



May 2015

SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 46, Issue 2



Prst std
U.S. Postage
PAID
Denver, CO
Permit No. 1222

Becky Roland
Executive Director
PLSC, Inc
PO Box 441069
Aurora, CO 80044



HIXON
Mfg. & Supply Co.
www.hixonmfg.com

SALES - SERVICE - RENTAL

TWO CONVENIENT RETAIL LOCATIONS
SURVEY, CONSTRUCTION, AND ENGINEERING
INSTRUMENTS AND SUPPLIES

LARGEST GNSS RTK REFERENCE
NETWORK IN COLORADO AND WYOMING

LOCAL SUPPORT, TRAINING, AND SERVICE

24/7 WEB STORE - www.hixonmfg.com

NEW
PRODUCTS



Leica Viva GS14 **GNSS Unlimited Series**

Leica Viva GNSS Unlimited is a safe investment for the future. High Precision GNSS users are constantly faced with an ever changing GNSS space segment. Now with Leica Viva GNSS Unlimited the future is clearer, and it's easy to make the right decision. Lean back and observe GNSS modernization.

Utilizes ALL useful GNSS signals -
GPS, Glonass, Galileo, and BeiDou constellations

Established in 1985, Hixon Mfg. & Supply Co. serves professional surveyors and construction companies throughout North America with equipment sales, service and training.



SmartNet
powered by Leica Geosystems

- when it has to be **right**

Leica
Geosystems



FORT COLLINS
1001 SMITHFIELD DR
FORT COLLINS, CO 80524
970.482.0111 800.762.5252

www.hixonmfg.com



DENVER
8775 E ORCHARD RD, #807
GREENWOOD VILLAGE, CO 80111
303.694.0012 800.475.3422



**PROFESSIONAL LAND SURVEYORS
OF COLORADO, INC.**

AFFILIATE—NATIONAL SOCIETY OF
PROFESSIONAL SURVEYORS
MEMBER—COLORADO ENGINEERING COUNCIL
MEMBER—WESTERN FEDERATION OF
PROFESSIONAL SURVEYORS

OFFICERS (2015)

TODD BEERS
President
tbeers@deainc.com
O: 720-225-4646

KAYCE D.W. KEANE
Vice President
kayce@blcsurveyors.com
O: 720-525-8312

TERRY MAW
Secretary/Treasurer
tmaw44@outlook.com
O: 719-640-3889

BECKY ROLAND
Executive Director
PO Box 441069, Aurora, CO 80044 • broland@plsc.net
Phoenix AMC O: (303) 551-3266 F: (720) 230-4846

**2015 PLSC CHAPTER
ORGANIZATION**

CENTRAL COLORADO PROFESSIONAL SURVEYORS

President, David Kuxhausen;

Vice President, Kevin Kucharczyk; Secretary, Mark Wilson;
Treasurer, Aaron Willis

Directors: Anthony Perazzo, Shawn Clarke, Devon Arnold, Brian Socia

NORTHERN CHAPTER - PLSC, INC.

President: Laine Landau

President-elect: vacant; Secretary/Treasurer, Kevin Bowman
Directors: Pete Paulus, Nate Keane, Steve Parks, Ron Perkins
President Emeritus: Kayce Keane

**NORTHWEST 1/4 COLORADO
LAND SURVEYORS**

President: Brian T. Kelly

Vice President, William Whelan; Secretary/Treasurer, Jeff Gustafson;
Gordon Dowling, Immediate Past President and Director
Directors: Thomas H. Effinger, Skidge Moon, Walter Magill,
Lloyd Powers, Peter Epp

**SOUTHERN COLORADO PROFESSIONAL
LAND SURVEYORS**

President: Steven Parker

Vice President: Don Hulsey; Secretary: Mark Johannes;
Treasurer: Dan Hanten

Directors: Jon Tessin, William Brooks, Dennis Craig,
Tom Shaughnessy, Spencer Barron
President Emeritus: Joseph Alessi

SOUTHWESTERN CHAPTER - PLSC, INC.

President: Joshua Casselberry

Vice President, Robert L. Trudeau; Secretary, Parker Newby
Treasurer, Ed Young

WESTERN COLORADO LAND SURVEYORS

President: Richard Bullen

Vice President: Jonathan Kobylarz; Secretary-Treasurer: Brian Bowker
Directors: Tom Sylvester, Mike Drissel, Scott Thompson
Les Doehling, Pat Green, Peter Krick, Rick Mason (Ret.)

SIDE SHOTS

MAY JOURNAL 2015

VOLUME 46

NUMBER 2

■ President's Letter	4
■ From the Editor	5
■ Control Points Number 28 – The Infamous ILC	7
■ What You Missed at the RMSS Annual Conference.....	8
■ What is the Story Behind a Missing 19th Century Astronomical Monument Near Pueblo, Colorado?	11
■ The Sawyer and Garstin Collection.....	14
■ Scenes from the 2015 Rocky Mountain Surveyors Summit and Chapter Summit.....	16
■ Rule of the Month: Son of a Son of a Surveyor.....	19
■ Western Federation of Professional Surveyors Meeting Report	22
■ PLSC Chapter Summit Meeting Minutes	25
■ PLSC Board of Directors Meeting Notes	28
■ BLM Cadastral Letter	30
■ Chapter News	31
■ Sustaining Members	34

*Side Shots is the official publication of the Professional Land Surveyors of Colorado, Inc.
and is published quarterly for the betterment of the surveying profession.*

Todd Beers
President

Kayce D.W. Keane
Vice President

For Editorial Correspondence, contact:

John B. Guyton

Editor: Side Shots

5385 Centennial Trail, Boulder, CO 80303

303-443-7001 • jguyton@flatsurv.com

*This publication is not copyrighted and articles may be reprinted with due credit.
Statements made and opinions expressed are from the contributors and do not necessarily
express the official views of the Professional Land Surveyors of Colorado, Inc.*

**Deadlines for editorials, articles, pictures and advertising are January 1, April 1,
July 1 and October 1. All material received after the current deadline will appear
in the next issue of Side Shots.**

We would like to invite anyone who is interested to advertise in Side Shots.

*Do you have something you want to sell, trade or buy? Why not use Side Shots for your
next ad? We can also reproduce business cards for advertising. Ad space reservation must be arranged
with Becky Roland, PO Box 441069, Aurora, CO 80044; 303-551-3266.
(Deadlines: January 1, April 1, July 1 and October 1).*

Current Advertising Rates:

Business card size or less - Member \$25.00; Non-member \$30.00

One-Half Page - Member \$115.00; Non-member \$150.00

Full Page - Member \$225.00; Non-member \$300.00

Color advertisements — add 33 percent



PROFESSIONAL LAND SURVEYORS OF COLORADO, INC.

PO Box 441069, Aurora, CO 80044

AFFILIATE – NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
MEMBER- WESTERN FEDERATION OF PROFESSIONAL SURVEYORS

OFFICERS (2015-2016)

KAYCE KEANE
VICE PRESIDENT
O: (303) 443-3616
kayce@blcsurveyors.com

ROGER NELSON
PAST PRESIDENT
O: (303) 353-3916
Roger.nelson@merrick.
com

TODD BEERS
president
O: (720) 225-4646
tbeers@deainc.com

BECKY ROLAND
EXECUTIVE DIRECTOR
O: (303) 551-3266
broland@plsc.net

TERRY MAW
SECRETARY-
TREASURER
O: (719) 640-3889
Tmaw44@outlook.com

DIRECTORS (2013-2016)

ALAN BLAIR
O: (303) 808-0981

PATRICK GREEN
O: (970) 244-1821

LEIF JOY
O: (970) 878-5292

TOM SYLVESTER
O: (970) 255-7386

DIRECTORS (2015-2018)

PAUL BACUS
O: (720) 890-0182

ERIC CARSON
O: (303) 980-9104

JAMES RIHANKE
M: (303) 204-5769

STEVE PARKER
M: (719) 641-3355

WFPS DELEGATES (2015-2016)

MIKE BOUCHARD
O: (719) 590-9194

ROGER NELSON
O: (303) 353-3916

NSPS DIRECTOR (2015-2016)

JOHN B. GUYTON
O: (303) 443-7001

Dear Fellow Members of PLSC:

I am both very honored and humbled to be serving as your elected President of the PLSC. This is my first letter as President and I have very large shoes to fill after Roger Nelson, who guided this organization very effectively over his 4 years as the leader of the PLSC. Many thanks to Roger for his dedication to the organization, his professionalism and for serving the land surveyors of Colorado as a group. I hope I am able to provide positive guidance to the organization over the next couple of years and I am looking for input from all of our members, as always. I also extend thanks to members of the PLSC Board, committee chairpersons, WestFed delegates, the NSPS Governor and our executive director, Becky Roland.

We have just completed our 5th annual Rocky Mountain Surveyor's Summit (RMSS) at the Arvada Center. The conference was a joint effort of the PLSC and the Northern, Central, Southern and CSRN chapters of the organization. The conference would not have been a success if not for the large, volunteer-based effort to plan, market and execute the many details. The proceeds from the RMSS provide approximately 2/3rds of the PLSC annual budget, which has been much improved over the past 4 years.

As I mentioned in my opening address at the RMSS, I have three goals to pursue for the organization in the coming year:

- Increase PLSC membership;
- Reach out to all the chapters to be more cognizant and supportive of their respective goals and concerns;
- Pursue a continuing education requirement for Professional Land Surveyors in Colorado. We are one of the few states in the US that has no continuing education requirement and I believe our profession as a whole would benefit greatly from having one.

One of the most important accomplishments of the PLSC over the past year was to become part of the NSPS "all in" program. The PLSC now has a seat at the table with the national organization that provides support of the Land Surveying profession on a nationwide level. Colorado became the 47th state to join this important organization.

I look forward to serving as your President and welcome any input from all members in the coming months.

Todd Beers, PLS
PLSC President



DEDICATED TO THE IMPROVEMENT OF LAND SURVEYING EDUCATION AND PRACTICE.

FROM THE EDITOR



First, congratulations and our collective thanks to the PLSC's newest President, Todd Beers, and Vice President, Kayce D. W. Keane, and the new directors and chapter officers. Your willingness to serve and move the organization forward is very valuable, to our membership and to our profession.

I served once again as moderator of the Chapter Summit meeting on the evening of February 26th as part of the 4th annual Surveyors Summit at the Arvada Center. It was another lively and interesting two hour discussion of many issues. For those of you who could not attend, detailed transcript/minutes appear in the back of this issue. It has been a valuable forum for members to bring forth issues and problems to the people who need to hear them and find solutions.

I had the pleasure of receiving more submissions for this issue than I had room for, and can assure you that there will be some interesting items coming up in the August issue. This issue contains Todd Beer's first of many President's letters on the opposite page. There are also some items that were too lengthy to appear in print, highlighted in "This Month on PLSC.net" that can be accessed via the web version on the PLSC website.

Control Points is now up to number 28. Warren Andrews is presenting his views on the "infamous ILC" and the issues surrounding them, a hot topic among many of our members right now. Todd wrote a very comprehensive review of what you may have missed at this year's Surveyor's Summit conference, including the presenters and courses.

Bill Wilson wrote a follow up article on the missing 19th century astronomical monument that was moved into storage at Fort Carson in the 1980's and subsequently seems to have disappeared. His more complete article on this subject can be found on plsc.net. In addition to Bill's hard work and thorough research, this editor would also like to thank Jennifer Koen with the Pueblo City-County Library District for her assistance in locating

and scanning one of the only known images of the now-missing monument so that our readers can have a good look at it.

Joe Alessi, President Emeritus of the PLSC Southern Chapter, provided an update on the Sawyer and Garstin historic document preservation project at the Miramont Castle Museum, including some new photos. This is a fantastic effort by several volunteers who have been very generous with their time and donations. There is a presentation and dinner scheduled for June 16, 2015, something well worth considering if you will be in or near the Manitou Springs area.

Earl Henderson's Rule of the Month is about the son of a son of a...surveyor. Read it, you will see what that means. Mike Bouchard provided an excellent report on the Western Federation of Professional Surveyors (WFPS) meeting in Boise, Idaho, with interesting news from the other states. The Chapter Summit minutes are included, as previously mentioned, along with the PLSC Board of Directors minutes from February 26th and a budget spreadsheet for 2015 from Becky Roland. There is also the BLM cadastral survey letter from Randy Bloom, and an ad promoting the GIS in the Rockies conference in September.

As we were going to press, I learned from Jason Emery of the effort in the State Legislature about eliminating the requirement of having a County Surveyor. See Laine Landau's Northern Chapter news on p. 31 for details. There will be more on this topic in future issues of *Side Shots*.

I have also included in this issue the very low-tech paper form to start or renew your membership in the PLSC, for those of you who haven't taken care of this on line yet, or on your smartphone. The method doesn't matter, just that you get it done. Your support and your voice are needed. Please help spread the word to any non-members you know about the benefits of taking part in this honorable organization.

JB Guyton, Editor, *Side Shots*

This Month on PLSC.net

William E. Wilson, "The Search for a Missing 19th Century Astronomical Monument, Near Pueblo, Colorado," U.S. Geological Survey (Ret.), Chapel Hill, NC, 2014

Brian Portwood, PLS, "Defining the true title status of Railroad Right-of-Way in the American West – A review of the California position announced November 5, 2014," submitted by the Western Federation of Professional Surveyors.

Spectra Precision SP80 GNSS

*Make your best
deal now, & SAVE!*



SP80



Geospatial Technology Experts



www.frontierprecision.com

FOLLOW OUR BLOGS!

www.fpisurvey.com

www.fpinmapping.com

Frontier Precision, Inc.

5480 West 60th Avenue, Unit A

Arvada, CO 80003

800.652.1522 [Toll Free]

or 720.214.3500 [Local]

The Spectra Precision SP80 is a next generation GNSS receiver that combines decades of GNSS RTK technology with revolutionary new GNSS processing.

- Fast and Easy Connection with Survey Pro
- Exclusive Z-Blade High Performance RTK Technology
- New Generation 240 Channel 6G ASIC Full Constellation Tracking
- Dual Hot Swappable Batteries
- Unique Anti-Theft Technology

*Patented
inside-the-rod
mounted UHF
antenna design!*



Control Points – Number 28

The Infamous ILC

By Warren Andrews, PLS

The Improvement Location Certificate in Colorado had its beginning in 1975 or slightly before, when the Professional Land Surveyors of Colorado was just getting started. (SB-223 in 1975 was the legislation in my president's letter in the Feb. 1976 issue of *Side Shots*) There were three major things that hit the PLSC at about the same time. One was the problem with the State Board of Registration.

Previously the registration had been split into PE and LS when it was conclusively shown that an engineer did not have enough training, background, education and knowledge to do boundary work and set true corners. Of course, there were some exceptions of civil engineers and mining engineers (My Dad as a civil and irrigation engineer had been involved in the late 1940's and early 1950's when the architects tried to take over the engineers as a sub-profession and failed).

The complaints of professional practice brought to the State Board against engineers and surveyors (when the board was composed of engineers) were found to be as I remember, more than 80% against surveyors for bad and incorrect surveys. When I was President of the PLSC we felt it was not right that engineers should be making critical decisions about surveyors such as letting them go for serious mistakes, or suspending a registration, or even permanently revoking a registration and putting a surveyor out of business.

A joint committee was formed between the Professional Engineers of Colorado and the Professional Land Surveyors of Colorado to hammer out some kind of agreement and take it to the legislature. As President of PLSC I thought it was important enough to put myself on the committee as one of the three surveyor members (in spite of the fact that I was also a mining engineer working for the U. S. Bureau of Mines at the time as a mine safety engineer in mine ventilation, but my sympathies were with the surveyors and a change needed to be made.)

Dick Hepworth, a civil engineer with Chen and Associates in soils engineering, was the chair of the three engineers. I wanted to split the board and have the engineers on the board take care of their problems and bring in surveyors to take care of their problems, but Hepworth was adamantly against that. As far as he would go for the engineers was what he called the Surveyors Quorum, with two LS's and one PE+LS to bridge contact with the PE's. Later, public members were added. It has worked somewhat with the quality of the people on the board.

The second major problem came out of Florida and, as I remember, Ohio, and spread across the U.S. The attempt was made to set up a recommended minimum fee schedule for surveyors to at least earn a decent living and maybe run out some of the fly-by-night, el-cheapo surveyors doing the bad surveys. That really blew up nationwide and as President of PLSC, I had to sign a consent decree with the Colorado Attorney

General that we wouldn't do that "in constraint of trade."

And of course, the third major thing was the ILC. It was during the three different times that I worked, in between going to the Colorado School of Mines, for Herbert K. Linn in East Jefferson County in the early 1950's (incidentally, that was before Jefferson City which became

Lakewood six months later, even existed, and on my solo flight from Gunnison I landed on the old airport that went from about 20th and Youngfield northwest to South Table Mountain). I did mortgage surveys for Herb. It was a standing joke that if the house number was right and fit the number of house lots from the block corner on the plat, the windshield survey was good enough. Some of them were pretty bad. (Don't haul me before the board because I wasn't registered at the time, only a poor, dumb surveyor).

I think I was Chairman of the PLSC Legislative Committee at the time (before I was President) and we went round and round what to do about it. We finally compromised, although I wanted a full survey, because there was one surveyor in Colorado Springs that made his entire living doing "mortgage surveys" only, and we couldn't just abolish those "surveys" and put him out of business. The provision of some kind of graphic portrayal, which would be at best a full improvement survey, but would be cheap for a new buyer and not an improvement survey, was demanded by the mortgage lenders and by the title insurance companies to get them off the hook if something went wrong. My personal opinion then, and it still is the same today based on what has happened over the years, is that a Colorado ILC is a fraud on the public, particularly when they can't read.

Maybe if the surveyor doing the ILC only signs it as an individual but does not seal it as a PLS with his or her number, it would be better. Or upgrading it to require at least two intervisible property corner monuments found or reset and used might be necessary. Or for a three tier system based on cost: A signed certificate by a person for the lowest tier and cost; the present ILC as the second tier for accuracy and cost; and a full improvement survey as the third tier and cost. What does the reader think?

Just before publication, it came to my attention the article in the February 3, 2015 POB by James T. Jones of Denver. He is right on the corner as far as trust and money; thanks, Jim. Also, Jim, I hope this answers your question, where in h... did the fool ILC come from. The only long term answer is a full improvement survey on the Republic of South Africa model.



What You Missed At The RMSS Annual Conference!

Todd Beers, PLS, PLSC Education Chair

The 5th Annual Rocky Mountain Surveyor's Summit was held February 26-28, 2015 at the Arvada Center in Arvada, Colorado. The conference was very successful, with over 220 attendees participating in the event. In case you were unable to attend, we wanted to let you know some of the items you missed.

General Items of interest at the conference included the following:

- Over 12 exhibitors from Colorado and nationwide had an opportunity to showcase their services and products. The exhibitors presented a brief introduction regarding their services and several held individual raffles, with some very interesting prizes! Exhibitors included: Assurance Risk Management, CAD-1, Carlson Software, Diversified Underground Inc., Frontier Precision Inc., GeoShack, Hixon Manufacturing, Jacobs Engineering, National Geodetic Survey, National Society of Professional Surveyors, Terramatrix, Underground Consulting Solutions and Vectors Inc.
- Competitive events included distance measurement estimates and pacing estimating contests. Plaques were presented to the winners of each event.
- Sponsors for the conference included: Platinum level: Frontier Precision Inc., Hixon Manufacturing and Underground Consulting Solutions; Gold level: Blue Margin, CAD-1, Diversified Underground, GeoShack, Jacobs Engineering and Woolpert; Bronze level: Mapworks and SAM Inc. The sponsors displayed signs and provided handouts at their respective speaker track rooms. Each sponsor was recognized at announcements and during the morning track introductions. We look forward to continuing these sponsorships at next year's conference.
- An exhibitor social on Thursday evening provided an opportunity for additional networking, socializing, and discussions with exhibitors.
- Members of the PLSC 2015-2016 Board of Directors were announced and introduced to the conference attendees at the Annual PLSC board meeting held on Thursday.
- PLSC awards were presented during the Friday lunch hour.
- Raffles were held each day, with many prizes donated by the exhibitors, chapters and the BLM.
- A questionnaire was distributed to the attendees, and the responses provided good input.
- The annual Chapter Summit was conducted on Thursday evening with 25 people in attendance representing the majority of the chapters of the PLSC. The Chapter Summit is an opportunity for the members of the 6 chapters to provide input into how the state organization is doing, identify items of interest for the organization to pursue and provide direction for the state organization. A very productive meeting was held and provided action items for the PLSC to work on for the next year. Detailed minutes of the meeting are presented in this edition of Side Shots.
- A keynote address was provided by Mr. Jon Warren, PLS, the NSPS President – Elect.
- This year we modified the format of the conference, as there were 3 tracks for attendees to choose from on Thursday and Friday and 2 tracks on Saturday. The tracks included Professional, Business\General



and Technical\GIS presentations. A brief review of the speakers and their respective topics of discussion are provided below:

The professional track included nationally and locally renowned speakers:

- ❑ Two Colorado attorneys and friends of the PLSC, Mr. James Beckwith, Esq. and Mr. Dave Pehr, Esq. provided two sessions on “Rules of the Road - Creating Highways in Colorado” and “Case Studies in Research and Presentation of Road Claims.” Both sessions were well attended and provided a lot of valuable history and background information pertaining to Colorado surveyors.
- ❑ Mr. Earl Henderson, PLS, and Ms. Joyce Young provided a discussion of “Survey Plats from the Colorado Board of Registration Perspective.”
- ❑ Mr. Don Wilson, PLS, a nationally recognized author, provided two days of spirited and enthusiastic presentations on “Easements for the Land Surveyor” and “Easements: Beyond the Basics.”
- ❑ Mr. Chuck Jones, PLS provided a presentation on “There Can Be Only One.”
- ❑ Returning this year were two sessions of the “Survey Symposium” with the topics of “Whatever! Managing the Generational Divide in Today’s Surveying Workplace” by Mr. Bob Wendover, and “A Way to Reduce the Pincushion Effect Regarding Property Corners,” which was facilitated by Alan Blair, PLS who is the PLSC Legislation Committee chairperson. This was a panel event with input provided by the audience. The event was free to interested parties and included panel members from the Colorado Board of Registration, the PLSC Legislative Committee and practitioners. A great discussion occurred and follow up action items were identified. This event will continue in future conferences as one way to provide direction for the PLSC Legislative Committee and the PLSC for the coming years. Don’t miss this opportunity to have your voice heard next year!
- ❑ Mr. Ken Goff, led a discussion on “Introduction to Utilities.”
- ❑ Mr. Jason Emery, PLS provided a discussion of “Riparian Boundaries: Accretion and Avulsion.”

The technical track included a variety of subjects from UAS and LiDAR to GIS:

GIS Topics included:

- ❑ Earl Burkholder, PLS provided two sessions, “Datums, Projections and Coordinate Systems” and “Low Distortion Projections.”
- ❑ Mr. Chuck Hutchins discussed, “Grid to Ground Conversions.”

- ❑ Ms. Alyssa Martin presented, “Surveyors and GIS Geeks - What We Need to Know About Each Other.”

Other technical track topics included:

- ❑ Mr. Bryan Baker spoke on “Recent Developments in Unmanned Aircraft Systems,”
- ❑ Mr. Hiram Zelikovsky on “Revolution of Close Range Photogrammetry,”
- ❑ Mr. Ken Perry presented “Leica MS 50 Use and Applications,” and
- ❑ Ms. Pam Fromhertz, NGS State Geodetic Advisor for Colorado discussed “NGS Tools, Products and Services.”

The Business\General track included subjects from conflict resolution to leadership methods:

- ❑ Mr. Martin Cobb, PLS on “Conflict Coaching Strategies - Helping You Deal With Conflict,” and
- ❑ Mr. Robert Schout presented on “Leading At Any Level.”

The new PLSC Board of Directors was introduced and the committee chairpersons were presented:

Alan Blair - Legislation Committee
Patrick Green - Ethics and Fair Practices Committee
Leif Joy - Elections and Awards Committee
Kayce Keane - Education Committee

WestFed Delegates included Roger Nelson and Mike Bouchard.

The Colorado NSPS Director is JB Guyton.

Many thanks to the Executive Planning Committee for their unwavering support and many hours of volunteered time:

Roger Nelson, Becky Roland, Todd Beers, Kayce Keane, Steve Parker, Laine Landau, Paul Bacus, Chris Raml, Dave Kuxhausen, Mark Johannes, Brian Dennis, Pam Fromhertz and Al Morganfield.

Arrangements are still being planned for the 6th Annual RMSS Conference next year in late February or early March, 2016. We hope to see you there!!

Proudly Supporting PLSC Since 1999



**Building
relationships,
one monument
at a time.**

Berntsen®
Marking the Infrastructure of the World.™
877.686.8561 • www.berntsen.com

Berntsen International, Inc. • PO Box 8670 • Madison, WI 53704-8670 • Toll Free: 877.686.8561 • Fax: 800.249.9794 • Email: surveymark@berntsen.com

COMM.TECH

Increasing your bottom line

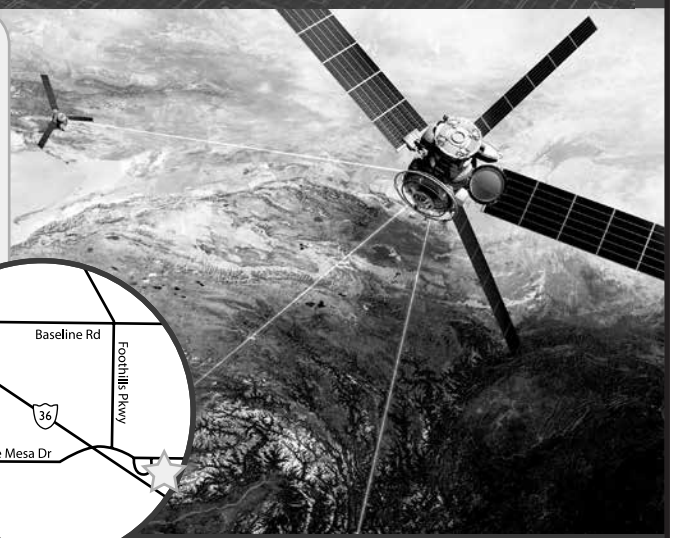
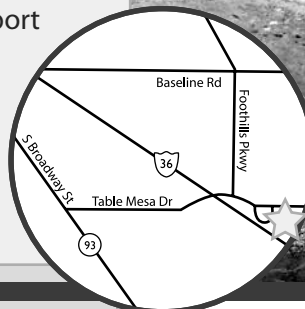
with customized drafting and design software solutions since 1994

products

- AutoCAD LT
- AutoCAD
- Map 3D
- Civil 3D
- Infrastructure Design Suites
- Infrastructure Map Server
- Raster Design
- Design Review
- Subscription

services

- State of the art training facility
- Implementation & customization
- Workflow analysis consulting
- Styles & standards set-up
- License activation support
- License compliance
- Technical support
- Pilot projects
- Transition assistance
- On-site consulting
- Government Specialist



303.530.4976 | www.ctcivil.com

**5398 Manhattan Circle
Boulder, CO 80303**

Autodesk®

Silver Partner
Architecture, Engineering & Construction
Authorized Government Partner

What Is The Story Behind A Missing 19th-Century Astronomical Monument Near Pueblo, Colorado?

By William E. Wilson

In May, 2009, I was living in Georgetown, CO and nearing the completion of a six-year personal project to learn about and tell the story of the six stone survey monuments, or markers, that the Wheeler Survey had installed in Colorado during 1873-74. That month, I visited the office of the Pueblo County Historical Society (PCHS) in hopes of learning more details about the specific site in South Pueblo where Dr. C.L.F. Kampf, Wheeler's astronomer, had set up his instrumentation to determine latitude and longitude. During my conversation with George Williams, a long-time active member of PCHS, he gave me their 1994 guidebook to local historical markers that contains two photographs of an engraved stone monument that looks very similar to the Wheeler monuments that I had been studying. Unfortunately, the two inscriptions that show on the photographs of what I later named the "Goodnight monument" are minimal and insufficient to identify the date and party that installed it. Furthermore, the location of the monument at the time the photographs were taken is a few miles west of Pueblo, and thus it did not correspond to any site description that I had encountered in the Wheeler reports. My immediate response upon returning home to Georgetown was to review the pertinent Wheeler reports to determine if I had overlooked information about this monument. Finding no reference to such a marker, I made no mention of it in my published report (USGS Circular 1362, 2010; also see *Side Shots*, v. 38, no. 3, 2007; v. 42, no. 2, 2011; and *The American Surveyor*, v. 8, no. 4, 2011). Nonetheless, those two photographs of the Goodnight monument triggered a research effort that I pursued intermittently over the next five years.

George Williams told me that little was known about the monument, and I soon learned just how true that was. The write-up in the PCHS report gave me a good start: it describes the location of the site, alongside SR 96 west of Pueblo; states that when the highway was widened, "the Commander of Fort Carson was requested to remove and store the marker;" suggests that the monument may have been placed in 1820 by members



of Stephen Long's military expedition; and notes that the only visible inscriptions on the monument when the photographs were taken in the 1970s were "WAR DEPT" on one face and "LONG" on the opposite face. However, the responses to my initial inquiries to various Ft. Carson personnel indicated that they were unable to find any records of the monument and that the present whereabouts and fate of the marker were unknown. As a result, the objectives of my research on the Goodnight monument became clear, namely, to answer three compound questions: (1) Who initially ordered the monument, what was its purpose, and when and where was it installed; (2) Who removed the monument and where did they take it; and (3) What happened to the monument and if it still exists, where is it today.

My efforts to answer these questions involved library research; extensive correspondence, mostly by email; telephone calls; and field visits. In August, 2011, my wife and I moved to Chapel Hill, NC, and so my further research was basically limited to correspondence. By the time I closed out my active study of the Goodnight monument in 2012, I had been able to fully answer only question No. 2. Today, the monument's origin and current whereabouts are still unknown, though I have eliminated some possible answers to those questions and speculated on others.

This article summarizes my findings; I present the

details of my study in an informal and unpublished report that readers can find at the *Side Shots* website, http://www.plsc.net/side_shots.php, selecting the May, 2015 issue, and going to This Month on PLSC.net for the link. By providing the details in that report, including an extensive list of references and documentation of



correspondence, my hope is that someone will be challenged to take up the cause and continue the search; or that if the monument is found, those involved will appreciate its historical significance and take steps to insure its preservation.

continued on page 14



Total Service Solutions Provider



Wagner Equipment Co. is now your service solution for Trimble surveying equipment.

With the most experienced service department in the region, we have the resources to fulfill our commitment to total customer satisfaction. Wagner repair services the complete line of Trimble surveying solutions.

- GPS field surveying systems
- GPS infrastructure solutions
- Robotic and servo-driven total stations
- Digital levels
- Trimble Data Controllers



Authorized Dealer



Call: 1-866-903-2335

*Your authorized dealer for
Machine Control Solutions*
www.wagnerequipment.com

The marker received attention in the fall of 1979, when Dick Annand, District Environmental Manager, Colorado Department of Highways (CDH, now Colorado Department of Transportation, or CDOT), “discovered” the marker while making a field check in preparation for a project to improve SR 96. The following year, K.M. Gambrill, CDH Historian, prepared a “Colorado Cultural Resource Survey – Inventory Record,” in which he provides a description of the monument and its location, a sketch map, photographs, an assessment of its historical significance, a narrative description, and references.

The initial CDH plan was to remove the monument and give it to the PCHS for safekeeping during the highway construction. However, nowhere could I find a document that describes the final decision concerning the ultimate recipient. Not until a 2011 telephone conversation and subsequent email exchanges with Dick Annand, now retired, did I have confirmation that the recipient was indeed Fort Carson. In about 1983-84, Annand and Gambrill (now deceased) had been eyewitnesses to the removal of the marker. Annand recalled that a crew from Fort Carson used a truck-mounted crane to pull the marker and its concrete base, wrapped it in bubble wrap and a clear plastic sheet, secured it with duct tape, laid it on a pallet, and hauled it off to Fort Carson. The curator of a museum there had offered to store it safely or display it in the museum. Annand also recalled that a year or so later (probably 1984 or 1985), he visited the base and saw the monument, still wrapped and lying on its pallet, in a small warehouse-type building.

I believe that the following conclusions, developed as a result of my four-year study, have a high probability of being correct:

1. The purpose of the monument was to identify the site where values of latitude and longitude had been obtained by astronomical means, using the telegraphic method.
2. The monument was cut and inscribed at the request of a member of the Wheeler Survey sometime during 1873-75.
3. If the monument had been used as intended, a capstone would have been placed over two metal rods that at that time protruded from the top of the monument.
4. A crew of soldiers from Ft. Carson removed the monument from its site alongside Route 96, near the Goodnight barn, in about 1983-84.
5. About one year after its removal from the Goodnight site, the monument was still wrapped in its plastic and lying on its pallet in a small warehouse-type building in the northern part of Ft. Carson.
6. The monument was never displayed in the museum, which closed in 1986; was never delivered to any of the venues that received the contents of the museum after it closed; and was never on the inventory

or property book of the U.S. Army museum system.

7. No records of the monument exist at Ft. Carson, and in 2012 inquiries to old-timers on the base indicated that no one stationed there at that time had any personal knowledge of it.

These conclusions still leave many questions regarding the history of the Goodnight monument unanswered, e.g., Was the 1980 site of the monument its original site? If a Wheeler crew first installed the monument elsewhere, where was that site and what were the circumstances of its removal? Were there additional inscriptions on the sandstone block that weathering has since erased, or were they never there in the first place? Was the monument ever actually used for making astronomical observations? And the big one: What happened to it after the Fort Carson museum closed in 1986? I address these questions in my web report, but my comments are mostly speculations based on some assumptions and meager and sometimes conflicting evidence.

The fate and present whereabouts of the Goodnight monument remain a mystery. Despite my urgings for a search, I got the impression that the emphasis of those responding to my inquiries was always on finding some *documentation* concerning the monument, and that no one ever made a detailed, thorough, *physical search* of Ft. Carson for it. Thus I suggest that the first order of business of anyone interested in taking up the cause would be to arrange a visit to Ft. Carson and participate in a guided tour of the northern part of the base. There has been a considerable amount of new construction on the base since the 1980s. Sadly, the real possibility exists that someone, perhaps unaware of the monument's historical significance, simply trashed it, either mistakenly or purposely. Thus the monument could have been disposed of in some landfill or included in the rubble of a demolished warehouse. But let's hope for a different outcome – the monument could still be lying on its pallet, gathering dust in some small “warehouse-type building,” or sitting outside in a niche behind a building, just waiting to be rediscovered!

(You may contact the author at williamwilson514@gmail.com)

Both photos by Joanne & Edwin Dodds, obtained courtesy of the Pueblo City-County Library District. Thanks to Jennifer Koen, Digitization Coordinator, for her assistance in scanning/optimizing the originals.

The Sawyer and Garstin Collection

By Joseph Alessi, PLS
President Emeritus, Southern Chapter, PLSC

In the May, 2012 issue of *Side Shots*, I wrote about the history and preservation of the Sawyer and Garstin Collection at the Miramont Castle Museum in Manitou Springs. The collection is from the late 1800s to early 1900s, comprised of numerous historic maps, over 100 field books, transcripts of GLO field notes, abstracts, and associate's ledgers that include letters, receipts, payroll, client contracts, lot surveys, and land purchases.

Since the initial fundraiser in 2010, the museum has purchased computers, PastPerfect categorizing software, and archival sleeves and folders. Also, Business Furniture Systems of Colorado Springs donated metal flat drawer map file cabinets, and a large conference room table. The Southern Chapter of the Professional Land Surveyors of Colorado has provided a cash donation each year since. The Museum has dedicated a large room for the mapping project and installed a new floor. As money permits, additional improvements are planned.

Since the fundraiser, the field books were sorted, along with the development of a filing system, the maps were flattened and stored in flat map drawers, and the abstract files were placed in archival sleeves and organized into archival folders and filed. For their volunteer efforts, Robert Pisciotta, PLS and Richard Kotwica, Surveying Tech. (Employees of the City of Colorado Springs Engineering Department) were both recipients of the Distinguish Service Award, presented at the 2015 PLSC Summit this past February.

A Presentation and Dinner will be held at the Miramont Castle Museum on Tuesday June 16, 2015 at 6:30 P.M. All chapter members and non-members are invited along with title companies, public and private employees and any interested historians. This will also be an SCPLSC informal membership meeting. See ad in this month's issue of *Side Shots*, and plan to attend for a firsthand look at the historic collection materials and the progress that has been made.

Here are some recent photographs of the collection and two of the hard working people involved in this effort. Donations to expand the project to preserve additional historic documents in this collection are welcome and appreciated.

Joe Alessi, PLS, is President Emeritus, Southern Chapter Professional Land Surveyors of Colorado; Vice President, Manitou Springs Historical Society - Miramont Castle Museum, and Committee Chairman, The Preservation of Historic Maps and Documents.



*Richard Kotwica,
Land Surveying
Technician
with the City of
Colorado Springs,
working as a
volunteer on map
archiving.*



*Peggie Yager,
Administrator
of Miramont
Castle.*



The Sawyer & Garstin Collection

**A presentation and dinner will be held on:
Tuesday, June 16, 2015 at 6:30 pm**

SCPLSC Membership Meeting
Miramont Castle Museum
Dining Room, 4th Floor
9 Capitol Hill Avenue
Manitou Springs, CO
\$7.00 per person

All chapter members and
non-members are invited!

Attire: Business Casual

An informal membership meeting will be held which to
include viewing a number of vintage maps and documents!

R.S.V.P. by June 11, 2015 to:

Joseph Alessi, PLS CRA BSME
Alessi and Associates, Inc.
2989 Broadmoor Valley Road
Colorado Springs, CO 80906
Phone: 719-540-8832
Cell: 719-338-7719
Email: jalessi@alessi3a.com
Web: www.alessi3a.com



Digital Terrain Models
Digital Elevation Models
Orthometric Photos

Western
Research & Development, Ltd.

Topographic Mapping
3-D As-Builts
Contour Maps

State-of-the-art LiDAR & Digital Imaging

- **High Accuracy LiDAR**

Maximum rate of 200,000 KHz which translates to a point cloud as high as 150 points/m².

- **High Definition Digital Images**

Our Leica 39 megapixel RCD 105 Digital Camera produces images at two inches per pixel or higher.

- **Real-time Decision-making**

Our field & flight crews are staffed with Professional Engineers & Land Surveyors who truly understand data collection in real-time.

- **Reliable Topographic Mapping**

The helicopter flies at low altitudes and is capable of providing elevations at two-tenths of a foot or less.



Tel (307) 632-5656

5908 Yellowstone Rd, Cheyenne, WY

www.wrd-ltd.com

Scenes from the 2015 Rocky Mountain



JB Guyton and Dean Glorso



Dave Pehr presenting on highways



*Terry Maw,
Secretary Treasurer*



*Kayce D.W. Keane,
PLSC Vice President*



*Kevin Kucharczyk, David Kuxhausen,
and Chris Raml*



Julia Keilman and Alan Blair



Pam Fromhertz presentation



David Kuxhausen and Chris Raml



Jon Warren of NSPS



*Roger Nelson Todd Beers and
Becky Roland*



John Willey

Surveyors Summit and Chapter Summit



Tom Sylvester and Warren Andrews



*Heather Lassner and
Jan Sterling*



Dean Glorso and Miles Small



*Todd Beers congratulates former
President Roger Nelson*



*B Guyton, Steve Parker and Bob
Wendover*



*Mike Greer,
official photographer*



*Earl Henderson as Joyce Young of
DORA looks on*



Ed Bristow and Jeff Jones



David Kuxhausen, iPad winner



*Don Wilson speaking
about easements*



Steve Parker and Jeff Halverson

*Photos by
Mike Greer*

Professional Land Surveyors of Colorado, Inc. Membership Application



The PLSC represents land surveyors' interests in the State, proposes new legislation and changes to existing legislation as the industry's needs change, and works with the State Board of Licensure as an advocate for Land Surveyors. PLSC Chapters include: Central Colorado Professional Surveyors (CCPS), Colorado Spatial Reference Network of the PLSC (CSRN), Northern Chapter—PLSC (NCPLSC), Northwest 1/4 Colorado Land Surveyors (NW1/4CLS), Southern Colorado Professional Land Surveyors (SCPLS), Southwest Chapter PLSC (SWPLSC) and Western Colorado Land Surveyors (WCLS). Voting membership includes NSPS membership. Others can add this option.

1. Member Information:

Name: _____

Company: _____

Address: ☐ Home ☐ Work

City, State Zip: _____

Daytime Phone: _____

Email: _____

PLS or LSI Number(s) and State(s): _____

☐ Please do not include my information in the PLSC Member Directory or online directory.

2. Membership Information:

Membership Type: ☐ Sustaining—\$230 ☐ Voting—\$150 ☐ Associate—\$75 ☐ Student—\$30 ☐ Retired—\$60
(Please check.)

Included Chapter: ☐ CCPS ☐ NCPLSC ☐ NW1/4CLS ☐ SCPLS ☐ SWPLSC ☐ WCLS

(Each membership includes one free Chapter membership. Please check—see above for descriptions.)

Additional Chapter: ☐ CCPS ☐ NCPLSC ☐ NW1/4CLS ☐ SCPLS ☐ SWPLSC ☐ WCLS

(additional Chapter memberships are \$20 each. Please check.)

NSPS Membership (included in Voting Membership): ☐ \$40 for professionals/\$10 for students

3. Payment Information:

Membership Type: \$ _____

Add'l Chapters/NSPS: \$ _____

Total Enclosed \$ _____

Payment Type:

Check # _____

Credit Card No.: _____

Exp. Date: _____ CVV: _____

Credit Card Billing Address: ☐ same as above or:

Mail to:

PLSC, PO Box 441069, Aurora, CO 80044

Phone: 303-551-3266 Fax: 720-230-4846

plsc@plsc.net

Rule of the Month: Son of a Son of a Surveyor

By Earl Henderson, PLS

When is a straight line between original monuments not a straight line? A better question may be; when is the only time that line is a straight line? The only time that a line is an actual straight line is when the two monuments were originally set at each end of the line.

Let's look at this concept another way, from a historical perspective. Imagine a surveyor, circa 1885, completing an original survey of a Township. He establishes the section corners and quarter corners of the sections as original monumentation. He did his work with the most advance technological equipment he had at the time, a compass and chain (and possibly a sextant). The lines between his section corner monuments are straight lines because that's how he ran them and the quarter corner monuments are directly on those lines.

Jump to 1910. The owner of a particular section hires the son of the original surveyor to subdivide the section into quarter sections because he has four sons of his own. The son of the surveyor completes his survey of the perimeter of the section, finding all the original monuments and discovers that the quarter corner monuments are not precisely on straight lines between the section corner monuments. But those are the original quarter corner monuments so he maintains those positions and documents angle points on what were intended to be the straight lines between section corner monuments. He then connects the quarters and establishes the center of the section. The son of the surveyor is using adequate technological equipment for his day, his father's compass and chain, but the chain is old and stretched by now so there's some error in his measurements, but not enough to significantly impact the subdivision of the section by the standards of the day. According to his very best measurements the original center of section monument he sets is at the intersection of two straight lines between the quarter corner monuments. The farmer's four sons build fences because they don't get along as well as their parents thought they did, but they're very careful to preserve the original monuments all around.

Two World Wars intervene and then circa 1950 one family wants to further subdivide the SE quarter of the section. They hire the son of the son of the original surveyor who has the latest and greatest technological equipment that he got in a war surplus auction, a transit and steel tape, both recently reconditioned and calibrated. Our next son of a surveyor is diligent and thorough partly because of his excitement at joining the world's second oldest profession, partly because he wants to check out his fancy new equipment, and partly because he was well trained by his father and grandfather so he fully breaks down the entire section. With his more precise equipment he discovers what his father discovered, that the original quarter corner monuments are not precisely on the straight lines between section corner monuments. He also discovers that the original center of section monument is not precisely at the intersection of the straight lines between original quarter corner monuments. But he found all the

original monuments so he maintains those positions and documents a new angle point at the center of section. (And just as an aside here, he may also document different angles at the quarter corner monuments than his father did.) He then subdivides the SE 1/4 into 1/4-1/4 aliquot parts and sets original 1/16th monuments on the measured straight lines of the quarter section perimeter and at the intersection of the measured straight lines between his original 1/16th monuments.

Neal Armstrong walks on the moon, and then circa 1977 another heir wants to subdivide the SE1/4 SE1/4 of our perfect section. Again a surveyor is hired (the son of the son of the son of the original surveyor) who is using the same equipment as his father, the transit and steel tape he inherited when his father retired and passed on the business. But his father taught him well and especially to respect original monumentation. This son of a surveyor breaks down the SE1/4 and determines that the original 1/16th monuments are not precisely on the straight lines between original 1/4 corner monuments. He feels he can measure better than his father, but in actuality no two surveyors, not even father and son with the same equipment, will get the same results when measuring the same lines. But the 1/16th monuments are the original monuments so he documents angle points at the 1/16th corners, maintains those positions and subdivides the SE1/4 SE1/4 setting original 1/64th monuments on the straight lines measured around the aliquot perimeter and at the intersection of the measured straight lines between his set original 1/64th monuments.

Reaganomics fails to trickle down, but in spite of that, our latest heir, circa 1988, wants to develop a subdivision in the SE1/4 SE1/4 SE1/4 (theoretically 660' x 660'). Of course he hires the son of the son of the son of the son of the original surveyor to do this. (I hope I got that sequence right.) But now our latest son of a surveyor has been fortunate enough to be able to afford some fancy new technological equipment, a total station. No more chaining for this guy. But equipment does not replace training, so he breaks down the SE1/4 SE1/4, partly because he can traverse it in less than the two days it would take to chain it. Guess what? He discovers that because he's better able to measure the locations, the original 1/64th corner monuments are not precisely on the straight lines between the original 1/16th corner monuments. Who would have thought such a thing possible? But this lineage of surveyors, as we have come to know, were taught to honor original monumentation. So our latest son of a surveyor maintains the positions monumented by the original 1/64th corner monuments, documents a number of additional angle points in the lines, and creates a subdivision plat a portion of which contains 11 lots of 60' width, each abutting the east section line. Lots are sold individually over time and each time that happens the developer has the same son of a son of a surveyor come out and set original lot corner monuments, which he does radially from his still existing control points. Fences are built. People live large.



METROPOLITAN STATE
COLLEGE of DENVER

Extended Campus

DISTANCE DELIVERY OF COURSES FOR

LAND SURVEYORS

Now it is possible to pursue or advance a career in land surveying via distance delivery.

- Select courses individually or as part of the degree completion program.
- Enroll year-around; take six months to complete a course.
- Take exams close to home or work.
- Communicate with your instructor by e-mail or telephone.

Twelve Self-Paced DVD Lecture Courses

SUR 1510-4	Surveying I
SUR 2520-4	Surveying II
SUR 2530-4	Route Surveying
SUR 2550-3	Surveying Computations
SUR 3100-3	Survey Data Adjustment/Analysis I
SUR 3150-2	Astronomy for Surveyors
SUR 3220-2	Real Property Descriptions
SUR 3300-3	Photogrammetry
SUR 3540-3	Boundary Law I
SUR 3700-3	Geodesy I
SUR 4510-3	Map Projections and Coordinate Systems
SUR 4540-3	Boundary Law II

On-line Course

COM 3615-3 Technical Writing for Surveyors and Engineers

For more information and registration visit our web site:

www.mscd.edu/surdd or send an email to mscd_surdd@mscd.edu
or call Extended Campus at **303-721-1313**.

Bush II happens (don't get me started) and one of the lot owners decides to sell and live the dream elsewhere. The purchasers hire a surveyor, but their real estate agent talks them into using Joe Fixit instead of the current son of a son of a (There's no way I'm going to get this right.) surveyor because they can save \$250 on the survey of their \$750,000 purchase. Joe goes out there with his RTN RTK GPS equipment, which is now so fancy and precise it no longer even has a name but merely initials. He finds the original lot corner monuments on the east line of the subdivision. You guessed it. He discovers that the original monuments are not on a straight line between the original subdivision corner monuments (1/64th corners). Since Joe has such fancy and easy to use equipment with which he can break down entire townships before lunch, he decides to investigate further and he finds that none of the original lot corner monuments are on a straight line between the original 1/64th corner monuments, and that at each section subdivision the original corner monuments along the east line of the section (1/64th, 1/16th/1/4) are not on the straight line between section corner monuments like they're supposed to be. What is poor Joe to do?

First, Joe has to decide if there's even a problem. Hopefully Joe will see that at each stage of this historical narrative each son of a surveyor performed a proper and accurate retracement of a parent parcel, discovered a discrepancy between platted dimensions and original monuments, accepted the original monumentation, documented the measured vs. platted dimensions and set original monumentation on what was at the time a straight line. At stages, new measurements and/or more precise equipment resulted in a better determination of the location of the original monumentation and that it was not actually as precisely set as the plat dimensions would seem to indicate. Of course it wasn't. As PLS's we've been getting better at measuring, but not necessarily more accurate. *Accuracy depends on the decisions you make not on the measurements you take.* The end result of the generations of

surveyors is an east section line with multiple angle points in it. Is this a problem? Not legally. But if Joe decides to hold two monuments as a straight line and set new monuments for lot corners or aliquot corners just because he can measure better than each of the original surveyors in this chain of events (can anyone say pincushion?), he's doing a disservice to his profession and his client and likely causing a problem where no problem exists in reality. He is no longer making a legally based decision and describing his results with his more precise measurements. He's letting the measurements make the decision for him and likely causing a legal problem for his clients and their neighbors where no legal problem should exist, just a mathematical variation in measured dimensions. If Joe were to decide to fix the line to where it was supposed to be, how far does he go? He's only working on 60' of a section line but that 60' was derived from the entire east line of the section. How much gets fixed? Just that section line? The entire Township line? Or does he correct the PLSS all the way back to the Ohio River?

Notice that at no point in this narrative was an error dimension mentioned. What if the original 1/4 corner monument were 5' off the straight section line measured by Joe? Is that too far? How about 10'? 50'? 100'? Is there a limit that describes how far is too far? Who's doing the measuring, when, and with what? In Boulder County we have a Township with a tier of sections topped by Section 1 that is 1 1/4 miles wide and the tier topped by Section 5 is 3/4 mile wide. Is that too far? Of course not. Has anyone looked at a Quad sheet

lately? How many perfectly square sections do you see? None. That is how they were originally surveyed so that is where the line is. The same theory applies within smaller and smaller portions of the PLSS, within subdivisions, and in many other circumstances outside the PLSS. The decisions we make should not be about the measurements. Nor should they be about if the discrepancy is within an acceptable arbitrary tolerance limit. The decisions to be made are about the history and the law. Then, and only then, are lines dimensioned as a means of describing what decisions were made and not as a reason for making those decisions.

So when is a straight line between original monuments not a straight line? In this example, we have a straight line between the NE corner of the section and the SE corner of the section that has somehow been measured both precisely and accurately multiple times to be straight and yet has many angle points. For my next magic trick I'll show you how to cut the ends off of a rope so that it no longer has any ends.

Be safe out there.

Complete Photogrammetric Services

MAP WORKS

Contact: Ralph Vomaske, Certified Photogrammetist, ASPRS

7625 W. 5th Ave. #203E • Lakewood, CO 80226

Phone: 303-667-3540

E-mail: mapworks@mho.net

Western Federation of Professional Surveyors Report

Prepared by: Michael Bouchard, PLS
Colorado WFPS Delegate
March 22, 2015
Boise, ID

Western Federation of Professional Surveyors (WFPS), representing the surveying profession of the Western United States since 1979, including Alaska and Hawaii.

WFPS has been working on a mission statement that best fits their reasons for existing now and in the future.

Proposed mission statement:

The Western Federal of Professional Surveyors is a conduit for interstate communication and provides resources to its member associations. WFPS advances the profession of surveying by fostering common goals and relationship within the western states, promoting public awareness of the profession, supporting education, and providing a regional voice.

Next WFPS Meeting will be in Denver May 30th. On the 31st the WFSP Delegates will travel to Cheyenne, WY for a memorial service and to set a "Final Points" Monument for Paul Reid, a long time Wyoming Delegate to WFPS.

WFPS wants to thank **JB Guyton** for his many years of service as a Delegate of the Western Federation of Professional Surveyors as he has become Colorado's new representative to the The National Society of Professional Surveyors. WFPS wishes him the best in this role. His many contributions and fellowship will be missed at WFPS meetings.

And now the WFPS NEWS:

The main issue that WFPS is continuing to work on, to help recruit new surveyors, is the TwiST and TrigStar programs as well as providing scholarships. It is that time of year for State Societies to identify one or two K-12 teachers that will attend a TwiST workshop in Washington State. This workshop will give a teacher an opportunity to get real hands on experience and knowledge of surveying, GPS and GIS and how to go back and get their students involved, then hopefully, fostering interest in our world.

By the way: The average age of a Professional Land Surveyor is 63!

The Idaho NSPS Governor gave a report of NSPS news. This is a good time to remind all that WFPS and NSPS are in support of each other and have a lot of the same goals. Also, there are only a few states that are not 100% NSPS states. Texas and California are considering/negotiating an MOU at this time and there is one New England state that has not accepted membership and is not moving forward at this time.

For more NSPS news, please see the NSPS report.

Western Federation of Professional Surveyors State news:

Most states are just finishing conferences and working on legislative issues at this time:

Alaska (ASPLS):

Legislature is in session and presently no legislation is pending that would directly affect the practice of surveying.

California (CLSA):

California has given away \$47,000 in scholarships this year. Thirty-five applications were received and all applicants received a scholarship. The Monument Conservation Committee has developed a series of PowerPoint presentations as well as speaker's kits for the membership to use in educating agencies regarding the importance of preserving monuments.

The CLSA's legislation was signed into law in September 2014, effective January 1, 2015. The legislation amends the Business and Professions Code (8771) as well as the Professional Engineers Act (6730.2) relative to preserving monuments.

Idaho (ISPLS):

Their conference was well attended with classes on Mineral Surveys, Legal Descriptions and Section Breakdown methods.

The Idaho Board of Professional Engineers and Professional Land Surveyors has joined the ISPLS to work together to study ways to get more surveyors professionally licensed. WFPS has written a letter of support.

This fall and early winter, the ISPLS has been busy with proposed legislation to change the definition of surveying in Idaho code. They held several meetings with their membership, stakeholders, and the Idaho licensure board to craft the language which is a modified version of NCEES Model Law. A strike and underscore version was sent to the governor's office in September and subsequently the ISPLS redoubled its efforts to garner support from senators and representatives throughout the state.

Montana (MARLS):

HB63: The Model Law bill was signed into law by the governor on February 12, 2015. The most significant change to the licensing laws for Land Surveyors is the elimination of the experience only avenues to licensure and the minimum requirement of a two-year AAS degree in Land Surveying. The experience-only avenues will sunset on October 1, 2022. The rules committee

was tasked with examining the full body of ARM's implementing Title 37 Chapter 67 for needed corrections and changes as a result of the new laws.

Grid vs Ground Distances Rule: Dan Stahly's proposed rule concerning grid and ground distances on certificates of survey and plats was reviewed by the rules committee. Minor grammatical changes were suggested by staff, of which the committee accepted. The rule was voted out of committee, approved by the full board and put in the "hopper" for the next scheduled public hearing.

Continuing Education: The Department of Labor and Industry has suspended all audits of continuing education for the last renewal cycle for all boards. There was a discussion to discontinue audits for the BPEL entirely. This issue will be discussed again after the end of the fiscal year.

New Rule – for informal feedback from surveying community:

February 5, 2015

UNIFORM STANDARDS FOR EASEMENT EXHIBITS

1. An easement exhibit prepared by a licensed professional land surveyor is a drawing and record of survey of a non-possessory right encumbering the real property of another. When recorded or filed in the public record, an easement exhibit must contain sufficient information such that the retracing land surveyor can establish the easement on the ground.
2. An easement exhibit must comply with the following requirements:
 - a. An easement exhibit must be legibly drawn with permanent black ink or printed or reproduced by a process guaranteeing a permanent record. It must conform to medium, page size and margins as required by the filing office.
 - b. If more than one page must be used to adequately depict the easement, each page must show the number of that page and the total number of pages included.
 - c. An easement exhibit must show or contain the following information:
 - c.i. A title or title block including the quarter-section, section, township, range, principal meridian, county and if applicable, city or town in which the easement is located;
 - c.ii. Sufficient information to identify which tract of record is encumbered by the easement;
 - c.iii. The date the easement exhibit was completed and a brief explanation of the purpose of the easement;
 - c.iv. A north arrow;
 - c.v. A scale bar. The scale of the easement exhibit must be sufficient to legibly represent the required information and data on the easement exhibit;
 - c.vi. If applicable, the location and description of other information relating to all monuments that influenced the position of any corner or boundary of the easement shown on the exhibit.

New Mexico (NMPS):

Items that are being discussed include:

1. Implications of taxes at county level being paid before a subdivision can be recorded.
2. A repository of all correspondence between board members has been created by mail and email. The executive director shall be in charge of it.
3. QBS legislation is going to be heard this legislative session and the architect's board has asked us to be in support of it.
4. Definition of "surveying", "practice of surveying" or "surveying practice."

Nevada (NALS):

At the last meeting, we reported that Great Basin College was in a shutdown mode and their goal was to provide courses to enable those already enrolled to graduate and then scuttle the program. GBC has reconsidered the closure and has decided to reactivate the program. Byron Calkins was hired from New Mexico State University at Las Cruces and has made great strides in stabilizing the program since his hire and he has had great success in making the school administration recognize what a valuable resource the program is. The students have formed a student chapter of NSPS.

TRIG-Star & TwiST: NALS has nine schools scheduled to complete the annual Trig-star program and is currently recruiting for more schools to compete in the state testing. The Board of Directors has approved sponsorship of two teachers to attend the 2015 TwiST workshop.

Oregon (PLSO):

Legislative Committee: The committee is monitoring proposed legislation and responding when appropriate. The committee has developed a flowchart that acts as a guide for action in proposing legislation and in responding to proposed legislation that could impact our industry. Once this process is tested and finalized, it will be incorporated into the Ops Manual and presented to the Board for approval.

One of the chief aspects of this new process is to develop relationships with other groups who will be stakeholders in proposed legislation affecting surveying. These groups include the title industry, the building industry, engineers, OACES (Oregon Association of County Engineers and Surveyors), planning departments and others. Two Oregon bills are presently being watched:

1. HB 2161 affects the Public Land Corner Preservation Fund, which is currently funded by a \$10 recording fee. The bill would authorize the counties to assess a recording fee not to exceed the actual cost of the County Surveyors' preservation programs. It is not clear at this time exactly how this would work.
2. SP297 would revise qualifications for registration for engineers, surveyors and photogrammetrists. Among other things, it would allow the board (OSBEELS) to adopt rules establishing alternatives to degree requirements.

Washington (LSAW):

Career Development Opportunities: LSAW's North Puget Sound Chapter is sponsoring a twelve week Career Advancement Program. This course provides an opportunity for survey personnel to learn fundamental and historical surveying principles and procedures, together with foundational mathematical concepts. The cost is \$150 for LSAW Members and \$225 for Non-Members and includes a copy of the Washington Department of Transportation Engineering Field Tables, 1984.

TwIST (Teaching with Spatial Technology): LSAW has raised \$2,000 to support the TwIST program in 2015. We are still working on recruiting teachers to attend. This year, LSAW has reached out to the GIS community to solicit their support with both funding and teacher recruitment.

Update Definition – LSAW has been working toward revising our current definition of the Practice of Land Surveying for much longer than I have been a member of this organization. New language has been proposed for WAC 196-29-105, Practice of Land Surveying, and it is my understanding that this new language is being moved forward by the Board of Registration. The committee is still discussing whether Hydrographic Surveying should

be considered Land Surveying under current state law and input is needed. It would be helpful to know how Hydrographic Surveying is viewed by the other states' definitions.

Monument Preservation – Washington has been seeking to find a permanent funding source for the preservation of survey monuments, and language is currently being crafted to achieve this through Revised Code of Washington (RCW). The Washington Council of County Surveyors is encouraging them to model the language after the Oregon and California statutes, with fees collected and managed by each county and with each county determining their own preservation plan that best fits their needs.

Utah:

Legislative Issues: Recent changes have been made to require Utah professional surveyors and engineers to have 30 continuing education hours every two years, rather than 24. This went into effect in 2014. Other changes were made, on the administrative rule side of the law, to make small "baby steps" toward requiring a four-year degree. However no final decision has been made.

End of Report



Join us for the 28th Annual GIS in the Rockies Conference - the Intermountain West's premier geospatial information and technology conference.

GIS in the Rockies September 23-24 Denver, CO

EXCEPTIONAL CONTENT-RICH CONFERENCE:

- Outstanding Professional Workshops & Presentations • Networking • Exhibitors
- Presentation Opportunities – Sessions & Posters • Job Fair • Social Events

gisintherockies.org

DISCOUNTED EARLY REGISTRATION THROUGH MAY 31: \$250 – A \$75 SAVINGS!



PLSC Chapter Summit - Minutes

February 26, 2015, 7:00 – 9:00 P.M. Arvada Center for the Arts



Standing, from left, Steve Parker, David Kuxhausen, Patrick Green, Tom Sylvester, Chris Raml, Todd Beers, Kayce D.W. Keane, JB Guyton, Marcus Reedy, Jon Warren. Seated, from left, Roger Nelson, Chris Power, Becky Roland, Brian Socia, Eric Carson, Devon Arnold, Laine Landau, Reese McKay, Brian Dennis.

In attendance/clockwise at table:

Todd Beers, PLSC Director
Reese McKay, CCPS
Marcus Reedy, PLSC guest
Jon Warren, President-Elect, NSPS
Laine Landau, Northern Chapter, President
Brian Dennis, CSRN
Tom Sylvester, WCLS
Eric Carson, CCPS
Patrick Green, WCLS, PLSC Board
Dean F. Glorso, PLSC member
Brian Socia, CCPS
Shawn Clarke, CCPS
Chris Raml, CCPS
David Kuxhausen, VP, CCPS
Kayce D. W. Keane, Vice President PLSC
Roger D. Nelson, CCPS, Past President PLSC
Becky Roland, PLSC Executive Director
Steve Parker, SCPLS President, PLSC Director
Chris Power, minutes
John B. Guyton, PLSC Past President, moderator

3. Bob Wendover on the future of land surveying
4. How can communications be improved?
5. Are by-laws current or are changes needed?
6. Chapter membership drive or other ideas to increase PLSC membership.
7. Any other topics of concern to chapter representatives.

Minutes:

Todd (Beers): Welcome, hope to have good exchange with all chapters. Not all here, snow/weather issues affecting travel. Hope for free flowing ideas, be open, and suggest how to improve. This is the fourth annual Chapter Summit, JB and Roger brought it back after many years off. JB will be the facilitator of tonight's meeting, and I will turn it over to him.

JB (Guyton): I would like to introduce Jon Warren, the President Elect of the NSPS to talk about the future of the NSPS and land surveying.

Jon (Warren): NSPS is focused on the future of surveying, specifically national topics. We promote surveying at the national level, on behalf of the states. Will use a variety of outlets, such as blogs, tweets, etc. where younger surveyors get their information, as they are our future. Will ask for a budget to begin this year, can't wait to get started.

Todd: What was the cost of an individual membership before?

Jon: It was \$225, now only \$40. It took a leap of faith to do such a reduction. State conferences are very similar, different names but the same people. NSPS will be very different in five years, will be doing much more. We want your ideas.

Agenda Topics:

1. Welcome from Todd Beers, new PLSC President
2. Jon Warren, President Elect of the National Society of Professional Surveyors (NSPS)

Roger (Nelson): A good deal, useful for survey degradation laws, retracement monuments in other states, etc.

Jon: We will be aware of this and bring to the board. We need to identify states that do not have such laws. We must protect the health and safety and the trust of the public.

Laine (Landau): How do we communicate, and get NSPS information?

Jon: The best outlet is News & Views, a weekly email. New members will be in the database and start to receive it soon.

Brian (Dennis): We have talked about linking websites for news.

Steve (Parker): We can do that at the chapter level also.

Jon: Curt Sumner has a Radio Hour show, podcast, with over 150,000 downloads. Curt is always looking for new ideas, will contact Todd.

Todd: I think it is exciting to be involved with the NSPS at this level.

Dave (Kuxhausen): Great ideas, we need to see newsletters, show our membership a return on their investment.

Brian: Will try to have presentations linked this week.

Dean (Glorso): I am an artist, my painting on display at this meeting was intended for young people, to show what surveyors are all about. I would offer this image for the NSPS website.

Jon: We will look into posting it on the website.

Roger: As a state organization, this is a great change, members will see the value.

Jon: And we will see the same.

Todd: I agree, we need to get NSPS information out to our members.

JB: Thank you Jon for coming to speak to us. Next is Bob Wendover from the Center for Generational Studies, to present on the future of the workforce.

Bob (Wendover): Let me begin by asking, why did you choose this profession?

Roger: Like engineering, it is math-centric.

JB: I liked that it was an empirical method of reporting facts.

Steve (Parker): We can go outside, and we use our brains.

Bob: You have to plant the suggestion with young people. Some get into careers because of elements they discover that they like. You must get them involved on their terms. Average age of a surveyor is 56. Young people read only about 30 words at a time. Some companies are putting QR codes on their machinery for instructions, read on their phones. You need to know:

1) Identify who they are. In schools, or disenfranchised workers in other jobs.

2) Targeting people. Good websites are appealing. Influencers.

3) Recruit. Branding important, "this is who we are."

4) Retraining. Think of a job, not a career. Costs to replace an employee is very high (cited figures). It's hard to get into classrooms now.

Jon: I just signed a deal with the military, hope to attract 200-300 new surveyors.

JB: Thank you for coming, Bob. Our next presenter is Brian Dennis.

Brian (Dennis): The CSRN as a chapter is no more, now a committee. It is now out of election mode, has fewer constraints, more flexibility. GPS Day is now the GPS Committee. Eric Carson is in charge. NSPS Surveyors Week and GPS Day are meant to engage youth, and their parents. Kids understand GPS on their phones; we show how to expand uses.

Eric (Carson): The next GPS Day is April 18th, at Trimble Headquarters in Westminster. Cool stuff on display on the main floor, not open to the public. Professionals should join them.

Brian: Parents often just didn't know about surveying, found it impressive. They ask if there is a school for it. The PLS people should attend wearing safety vests. Show up! We need to let them know we are not just guys pounding hubs, because that is most visible.

JB: Thanks to Brian and Eric. Now onto the next item, what's wrong?

Tom (Sylvester): About mentoring for test preparation, I couldn't find links on the website.

Becky (Roland): I have sent out four DVD refresher course sets to the western slope. It is in the Education section. 8 sets have been sold since January.

Tom: Do most students want to learn in person?

Becky: 44 signed up for classes. Attendees are thrilled to talk to instructors. It's hard to learn all that is needed, the courses are not enough.

Roger: As an instructor, I've heard that experience is invaluable at exam time. Good to probe their backgrounds. Apprenticeships most overwhelmed.

Tom: I would like to see a satellite location in the west, for a more formal group setting.

Roger: Videoconferencing was problematic in the past, but that could change.

Todd: That works in a corporate setting, technology is improving. Interactions are important. Jan Van Sickle's session, "Let's Talk" was very worthwhile.

Eric: Libraries often have conference rooms set up for videoconferencing.

Dave: Website snafus, membership dues/signup problems. Only gets a receipt. We could do preliminary web renewal to a few at first to check for problems before opening it up to the general membership.

Chris (Raml): It needs to work, young people expect it.

JB: Becky is aware of it, and is working on it.

Dave: It seems to hit snags every year, always different.

Steve: I've had problems inviting people to functions.

Todd: We are at half the number of members at this time last year, we will get registration site up and running properly.

Dave: Can we get a card for PLSC or NSPS membership?

Jon: We will be sending out a card.

Brian: Can it be the bottom half of the receipt?

Becky: The payment gateway was the issue, had hard limits. Underwriting paperwork required to fix, complex. We should have tested first.

Dave: It is best to have all transactions at once, including membership renewal, NSPS, a chapter selection, and sign up for the conference.

Todd: It should be automatic, with a PDF for cards, etc. It should work for one individual or for a company with multiple accounts. Membership drives must be done by everyone, not just one person.

Roger: The Survey Monkey opinion survey email just before the NSPS vote indicated no decrease in members due to the rate increase. 90% were in favor. Decrease was not all due to the dues increase. Sign up problems are a root cause, in my mind. We must remove all barriers to signing up.

Shawn (Clark): Sign up for conference was very good, an improvement over last year. Same issues.

JB: We can reach out to former members; we must re-reach them.

Laine: Were membership numbers recent?

Becky: This summit and its discount sparks new memberships. Affiliate memberships are up, even though some are PLS's. Lower dues. There were dozens.

Todd: We must take a look at these issues.

Eric: Dues up, but some people not really OK with the higher amounts. People are picking non-voting memberships, they don't think they are voting anyway.

Todd: We need more things to vote on, polling people, offer discounts.

Tom: We could ask for their PLS number, so you can't sign up for a lower level.

Kayce: We need to form a lower level group to work out the issues.

Brian: Trimble responded just now, we can videotape there.

Laine: In October before, we had a membership list for the Northern Chapter. We need to know who the members are.

Kayce: It's hard to check on current members for scholarships.

Becky: I had to manually enter, transfer to new website database.

JB: There is less than 20 minutes remaining. Let's move to legislative discussion.

Roger: One rule change that the PLSC is endorsing, a requirement on a survey plat that if you find an existing monument that represents a corner and you set another representing the same corner, you must put an explanation on your plat. Second is removing requirements to show measurements between improvements and property lines on ILC's.

Eric: Some building departments require those measurements.

Roger: Client will come back to you when the ILC is rejected for fence building. It's an opportunity to educate the client, do a survey. Third rule, on an LSP, would like to see regurgitation of record description for that parcel. Could reference record deed instead, but not record deed.

Todd: This is a reason for the annual meeting, to raise such issues.

Tom: Legislative Committee news used to be sent out years ago.

Steve: Alan said he will do a better job this year.

Brian: Things broke down at the chapter dissemination level as well.

Roger: There could be a check box on the web for those interested in legislative news.

JB: We've covered items 3, 4 and 5.

Laine: DORA saying grading certificates not allowed. Can bylaws allow it?

Shawn: Does NSPS have college program listings?

Jon: I am not sure it is on the website, it changes year by year. Ask Curt Sumner.

JB: It is 9:00, thanks to everyone for coming. We are adjourned.

PLSC Board of Directors Meeting Minutes

February 26, 2015 – Rocky Mountain Surveyors Summit

Call to Order: (Beers)

Present: Roger Nelson, Mike Bouchard, Todd Beers, Terry Maw, Alan Blair, Bill Buntrock, Leif Joy, Peter Krick, Kayce Keane, Brian Dennis, JB Guyton, Steven Parker, Chris Raml, and Becky Roland.

The current Board was recognized, officer-elects were introduced and new officers were installed.

OFFICERS (2015-2016)

President: Todd Beers, 720.225.4646.
TBeers@deainc.com

Vice President: Kayce Keane, 720.525.8312.
kayce@BLCsurveyors.com

Secretary/Treasurer: Terry Maw, 719.640.3889
tmaw44@outlook.com

Past President: Roger Nelson, 303.353.3916
roger.nelson@merrick.com

Executive Director: Becky Roland, 303.551.3266
broland@plsc.net

DIRECTORS (2015-2018)

Paul Bacus (Northern Chapter): 303.666.5233
bacussurveying@hotmail.com

Eric Carson (Central Chapter): 303.574.1013
ecarson@mollenhauergroup.com

Steve Parker (Southern Chapter): 719.590.9194
land_surveyist@hotmail.com

James Rihanek (Central Chapter): 303.841.4429
jrihanek@ix.netcom.com

DIRECTORS (2013-2016)

Alan Blair (Central Chapter): 303.808.0981
aland207@gmail.com

Brian Dennis (CSRN): 719.337.1262
Brian@titancon.net

Patrick Green (Western Chapter): 970.244.1821
green@mesacounty.us

Leif Joy (NW 1/4 Chapter): 970.878.5292
ljoy@joysurveying.com

Tom Sylvester (Western Chapter): 970.225.7386
tomsylvester@merrittls.com

WFPS DELEGATES (2015-2016)

Roger Nelson 303.353.3916
roger.nelson@merrick.com

Michael Bouchard 719.590.9194
mbouchard@F-W.com

NSPS DIRECTOR (2015-2016)

John B. Guyton 303.443.7001
jguyton@flatsurv.com

1. Todd Beers thanked Roger Nelson for his leadership and service.
2. Todd Beers introduced the current Committee Chairs.
3. Reviewed goals for this next year for PLSC.
 - a. Increase membership through membership drives and personal invitations.
 - b. Chapter collaboration.
 - c. Establish a CE requirement for licensed surveyors in Colorado.
4. Todd invited members to serve as a volunteer on any of PLSC's committees. Information is on the website.
5. PLSC is the 47th state to join NSPS.
6. GPS Day will be April 18 at Trimble.
7. PLSC is continuing its monetary support of Don Lambert and the Colorado Mine Record website.
8. Terry Maw reported on current financials.
 - a. Operating fund balance \$284K+
 - b. Savings fund balance \$81,400
 - c. Scholarship fund balance \$209K
 - d. 2015 budget forecasts a \$15K surplus
 - e. PLSC has had 4 years of positive net income
 - f. Funds are being moved to investment accounts to maximize interest earnings.
9. Todd Beers recognized new LSIT and PLS in the audience.
10. The Refresher Course had a record number of registrations – 44.
11. Adjourn: (Terry/Kayce)

2015 PLSC Budget As of 3/31/15	Budget Totals	Actuals	\$ Difference	% Difference
Income - UPS, PLSC Logo Merchandise	\$340.00	55.00	285.00	16.18%
5th Annual Surveyors Summit	\$87,575.16	87,750.00	(174.84)	100.20%
Membership Dues 414 members	\$62,100.00	47,025.00	15,075.00	75.72%
GIS in the Rockies	\$500.00	-	500.00	0.00%
PLSC refresher course (44 full registrations @ \$400 ea.)	\$17,600.00	20,400.00	(2,800.00)	115.91%
Scholarships (Transfer from fund)	\$18,000.00	1,200.00	16,800.00	6.67%
			-	
Side Shots Ads	\$4,200.00	1,000.00	3,200.00	23.81%
Projected Actual Income - Total	\$190,315.16	\$ 157,430.00	\$ 32,885.16	82.72%

Merchant account charges and credit card charges	-\$5,000.00	(3,181.73)	(1,818.27)	63.63%
Insurance, Bus	-\$565.00	-	(565.00)	0.00%
Membership Disbursements	-\$9,400.00	(4,560.00)	(4,840.00)	48.51%
Office - conference call charges, business related costs	-\$250.00	-	(250.00)	0.00%
5th Annual Surveyors Summit Expense	-\$37,286.51	(29,718.39)	(7,568.12)	79.70%
Postage and Delivery - membership cards, post cards, dues reminders, bills	-\$600.00	(57.00)	(543.00)	9.50%
Side Shots	-\$12,500.00	(3,031.00)	(9,469.00)	24.25%
\$50 per month storage cost	-\$600.00	(150.00)	(450.00)	25.00%
Chapter Scholarships (Payments to recipients)	-\$18,000.00	(1,200.00)	(16,800.00)	6.67%
Awards	-\$1,600.00	(716.50)	(883.50)	44.78%
Refresher Course Expenses	-\$2,000.00	(1,200.20)	(799.80)	60.01%
Supplies - ink, paper, labels, business card stock, envelopes, misc	-\$500.00	-	(500.00)	0.00%
Tax prep	-\$2,000.00	-	(2,000.00)	0.00%
TWiST Scholarships/TrigSTAR	-\$2,500.00		(2,500.00)	0.00%
		-		
TrigSTAR incentive program	-\$500.00	-	(500.00)	0.00%
Wages - Exec Dir	-\$30,000.00	(8,500.00)	(21,500.00)	28.33%
Web Site - Web Master and Programming	-\$3,000.00	(1,246.25)	(1,753.75)	41.54%
NSPS Dues	-\$13,920.00	(9,120.00)	(4,800.00)	65.52%
Mandatory Expenses - Total	-\$140,221.51	\$ (53,561.07)	\$ (72,740.44)	38.20%

PLSC BOD's Shirts	-\$500.00	(165.78)	(334.22)	33.16%
Lobbyist	-\$4,000.00	(947.25)	(3,052.75)	23.68%
Travel, Bus - travel expenses for BOD	-\$2,000.00		(2,000.00)	0.00%
Travel, Bus - travel expenses for WestFed	-\$3,000.00		(3,000.00)	0.00%
Travel, Bus - travel expenses for NSPS	-\$7,500.00	(617.43)	(6,882.57)	8.23%
			-	
Northern Chapter Distribution	-\$3,552.00	1,776.00	(5,328.00)	-50.00%
Southern Chapter Distribution	-\$3,500.00	1,750.00	(5,250.00)	-50.00%
Central Chapter Distribution	-\$6,750.00	3,375.00	(10,125.00)	-50.00%
Additional Expenses - Total	-\$30,802.00	\$ 5,170.54	\$ (35,972.54)	-16.79%

Total projected actual income:	\$190,315.16	157,430.00	
Total expenses:	-\$171,023.51	-\$48,390.53	
Available Funds for non-mandatory expenses	\$19,291.65	\$ 109,039.47	\$ (75,827.82)
		109,039.47	



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215

www.co.blm.gov



CO-956
9650

March 30, 2015

Mr. John B. Guyton, Editor
Side Shots
3825 Iris Ave.
Boulder, Colorado 80301

Dear Mr. Guyton:

This letter is to inform you of official BLM cadastral surveys in Colorado that have been accepted and officially filed from October 30, 2014, through February 27, 2015, and are now available in the Public Room, Bureau of Land Management, Colorado State Office, 2850 Youngfield Street, Lakewood, Colorado 80215. The surveys will also be available at <http://www.glorerecords.blm.gov>.

The accepted surveys are listed below by township, range, meridian, group number, type, approval date and number of plats.

<u>Township</u>	<u>Range</u>	<u>Meridian</u>	<u>Group No.</u>	<u>Type</u>	<u>Approved</u>	<u>Plats</u>
T. 8 S.	R. 70 W.	Sixth	1613	Plat & Notes	10/30/14	1
T. 48 N.	R. 15 W.	NMPM		APD	11/17/14	1
Tps. 12&13 S.	Rs. 66&67 W.	Sixth	1615	Plat & Notes	01/16/15	2
T. 42 N.	R. 9 W.	NMPM	1642	Supp Plat	02/27/15	1

As other surveys are completed, I will advise you of their acceptance. You may circulate this letter among the membership of the Professional Land Surveyors of Colorado.

Sincerely yours,

Randy Bloom
Chief Cadastral Surveyor for Colorado

CHAPTER NEWS

CSRN

The Colorado Spatial Reference Network chapter has been reorganized as a committee. Current information on CSRN committee activities can be found on the PLSC website.

CCPS

The PLSC annual conference has just wrapped up and the turnout was excellent despite the inclement weather events. I'd like to thank all of the members who had a hand in the preparation and execution of the conference.

As for the CCPS, 2014 is now history, the elections are over and our new board is looking forward to the new 2015 activities. I'd like to formally announce the new officers and directors. The new officers are as follows: David Kuxhausen, President; Kevin Kucharczyk, Vice President; Mark Wilson, Secretary; Aaron Willis, Treasurer. The Directors are Anthony Perazzo, Devon Arnold, Brian Socia, and Shawn Clarke. As some of you may have noticed, we are short three directors. If any of you are interested in serving on the CCPS board, please feel free to contact me or one of the other members.

The CCPS also held its January General Membership meeting at the Table Mountain Inn, located in Golden. It resulted in an excellent member turnout. Mr. Lynn Patton gave a very comprehensive presentation on Trigonometry. Many thanks to Lynn. It was very nice to have a speaker who is also heavily involved with educating the younger generation of surveyors in Colorado.

The CCPS would like to update our chapter member email address list following the most recent election. If there are some of you out there who have not been getting the General Membership meeting requests, please email me at colocentralsurveyors@gmail.com and I will make sure you are added to the contact list. In addition, if there are any of you that are interested in speaking at one of our general meetings or perhaps you have a topic in mind please feel free to share that with us and we will do everything in our power to make it a reality.

We hope to see all of you at the next General Meeting in April!

David J. Kuxhausen, PLS
CCPS President

NC-PLSC

The Surveyor's Summit was well attended by Northern Chapter members. All I spoke with enjoyed

the presentations. At the Summit we not only had great educational opportunities, we also got to renew old acquaintances and meet new people. One opportunity was particularly noteworthy. Joyce Young, Program Director, Business inspections branch of DORA attended as a presenter and had lunch with Earl Henderson. I owe each an apology as I did not let them relax much over lunch because I asked about the grading letter that DORA sent out on February 25th. As a result of that conversation the Northern Chapter is looking at the definition of land surveying to see if we want to advocate changes that would allow land surveyors to do minimal amounts of grading analysis or grading design similar to that allowed landscape architects.

Other issues that have been discussed lately have been the proposed Constitutional Amendment regarding the elimination of the County Surveyor office. Jason Emery put together a Position letter with talking points on this issue. From that letter: "The State Senate Committee met on Tuesday, April 7 and despite excellent testimony by several County and private surveyors, the bill was voted to go to the Senate floor. No more testimony will be taken. All land surveyors are asked to contact their local state senator and ask them not to support this bill. We need your help!" The letter is currently circulating among the chapters and is posted on the Northern Colorado website.

The Northern Chapter has invited several County Surveyors to participate in our May meeting so we will have a strong knowledge of what their role is so we will be able to articulately defend our position.

We are excited to be participating in GPS Day on April 18th. We're looking forward to strong attendance from the survey community as well as Boy Scouts and Girl Scouts. At the request of the Scouts we have added a GPS Day patch as a commemorative item and we have a Boy Scout leader willing to sign "blue cards" for any boys who complete the Scout centered activities.

Our meetings are the first Wednesday of September through May. If you are not presently getting our notices, need to renew, or would like to join the Northern Chapter, please contact Becky Roland, PLSC Executive Director, at 303-551-3266 or broland@plsc.net.

Laine Landau, PLS
President, Northern Chapter

NW 1/4 CLS

The NW 1/4 met on February 18th in Craig, Colorado at the former Holiday Inn, now known as the Clarion Inn. Present were Skidge Moon, Tom Effinger, Leif Joy, Gordon Dowling, William Whelan, Lloyd Powers, Jeff Guftason and myself - three present and former County

CHAPTER NEWS

Surveyors. This becomes relevant later in the meeting, as after moving the usual order of business with the stuff you fall asleep to - treasurer's report, recaps and an update on the Steamboat Springs Base Station, we moved on to the topic of the meeting. Land Survey Deposits with the County Surveyor.

As the topic of depositing land surveys with the County Surveyors has been in effect since the late 1980's, it was interesting to hear the diversity of opinions on the topic. Although much of it is statute driven, a side topic was checking of plats. Period. Typically, LSP plats, if a recorded document such as a subdivision plat, have no required checking by anyone other than City or County Planning. This is true for all the represented Counties: Moffat, Routt and Rio Blanco. So what we are seeing is a number of plats getting deposited or recorded despite having fairly obvious shortfalls. Should the County Surveyor be checking them?

What was agreed is that there is no money in the current budgets of the three counties represented to check the plats. For \$10 of the \$20 fee, about all one can do is stamp the plat with a County Survey Deposit Stamp - recommended that you do not use your own licensed stamp! And assign a deposit number to that survey. But in so doing, a competent County Surveyor may notice missing or wrong information in just those few minutes. Or in certain counties, the County Clerk may actually deposit the LSP on behalf of the County and never notice a thing. What to do?

The Professional thing to do is to contact the responsible surveyor and bring the obvious deficiencies to his or her attention. Statutes would indicate it should be reported to the State Board of Registration. And there lies the rub. Should the County Surveyor be reporting these deficiencies to the State Board? Should every County have plat checking? Who should be paying for it if required?

Brian T. Kelly, PLS
President, NW1/4 Chapter

SCPLS

It's been a quiet few months for the southern chapter. Post-election, in January, we found that the board of directors is exactly the same as 2014. However, we have planned a very busy year including five membership meetings, the August golf outing, a September tech meeting, and the Christmas Party. In February the membership meeting was held at the BLM Royal

Gorge District Office in Cañon City. There were two presenters: Dave Ginther spoke on what it takes to get a "typical" federal authority land survey completed, and Bryan Barker, Leica Geosystems discussed the latest news on sUAS tech and the latest FAA proposal for commercial use of sUAS for mapping. In March, during National Surveyors Week, Robert Pisciotta, of the City of Colorado Springs, was named the 2015 Southern Chapter PLSC CFedS Scholarship Recipient. Congratulations Bob, now the work begins. In April, Pam Fromhertz, of the NGS will be joining us in Colorado Springs. Look for details on our website: www.scpls.net

Please see in this issue the ad for the Sawyer & Garstin Collection/Miramont Castle Museum June members meeting/fund raiser. We just want to get the word out for what has been in the past a real crowd-pleaser, 50+ folks.

Steve Parker PLS CFM
SCPLS President

SWC-PLSC

The SWPLSC held our most recent chapter meeting on Tuesday, February 10th in Durango. Our guest speaker was (Bob) Robert L. Green, PLS. Mr. Green is a Geodetic Consultant for Vectors, Inc. His presentation on "Following the Footsteps of Historic Surveys with GNSS Technology" gave us a brief history of the breakthroughs in survey technology over the past 40 years.

The 2013 Colorado Land Surveying Refresher Course is now available to surveyors in the SW Chapter area. This course offers a review and self-study plan for those taking the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Surveying (FS) and Principles and Practice of Surveying (PS) examinations. These are on DVD and being offered to the Chapters at a 25% discount. Please contact Parker Newby at pnewby@goffengineering.com with questions or to request an enrollment form.

Our next meeting is scheduled for Tuesday, May 12 in Durango. Our guest speaker for the next meeting is Michael Boeckman, PLS. Michael works as a BLM Land Surveyor in Southwest Colorado and has been sharing his knowledge of cadastral surveys with us for the past couple of years.

We are planning some changes and will be having a speaker at all our future chapter meetings. We are trying to accommodate surveyors in our area by having

CHAPTER NEWS

technical, professional and other associated topics. Some of these will be available with continuing education credits for our Utah and New Mexico professionals that attend. Look for guest speaker information, time and location in the upcoming email. If anyone has any ideas about future speakers or topics, would like to be on the email list, or has questions about our upcoming meeting, please contact Josh Casselberry at josh@morenosurveying.com.

We are sorry to announce that we will not be hosting our Four Corners Survey Seminar this year. Our time is being focused on the attendance of our chapter meetings, so please be there!

Southwest Chapter members are encouraged to show up and receive a copy of Paul Bacus' Colorado Land Surveying Laws Booklet.

Josh Casselberry, PLS
President, SW Chapter

WCLS

The WCLS chapter of the PLSC held their bimonthly meeting March 11th with approximately 20 members present. We were all entertained by our guest speaker and member Teresa Smithson as she regaled us with her stories of adventure and surveying in Afghanistan. She has taken GIS to new heights. We congratulated Tom Sylvester on his election as the latest PLSC Board Member. The WCLS Spring Seminar will be held Friday, May 1st at the Grand Vista Hotel in Grand Junction. Further news will be forthcoming. We expect our Seminar to be Brobdingnagian.

Peter T. Krick, PLS
President, WCLS

UNDERGROUND UTILITY LOCATING



Diversified Underground is a Denver Based DBE-certified Company providing Subsurface Utility Engineering (SUE), Utility Locating, Hydro Vacuum Excavation throughout Colorado and the surrounding states.



SUBSURFACE UTILITY ENGINEERING (SUE)

Diversified Underground combines utility locating, hydro vacuum excavating and data research / management to produce an accurate map depiction of existing underground utilities.

UTILITY LOCATING

Diversified Underground offers complete utility locating services for the identification and marking of privately and publicly owned underground utilities.



Phone: (303) 636-9999 • Fax: (303) 671-8728 • www.diversifiedunderground.com

S U S T A I N I N G M E M B E R S

ASSURANCE RISK MANAGERS

10651 E Bethany Dr., Ste. 300
Aurora, CO 80014
303-454-9562

AZTEC CONSULTANTS

8000 S Lincoln St, #201
Littleton, CO 80122

BERNTSEN INTERNATIONAL, INC.

P.O. Box 8670
Madison, WI 53708-8670
608-249-8549

CAD-1

12130 N. Pennsylvania St.
Thornton, CO 80241
303-427-2231

CARLSON SOFTWARE

12161 W. Layton Ave
Morrison, CO 80465
303-979-3519

COMM-TECH

5398 Manhattan Circle
Boulder, CO 80303
303-530-4976

DAVID EVANS AND ASSOCIATES, INC.

1331 17th Avenue, Suite 900
Denver, CO 80202
720-946-0969

DIVERSIFIED UNDERGROUND INC.

2851 S. County Rd. 137
Bennett, CO 80102
720-490-1321

ENCOMPASS SERVICES, LLC

394 Lake Ave S, Suite 510-D
Duluth, MN 55802
218-464-5554

FLATIRONS SURVEYING & ENGINEERING, INC.

3825 Iris Avenue
Suite 395
Boulder, CO 80301
303-443-7001

FRONTIER PRECISION INC

5480 W. 60th Ave Unit A
Arvada, CO 80003
720-214-3500

GEOSHACK

5385 Quebec St.
Commerce City, CO 80022
303-853-0311

HIXON MFG & SUPPLY CO

8775 E Orchard Rd, suite 807
Englewood, CO 80111
303-694-0012

HOLMAN'S USA, LLC

6201 Jefferson St NE
Albuquerque, NM 87109
602-725-2302

JACOBS

707 17th Street, Suite 2400
Denver, CO 80202
720-359-3060

MERRICK & CO.

5970 Greenwood Plaza Blvd.
Greenwood Village, CO 80111
303-751-0741

POWER SURVEYING COMPANY INC.

120 W. 84th Ave
Thornton, CO 80260
303-702-1617

SKLD INFORMATION SERVICES

9540 East Jewell Ave, Suite A
Denver, CO 80247
303-695-3850

SAM, INC.

555 Zang Street, Ste. 210
Lakewood, CO 80228
303-988-5852

SURV-KAP LLC

P.O. Box 27367
Tucson, AZ 85726
520-622-6011

TERRAMETRA RESOURCES

2919 Bryn Mawr Place
Longmont, CO 80503
303-709-2903

TERRAMETRIX, LLC

4852 S 133rd Street, Suite 105
Omaha, NE 68137
402-618-3165

UNDERGROUND CONSULTING SOLUTIONS

2701 W. Oxford Ave., Suite 6
Englewood, CO 80110
303-904-7422

VECTORS, INC

10670 E Bethany Dr., Bldg. 4
Aurora, CO 80014
303-283-0343

These firms support our organization. Please show them your appreciation with your patronage.

HOLMAN'S | USA
PRECISION PERFORMANCE SINCE 1955

Leica ScanStation P20 brings unprecedented data quality at range (120m, max), plus outstanding environmental capabilities, survey-grade tilt compensation, and an industry first "Check & Adjust" capability.

HOLMAN'S | USA

Call Toll Free 1-800-545-0932

HOLMANS.COM



Leica
Geosystems

A collection of various survey markers and caps. There are yellow, orange, purple, and red caps, some with metal bases. A central gold-colored circular logo reads "The Landmark Name SURV-KAP In Survey Products".

**QUALITY BEYOND
MEASURE**

EASY ONLINE ORDERING!
Your Satisfaction, Guaranteed.

SURV-KAP.com
SURVEY MARKERS, CAPS AND ACCESSORIES
800-445-5320

A gold-colored seal with a scalloped edge. Inside, it says "SATISFACTION 100% GUARANTEED".

Need to get Utilities located?



Don't let these guys scare you..

Call UCS for Utility Locating

We will tell you what they are hiding under those boxes...



Underground
Consulting Solutions

- QUALITY -
- DEPENDABLE -
- EXPERIENCED -

*We'll get the job done right -
the first time*



**Underground
Consulting Solutions**



Private and Engineering Utility Locates