn Sacramento Northeast (Crowne Plaza), Sacramento — [Register here](#)

PESI Law & Accounting — Principles of Boundary Law for Surveyors in 2011

September 20th, 2011, 12:30 PM — 2:00 PM, Webinar — [Register here](#)

Land Use Navigators — Subdivision Map Act in California

September 22nd, 2011, Pardini's Catering & Banquets, Fresno — [Register here](#)

CLSA Seminar — Research, Recovery, Remonumentation, Recordation & Double Monumentation

September 23rd, 2011, Crown Plaza, Concord — [Register here](#)

PESI Law & Accounting — GPS and GIS: Can they solve our boundary problems and put Surveyors out of business?

October 18th, 2011, 12:30 PM — 2:00 PM, Webinar — [Register here](#)

PESI Law & Accounting — Surveyor Reports for Surveyors in 2011

November 15th, 2011, 12:00 PM — 1:30 PM, Webinar — [Register here](#)

Technology and Info

New Heights for Photogrammetry

By Nancy Luse

Mike Kitaif's childhood fascination with space travel has grown from the days of standing on the beach near his home in Florida and watching nearly every launch to actually working for NASA in a role that has saved the program time and money as well as improving safety. Kitaif, co-owner of Cardinal Systems, LLC, a Flagler Beach, Florida, company that provides software modules for use by engineers, surveyors, and mapping companies, described his association with NASA as "the story of a redneck from Florida who wrote a little software and ended up hanging around with some of the smartest people in the world."

Kitaif and software expert/co-author Tom Blankenship had been designing and developing mapping software the past 20 years. NASA first approached Cardinal Systems in 2004, interested in Kitaif and

Blankenship's mapping software that included a 3D stereo component, ideal for taking detailed photos of the craft's exterior. The Columbia disaster the previous year, in which a piece of foam insulation broke off the external fuel tank during launch causing the shuttle to then break up during re-entry, had NASA looking for a backup inspection system to prevent another tragedy.

"I had always been fascinated by close-range photogrammetry, the ability to take photos of things close up and map from that," Kitaif said. "One thing that they always have on the shuttle are cameras, plus they have cameras on the International Space Station, so that part was already there. What they proposed to do was take pictures of those areas [needing closer inspections] and send them back to Houston, at which time the overlapping photographs could be

set up and measurements could be made of the damaged area. NASA asked me to do a technical test for them, we did, and we got the contract [in 2005], even though we were up against some big players."

Shuttle Basics

As Kitaif explains it, the shuttle is arranged in what is called "the stack." There's the orbiter where the astronauts are seated, the huge orange tank that carries liquid oxygen and liquid hydrogen, and then the two solid rocket boosters. Those rockets come off after 128 seconds while the orange tank stays attached to the shuttle until it goes into low orbit and then it's jettisoned. As the tank falls away, it's traveling at the same speed as the shuttle, or 17,500 mph.

On Cardinal's first job for NASA, Shuttle Training Flight (STS) 114,

Continued on page 5

The 2009 BLM Manual of Surveying Instructions – Why and How

By: Scott Landon Blake, PLS

The availability of the new 2009 BLM Manual of Surveying Instructions was announced on September 24, 2009. This announcement was the culmination of a great effort to revise the previous 19732 edition of the manual. It was an important event for all land surveyors who practice in the United States, especially for those that work in states where the public land survey system (PLSS) was used to divide and distribute land.

Although the 2009 edition of the manual was released almost 2 years ago, I was only recently able to sit down to acquaint myself with some of the changes. I was very surprised at the amount of work that had gone into the new edition and the abundance of information available about it. In preparation for this article I jotted down notes as I reviewed just a portion of this information. I hope to finish this review in the coming months. In the meantime, I wanted to share some of what I have learned with my readers. I must point out that I wasn't personally involved with the creation of a new edition of the manual in any way. Although I have made an effort to convey accurate information in this article, please remember that I don't speak from first-hand knowledge. Everything I will share I learned from information that is readily available to all of my fellow land surveyors and the public. Hopefully the little tidbits I'm able to provide in this article will inspire you to do your own research if you have been procrastinating as I have.

Before I share what I learned about the new edition of the manual, let me give you to web site URLs where you can start your own research on the subject:

http://www.blm.gov/content/wo/en/prog/more/cadastralsurvey/2009_edition.html

<http://www.blmsurveymanual.org/>

The first URL I listed is the official BLM page with information on the new edition of the manual. The second URL I listed is the web page for the organization that was put together to produce and maintain the new edition of the manual.

In this article I will first discuss why a new edition of the manual was needed. I will then review how the new edition of the manual was created.

Why Was A New Edition of the BLM Manual of Surveying Instructions Needed?

Why was a new edition of the manual needed? Although I wasn't able to find a clear and direct answer to this question in the material I reviewed, I was able to put together a list of 4 reasons a new edition was needed. This list was compiled from the information in a collection of articles and papers on the new manual. The list has four (4) important reasons why a new edition of the manual was needed:

A new edition was needed to remove obsolete content in the previous edition of the manual. For example, the new edition of the manual removed the content on stadia measurement, substense bar measurement, triangulation, notation of magnetic declination in the plat and field notes, instructions on celestial observations, and instructions on the adjustment of the solar unit.

A new edition of the manual was needed to make the surveying instructions more technology independent. A quote from the information I reviewed on the manual epitomizes the principle of making the manual more independent of specific measurement technology: "We can plot without pens, measure without steel tapes, acquire azimuth without solar instruments, collect coordinates without GPS, calculate without using tables, or document without paper." Several changes to the manual aim to achieve this goal of greater technology independence.

A new edition of the manual was needed to include important new law and policy since the 1973 edition of the manual was released. This includes new statute law, case law, federal policy, federal policy clarification, case studies, and examples.

A new edition of the manual was needed to include important information missing from the 1973 edition of the manual. For example, content on the following topics were added to the 2009 edition of the manual: A brief history of the PLSS. Additional methods of calculating the longitudinal curve. The use of GPS to establish direction. Including statements on the

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Word Search - Terms of the Profession



ACRE
ADJOINING
BEARING
BLAZE
CHAIN
CLSA
CONCAVE
LIEN
MONUMENT
RANCHO
RANGE
RUFUS PUTNAM
SCALE
SECANT
SECTION
THEODOLITE
TIE

National News and Info

LightSquared Plan Poses Unacceptable Risk to GPS Service

WASHINGTON — Disruption of GPS positioning and navigation signals used for aviation and other applications within U.S. territory will be unavoidable if startup firm LightSquared is permitted to deploy a hybrid satellite-terrestrial broadband network as currently planned, a pair of technical reports released June 9 concluded.

The reports, one by a White House-chartered panel and the other by a technical association

that supports U.S. federal agencies, come in advance of an analysis of the interference issue being conducted by a technical working group led by LightSquared and including government and industry experts. That analysis is due June 15 to the U.S. Federal Communications Commission (FCC), which is weighing whether to levy additional licensing requirements on the struggling company.

After considering what they said

were all possible mitigation options including reducing the power of the planned LightSquared base stations and outfitting GPS receivers with special filters, the authors of both newly released reports found there is no practical way for the high-power LightSquared terrestrial network to coexist with myriad applications that rely on relatively low-power GPS signals in an adjacent part of the electromagnetic spectrum.

[Click for full article](#)

New Heights for Photogrammetry, cont. from page 3

“they lost a 39-inch piece of foam on that orange tank, a huge piece of foam. Had it hit the leading edge again, it may have been a problem. It didn’t hit anything, but it certainly concerned NASA,” Kitaif said.

“This was the first mission where they put a digital camera (a Kodak Nikon DCS 760) in the bottom of the shuttle. As that tank fell away, about 20 usable pictures were taken that they were able to send back to the Johnson Space Center in Houston the day they launched. I got two of those photos and was able to see 3D on that tank and make measurements. We were able to measure the length, width, depth, and the amount of material that was missing,” he said.

“They needed some answers because this could have been another problem.”

As a result, NASA changed some of its procedures, including the way the foam was laid in. “They’ve made improvements to the tanks, they’ve made improvements to the thermal protection system—it’s better than it’s ever been,” Kitaif said, considering that the shuttle program is close to 30 years old and is winding down. A flight took place in April, and at press time the final mission for Atlantis was planned for this summer provided there is funding.

Just as NASA adapted with making changes to what it had been doing, Kitaif said his end of the project also went through some growth.

“Because the photography is not restrained as it is in aerial mapping, they don’t have the control over the photography, and we’ve had to be more innovative, we’ve had to develop the software better And that’s been very good for us, not just for the publicity of working for NASA, but from a technical standpoint” of improving what they do.

“I’ve been in the business 30 years and with NASA since 2005, and I’ve learned 10 times more about my profession in the short time I’ve worked for NASA than I did the whole time I’ve been in the business,” he said. “NASA has several very qualified

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The Subdivision Map Act: A One-Day Seminar in Several California Locations

Allen Matkins
in association with
LAND USE NAVIGATORS

Cost: \$195

Group discounts available

Time

9:00 am - 4:30 pm

Registration opens at
8:30 am

Includes:

Map Act Navigator 2011
a \$49.95 value



WHAT IS COVERED?

This seminar provides guidelines for effective use of the Subdivision Map Act. The instructor will discuss the responsibilities and powers of local agencies under the Act, as well as particular issues regarding when the Act applies.

SEMINAR HIGHLIGHTS:

- Discussion of new Legislative and Judicial developments in 2010
- Relationship of Map Act to other planning, zoning and development laws, and to CEQA
- When the Map Act applies (and when not)
- What kind of Map (tentative/final or parcel map) to use
- Certificates of Compliance, Lot Line Adjustments, Contiguity, Remainder Parcels
- Exemptions and Exceptions under the Map Act
- Life of Tentative Map
- Getting the most out of Vested Rights (including Vesting Maps, Development Agreements and Common Law Vesting)
- Conditions of Approval/Exactions/Dedications/Fees
- Creative mapping approaches
- Appeals/Judicial Actions

WHO SHOULD ATTEND?

This seminar is designed for public and private planners, surveyors, engineers, public works and utilities staff, developers, builders, environmentalists, attorneys, project managers, architects, planning commissioners, city council and board members, property managers, zoning board members, neighborhood groups, and all others involved with the land use process. This course qualifies for 6.0 hours of California MCLE Credit.

Instructor



Michael P. Durkee

How to Register for a seminar: Call us: 415-273-0310 web: LandUseNavigators.com or, register and pay at the door

Red Bluff - January 27

Red Bluff Community/Senior Center

Sacramento - February

Sacramento Tsakopoulos Inn

Petaluma - March 2

Petaluma Community Center

April 28

ing Center

Santa Maria - July 28

Santa Maria Minami Community Center

Rancho Cucamonga - September 15

Rancho Cucamonga Community Center

Fresno - September 22

Pardini's Catering & Banquets

Burbank - October 27

Burbank Moose Lodge

San Diego - November, 17

San Diego Concourse

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The 2009 BLM Manual of Surveying Instructions – Why and How cont. from page 3

use of GPS in field notes. The markings for control monuments.

How Was the New Edition of the BLM Manual of Surveying Instructions Created?

As mentioned in the introduction of this article, I was very impressed by the amount of work that went into creating the new edition of the manual. This was no small task accomplished by a single individual. It is apparent the BLM and the individuals involved in the update realized how important and serious this task was. A review of the process used to create the manual reveals just how careful and thorough they were in their work. I put together an outline of an ten (10) step process used by the BLM to create the new edition of the manual. This outline was assembled from information contained in a video series about the new edition of the manual that you can access from here:

<http://www.blmsurveymanual.org/intro.html>

Here is the outline I was able to sketch out from the video:

A committee was formed to supervise the creation of the new edition.

The existing edition of the manual was reviewed for missing, obsolete, and incorrect content.

Judicial decisions, IBLA decisions, BLM bulletins, and BLM memos issued since the release of the 1973 edition were assembled. (This material filled more than eight (8) three ring binders.)

The 1973 edition was converted to a digital editable text file.

The material collected in step 2 of the process was used to prepare a preliminary draft of the 2009 edition. (A draft edition of the manual prepared by the BLM in 1992/1993 was also used.)

Each chapter of the new edition was reviewed by a “sounding board” of two (2) to four (4) subject matter experts. The sounding board's provided comments and recommendations to the editor of the new edition. Not all subject matter experts were land surveyors. Experts from other professions, such as lawyers, were also included in the sounding boards when appropriate.

Two (2) separate internal reviews of the preliminary 2009 edition were conducted by 12 state BLM offices. Over 1700 comments from the the cadastral surveyor's and their staff at these offices were received as a result of these reviews.

Comments were requested and received from the IBLA staff attorney and the Office of the Solicitor General.

BLM Representatives spoke about the new edition and received comments from land surveyors at 14 state land surveying association conferences.

Conclusion

A final draft integrating review comments was prepared.

There were good reasons for preparing the 2009 edition of the BLM Manual of Surveying Instructions. This included the need to remove obsolete content, to make the manual more technology independent, to update the manual to reflect new law and policies, and the need to include important content missing from the 1973 edition of the manual. The updated edition of the manual is an admirable effort to address these needs.

The BLM put into place and followed a thorough process to prepare the new edition of the manual. They reviewed existing material, made an effort to be inclusive of comments from BLM staff, experts at other federal agencies, and of land surveyors in private practice. They allowed for a number of internal and external reviews of the draft version of the new edition of the

By: Scott Landon Blake, PLS

Classifieds

EQUIPMENT FOR SALE

5 data collectors for sale. Jet Box fully loaded with S.M.I. Software including GPS. an Allegro CE fully loaded with S.M.I. Version 8 with GPS.2 Recon's Pocket PC's one fully loaded with S.M.I. and one fully loaded with Survey Pro with GPS. and a Panasonic CF-P1 with S.M.I. fully loaded with S.M.I. Also have a new G.P.S. Topcon Ga Gb system with GLONAS that I have used approximately 15 times, comes with Ranger Data Collector, also comes with 35 Watt Repeater and a Two Watt Repeater. Ryobi Jack Hammer gas operated with all accessories. Topcon Level, GTS 4 one second total station with all accessories. Electronic Servo Topcon 3802 one second Total Station used approx 10 times. Comes with Prism's. Miscelanous Tripods, Prism's, Road signs,

Contact Jess Stanley at 209-847-9355
stanleysurveying@gmail.com

SEEKING SURVEY CHAINPERSON/OFFICE TECH

Seeking a person with field and office experience to act as chain person for field crew and assist with work in the office drafting for the engineering department. We are located in Brentwood, CA and cover the San Francisco bay area as well as Contra Costa County and San Joaquin County.
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SACRAMENTO SURVEYOR NEEDED...

Cardno WRG is an integrated multidisciplinary consulting firm providing a wide range of services for both the public and private sectors. Since its inception in 1991, Cardno WRG has been offering civil engineering, land use planning, landscape architecture, water resources, land survey, sustainability, construction services and project management services across the US. The company has offices in five states with headquarters in Portland, Oregon.

Our Roseville office has an opportunity for surveyor with strong field and office experience and is capable of self-motivation and working independently, although under responsible charge of a licensed land surveyor.

The ideal candidate will have an LSIT.

Field experience:

- Capable of leading one and two person crew on boundary, topographic and construction surveys
- Working knowledge of Trimble S6 and R8 equipment
- Able to work as a one-person crew under appropriate conditions
- Able to act as Crew Chief under appropriate conditions
- Able to travel and be away from home for up to two weeks at a time and work in remote areas
- Capable of creative problem solving and working on non-traditional field surveys

Office experience:

- Proficiency with AutoCAD 3D, v.2011 experience preferred
- Capable of performing survey calculations, drafting plats and plotting descriptions
- Capable of writing land descriptions and performing survey research
- Capable of formatting and transferring electronic files to and from field data collectors

This is not an entry level position and requires a minimum of five years' experience.

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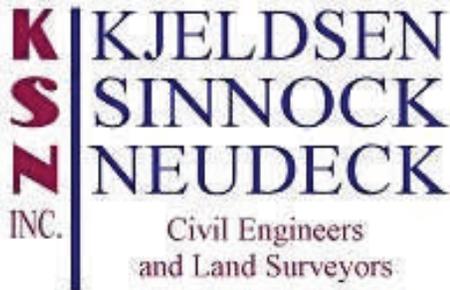
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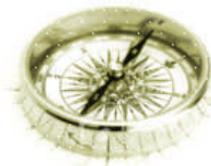


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Picture of the Issue

Four Corners Monument:

Marks the quadripoint in the Southwestern United States, where the states of Arizona, Colorado, New Mexico, and Utah meet.

The unique landmark is managed by the Navajo Nation and is open for visits from the public.

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