

February 2017

SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 48, Issue 1



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SIDE SHOTS

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Correction In the November, 2016 issue, Control Points No. 34 – A Lost Art has a decimal point error in the stadia rod readings. Instead of 12.3, it should read 1.23 in each place. And the stadia reading shown as 14.6 should read 1.46.

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.

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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).

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Dear Fellow Members of PLSC:

I hope this letter finds everyone healthy and staying warm during our wintertime in Colorado. Based upon our late year weather we may be in for some very cold and snowy days ahead!

By the time this edition of *Side Shots* is published we will have elected our 2017-2018 PLSC BOD. I would like to thank some of the outgoing officers and board members that will not be running for a position this year. Kayce Keane, who served as Vice President and chair of the education committee: Kayce has done a very good job in her role, always contributing to the direction of the PLSC and as evidenced by the quality program for the upcoming RMSS, a terrific chair of the planning committee. Many thanks to Kayce for all of her hard work, she will be missed. Also a thank you to Patrick Green who served as chair of the ethics and fair practices committee, participant in the RMSS registrations and has been involved in the coordination of a potential surveying program at Colorado Mesa University (CMU). The other BOD members have indicated that they will be running again this year.

At the October CCPS meeting, Pam Fromhertz, the National Geodetic Survey Regional Advisor, provided information on the need for a Colorado State Geodetic Coordinator. A lot of discussion followed with a subsequent conference call in November, followed by a workshop that was held in December, in order to define the position, identify goals for the State and what resources could be used to aid the position. The current committee working on this item will provide some further details and request input at the RMSS in February.

The PLSC continues to actively participate in the input for the potential survey program curriculum at CMU. Continued thanks to Alan Blair, Tom Sylvester and others for their participation in this effort.

The RMSS conference to be held February 15-17, 2017 at the Arvada Center, in Arvada, Colorado has been finalized and I believe will prove to be one of the best programs we have had to date. Thanks to the leadership of the planning committee for their tireless efforts to bring this event to fruition.

The PLSC legislative committee continues to move forward on a County Surveyor bill that we desire to go to the legislature in 2017.

The Surveying Symposium at the RMSS will be focused on continuing education for Colorado Land Surveyors. This session is free to the public and we are seeking input from all parties. Please pass along an invitation to anyone who may be interested in voicing an opinion on the matter. Paul Bacus will be coordinating this event this year.

Please enjoy the various articles included in this edition of *Side Shots*, and I hope all members have a safe and profitable winter.

Sincerely,
Todd Beers, PLS, President



DEDICATED TO THE IMPROVEMENT OF LAND SURVEYING EDUCATION AND PRACTICE.

FROM THE EDITOR



My goal for this issue was to have it arrive in everyone's mailbox well in advance of the Rocky Mountain Surveyor's Summit, which is a few weeks earlier than in previous years. Our contributors were very cooperative in meeting the early deadline, despite the holiday activities. With

the instructors on the cover, and a two page spread about the conference and course offerings, I hope it inspires you to go directly to your computer, to www.plsc.net, select the "Education/Events" tab, and "2017 Summit," where you will find more details about the courses, as well as hotel information and costs. There is a link there for completion of your registration, for the premier educational and social event of the year for the PLSC. Please spread the word to non-members about the Summit who may have an interest.

Depending on when you read this, there may still be time to sign up for the remaining Refresher Courses in Golden. The listings appear again in this issue, and registration is available on the PLSC website.

This issue features the 35th installment of Control Points from Warren Andrews, about Stadia Surveying. Dr. Jan Van Sickle supplied us with a thought provoking column about the values of point cloud data. Earl Henderson's Rule of the Month is about C.R.S. 38-1-103, the procedure for when to and when not to subdivide a section. Joyce Young, Program Director at DORA, who wrote about the filing requirements for LSPs that come to the attention of the board if done incorrectly, and provided useful links and data about the current number of registrants in Colorado. Alan Blair wrote a short update on the effort to establish a degree program at Colorado Mesa University, where discussions with PLSC members on a curriculum continue. I have also included a listing of highlights from the NSPS Fall Business Meeting held in Chandler, Arizona in late September, the PLSC Board of Directors meeting minutes, and the always interesting Chapter News columns.

If you have an idea for a column and wish to share it statewide with your colleagues, please send me an email. I hope to see most of you soon at the Summit.

— JB Guyton, Editor

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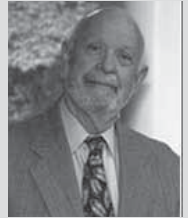
February 15-17, 2017 • Arvada Center

PLSC is pleased to announce DR. WILLIAM MORTON as our Headline Speaker

William will be presenting Wednesday on:

Andrew Ellicott: The Stargazer Who Defined America—This is the story of the survey of the first international boundary between the United States and Spain (1796-1800).

John Williams Gunnison—Surveyor, Explorer, Topographical Engineer – John Williams Gunnison (1812-1853) short but productive life coincides with the great settler migration west of the Mississippi River.



We also welcome JOHN STAHL, PLS, CFedS, on Wednesday and Thursday

Surveyor's Role in Conflict Resolution – This will be an examination and comparison between the role of the surveyor and the role of the courts.

Remedies to Resolve Property Line Problems – Surveyors are often the first to discover a boundary problem. When the surveyor discloses the problem and walks away, what other remedies are available to the surveyor?

Understanding the Risks: Surveys, Descriptions and Plats – This is an overview of various types of surveys designed to fulfill the intended purpose of the client and various elements for consideration when determining the scope of services to be provided.



EXCEPTIONAL PRESENTATIONS

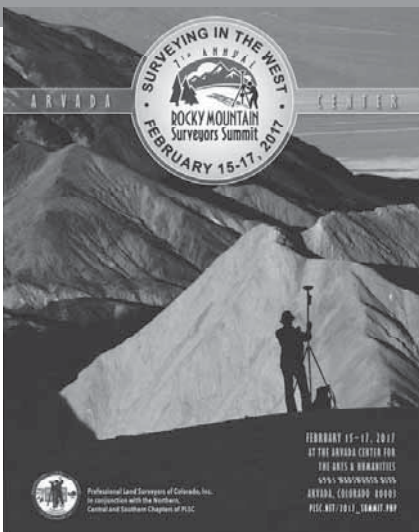
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Here are just some of the reasons you should attend the 2017 Rocky Mountain Surveyors Summit

- National and Local Speakers all in one place
- The latest products and services in the industry, with experts onsite to answer all of your questions
- Networking time with your colleagues and PLSC leadership

Up to 24 hours of continuing education
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	1-Day	2-Days	3-Days
PLSC MEMBER:	\$200	\$375	\$550
NON-MEMBER:	\$300	\$475	\$650
STUDENT:	\$ 75	\$125	\$200
EXHIBITORS (PLSC Sustaining Members Only):			\$400

PLSC Voting Member Dues are only \$150/year and include NSPS membership.

There are many sponsorship opportunities available, in addition to exhibiting. Contact us for more information (plsc@plsc.net) or go to www.plsc.net for complete Summit information and to sign up online.

Save money when you register by January 13, 2017. Catered breakfasts & lunches will be provided on all days. Online registration is available at the PLSC web site (www.plsc.net).

SILENT AUCTION/EXHIBITS:

We will be holding a silent auction during the conference. If your equipment room is cluttered up by equipment you are no longer using, please consider donating an item or two to the PLSC silent auction. In keeping with our traditional practice, our Sustaining Members have been invited to display their latest products and services. Exhibits will be in the Arvada Center entrance hall adjacent to the classrooms. Please visit their displays and show our appreciation for their continued support.

HOTEL:

The Doubletree Hotel at 8773 Yates Dr., Westminster, CO, will once again be our host hotel. There will be a shuttle bus to and from the conference hotel each day. Pick up and drop off times will be announced prior to and at the conference. For reservations, call 303-427-4000 and mention PLSC for discounted rates.

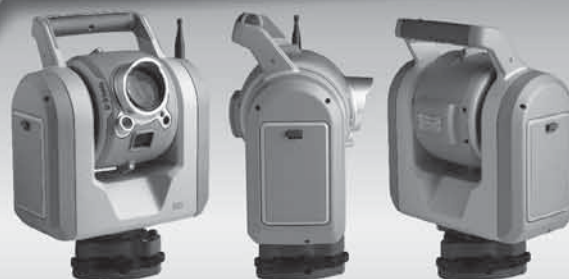
EXHIBITS / NETWORKING



Additional Presentations Include:

- CFedS Credit—Subdivision of Fractional Sections— Bob Dahl, Michael Boeckman and Sean Mullen
- Title Commitments—Don Whitmore
- Surveying in Denver: Requirements, Resource, and Reviews—Jeff Jones, Warren Ruby and Ralph Pettit
- The Geoid Slope Validation Survey 2017—Walsenburg-Durango, CO—Pam Fromhertz
- Symposium on Continuing Education Requirement—Panel Discussion open to the public
- Data Transformations and Modernization of NSRS—Dave Doyle
- What to Know and How to Prepare for a Mineral Survey Retracement and Mineral Survey Retracements/Dependent Resurveys-Case Histories and Best Practices—Gene Kooper
- DORA Presentation—Joyce Young and Earl Henderson
- Surveying Profession—Richard Serby
- Subdivisions in Colorado—Dave Pehr and Paul Bacus
- Using ASCE 38-02 to Reduce Surveyor's Liability while Providing Better Utility Data—Andrew Sylvest
- Point Clouds with Autodesk Products and GIS for the Surveyor—Ken Martinez
- Are Unmanned Aerial Systems in the Future of Your Surveying Company? - Don Hulsey
- UAS Surveying and Mapping—Bob Rubino

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2017 Colorado Land Surveying Refresher Course

The Professional Land Surveyors of Colorado are offering a comprehensive Land Surveying Refresher Course beginning January 4, 2017. 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. The course is designed to aid candidates in developing and expanding exam-taking proficiencies. The Wednesday evening classes will be 3 hours in length, starting promptly at 6:00 PM.

Fundamentals of Surveying

<u>Session</u>	<u>Date</u>	<u>Topic</u>
1	Wed., Jan. 4	Overview of NCEES FS and PS Examination Use of calculators and formulas Mock PS and FS Exam
2	Wed., Jan. 11	Fundamental Survey Calculations I
3	Wed., Jan. 18	Fundamental Survey Calculations II
4	Wed., Jan. 25	GIS, State Plane, Geodesy
5	Wed., Feb. 1	Legal Terms and Definitions
6	Wed., Feb. 8	Boundary Law

Principles and Practice of Surveying and Colorado Specific

	Wed., Feb. 15	No class - Rocky Mountain Surveyors Summit
7	Wed., Feb. 22	Public Land Survey System I
8	Wed., Mar 1	Public Land Survey System II
9	Wed., Mar. 8	Colorado Survey Law I
10	Wed., Mar. 15	Colorado Survey Law II
11	Wed., Mar. 22	Principles and Practice Topics
12	Wed. Mar. 29	Mock PS and FS Examinations

Registration, Fee, Location

The fee for the entire course is \$425, or \$75 per 3-hour block taken individually. Registration is open beginning November 1, 2016. See <http://www.plsc.net/> for registration information. Classes will be held in one of the conference rooms at the Jefferson County Courts and Administration Building (Taj Mahal), 100 Jefferson County Parkway, Golden, CO. Use the parking lot and main door on the east side of the building. Signage will lead you to the classroom. For questions, contact Becky Roland, Executive Director, PLSC, 303-551-3266, broland@plsc.net. Visit the NCEES site at <http://ncees.org/exams/> to learn more about the FS and PS examinations.

Control Points – Number 35

Stadia Surveying

By Warren Andrews, PLS

In the preceding Control Points article on Plane Table Surveying, I mentioned the use of stadia for horizontal and vertical measurement. But I probably should have gone into detail in a preceding, rather than a succeeding article, about the concept and theory of stadia measurement.

To start with, the word stadia is the plural for the ancient Greek work stadium, meaning distance, commonly 600 Greek feet or one-eighth of a Roman mile. (Oxford English Dictionary). The idea of modern stadia measurement is to read a certain length on a vertical rod at a distance by means of two carefully spaced crosshairs in a surveying instrument and convert it to a distance from the instrument to the rod. (The alternate method called tachymetry or telemetry, of reading a horizontal rod at a distance by two other crosshairs, is a whole different subject).

Stadia (also sometimes called rangefinding in artillery practice) is not as accurate for distance measurement as careful chaining with a steel band tape or by using EDM (electronic distance meter) in a total station surveying instrument. With chaining (taping) your least measurement is 0.01 foot; with an EDM it usually is 0.001 foot (even though reporting, mapping, or deed writing to the nearest thousandth in my opinion is bad practice and cannot be duplicated in the field!). Stadia is only good to one foot.

Surveying transits and theodolites have many different arrangements of the cross hairs in the vertical when you

look through the telescope. One arrangement is shown in Figure 1, which is usually the European style for better visibility so as not to obscure the foresight.

My Ainsworth mining transit is probably the simplest with one full vertical cross hair and three full horizontal cross hairs (the center and two stadia hairs). A potential mistake maker is you can confuse one of the stadia cross hairs for the true center cross hair on a vertical angle reading. A different arrangement is in my Berger mining transit which adds a full X through the center cross hairs.

Another variation in my Wild T2 which is similar to Figure 1 (because it is a European made instrument) except it has only a single rather than a double cross hair to the left in the upright position. (The two short vertical cross hairs on the horizontal are for the tachometry). Another cross hair arrangement is with disappearing stadia hairs by refocusing the instrument eye piece.

All of the above is preliminary to explaining stadia and what to do with what you're looking at. Figure 2 (from Elementary Plane Surveying Text and Manual by Raymond E. Davis, New York, McGraw-Hill Book Co. 1941, p. 153, Fig. 157) shows a horizontal stadia sighting with points and distances lettered. The optical rays are indicated from the telescope to the stadia rod. (Incidentally, I prefer a regular Philadelphia or Frisco level rod rather than a stadia board which does not have numbers on it).

The distance OF , is the optical focal length of the instrument designated f , and in focusing the instrument essentially does not change so can be assumed to remain constant. The vertical distance between the stadia hairs a and b , labeled i in the figure, is the same as a' to b' . Technically the figure as shown would look upside down in the scope but in almost all instruments there is another erecting lens, not shown, to flip the image upright again. This does not change the stadia theory of Figure 2.

The lengths c and f equal to C are set at the factory and do not change. C is referred to as the stadia constant and is usually equal to one foot unless specified otherwise. The whole stadia idea is that by similar triangles the proportion f is to i as d is to s or $f/i = d/s$ and therefore $d = f/i$. The ratio f/i is the coefficient called the stadia interval and is designated as K in the formulas.

Stadia lines are etched on the telescope reticle at a given distance apart.
Use the stadia lines to measure the target distance and elevation.

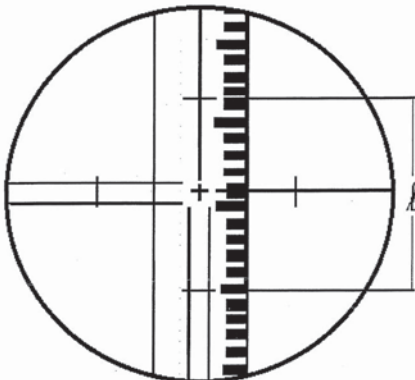
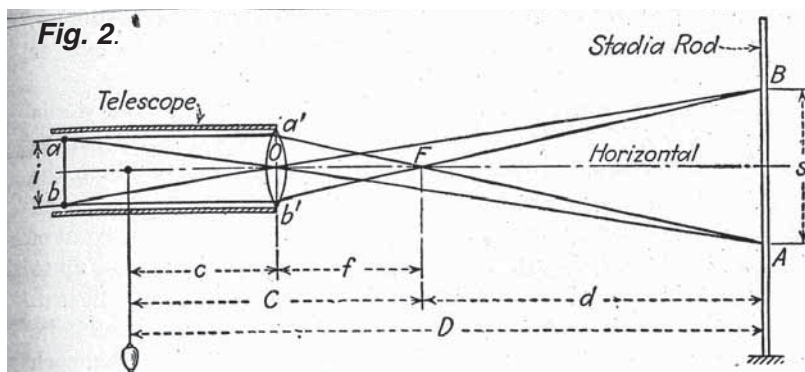


Fig. 1

The stadia lines on the telescope reticle correspond to the focal distance.
This ratio will always be supplied by the manufacturer of the equipment.
For most levels, transits, and theodolites the stadia lines correspond to one hundredth (1/100) of the focal distance.



By substitution, $d=Ks$ and $D=Ks+C$ looking at Figure 2. When f/i or K is set at the factory – the focal length compared to the distance between the stadia hairs – as 100 then your multiplier for the rod for the rod reading is 100. If you read 2.67 feet on the rod then the distance from the instrument to the rod is 267 feet plus C . (I usually disregarded C as less than a pencil point in plotting on a map anyway).

Now if you have an inclined sight with a vertical angle α you have a correction factor.

This is shown in Figure 3 (from Davis' Elementary Plane Surveying Text and Manual, p. 155, Fig. 159). The correction for slope distance ($D = Ks + C$ for horizontal sights) is the lessened difference between s , the rod reading (which is the hypotenuse of the two little triangles EAA' and EBB') and the distance EB' and EA' at right angles to the line of sight. This lessened amount is $\frac{1}{2} s \cos \alpha$ for each little triangle and for both little triangles together is just $s \cos \alpha$. So the full slope corrected distance is $D = Ks \cos \alpha + C$. Once you have the slope distance or the full hypotenuse of the big triangle you can simply figure the horizontal and vertical distances or you can by substitution use the fancy formulas shown in Figure 3.

In the BLM little red book of Standard Field Tables all stadia correction factors for horizontal and vertical distances for vertical angles from 0° to 28° in 2 minute intervals to four decimal places are printed. This is Table “Stadia Coefficients, Vertical Rod.” Over the years I have

For example if the rod reading between stadia hairs was 2.67 feet and the vertical angle was $+7^{\circ}29'$ then the horizontal correction factor from the table gives $0.9830 \times 2.67 \times 100 = 262.5$ feet. The vertical correction difference is $0.1291 \times 2.67 \times 100 = 34.5$ feet. So if the transit station elevation is 6249.5, the HI is 4.0 and the HS is 6.49 to the center cross hair reading, then the rod station elevation equals $6249.5 + 4.0 + 34.5 - 6.49 = 6281.5$.

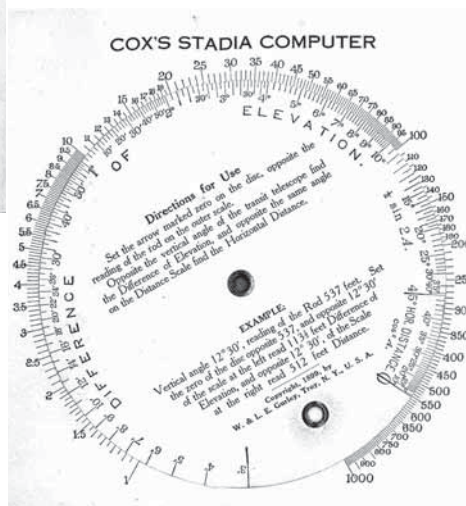
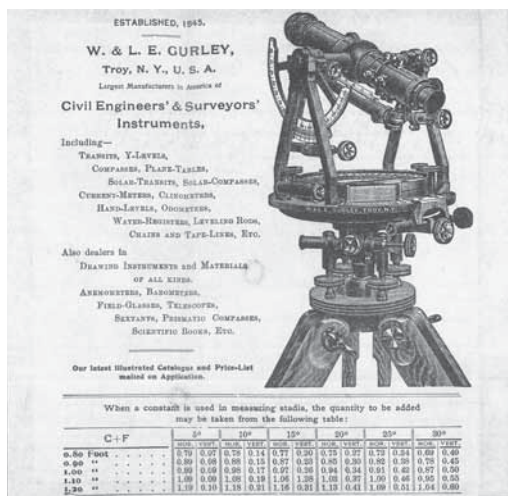


Figure 4 shows another way to figure stadia readings that my Dad had many, many years ago. W. & L.E. Gurley made it available and copyrighted it in 1899. Unfortunately, the divisions are so close together to get much accuracy from the field data.

As previously mentioned at the beginning, telemetry or tachymetry is a similar but different method of measuring horizontal angles and converting the readings to distance but I consider it a different subject from stadia.



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December 15, 2016

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 August 26, 2016, through October 27, 2016, 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. 16 S.	R. 72 W.	Sixth	1135	Plat & Notes	08/26/16	1
T. 49 N.	R. 9 W.	NMPM	1313	Plat & Notes	09/08/16	1
T. 49 N.	R. 8 W.	NMPM	1383	Plat & Notes	09/20/16	2
T. 7 S.	R. 73 W.	Sixth	1666	Supp Plat	09/27/16	1
T. 37 N.	R. 7 W.	NMPM	1559	Plat & Notes	09/28/16	1
T. 36 N.	R. 7 W.	NMPM	1559	Plat & Notes	09/28/16	1
T. 11 S.	R. 69 W.	Sixth	1666	Supp Plat	10/27/16	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

Widen your Cadastral Footprint

By Dr. Jan Van Sickle, PLS

Recently I helped a client prepare a presentation for a conference. The message he wanted to communicate to the conference attendees was simple, "No point clouds, please!" I think it is fair to say it was his response to too many presentations by service providers enthusiastically flogging the virtues of what appeared to him to be grainy, memory hogging photograph-like stuff that he couldn't possibly integrate into his existing work flow and would not, by itself, meet his business needs anyway.

In this case this potential client's objective was communication of industrial geospatial information to a large and dispersed user community. Isn't it remarkable how often a client's fundamental goal is communication? Within that goal the collection of positional data on features in the field was important. However, equally important were the field collection of attributes about those features, their correlation with spatial data and presentation of both the positions and attributes in a non-proprietary intuitive web interface to the users. That presentation had to be pushed out on the web, work well across a tiny bandwidth, and be in a form that existing personnel would understand easily and find immediately useable. His people needed correlated positions and attributes in their vernacular that they could use for their own ends.

It is not surprising that satisfying all of these objectives required integration of a variety of methods, procedures and technologies. They eventually included photography, video, GPS/GNSS, digital attribute collection, database development, web integration and too many other aspects to enumerate in a short article. The answer did have a role for 3DLS, of course, it certainly provides an efficient method to collect positional data in the field and other benefits but it is not and cannot be the lone solution in this case.

How then to explain the deluge of point clouds as **the** solution presented to him by LiDAR devotees? I suspect it can be partially explained by the adage, "When you have a hammer, everything looks like a nail," but I don't think that covers all of it. The caution, "Don't presume you have the answer until you are sure you understand the question" might also be pertinent. In this instance offering a complete and integrated solution required a service provider to have an in-house combination of what many see as unrelated disciplines, a willingness to partner with others to augment existing expertise or both. In other words, it required a real desire to widen your footprint. While that may be obvious when looking at the details of the whole problem from the client's point of view, too few do. I am sorry to say that the admonishment, "Please listen to your client" is so

shopworn as to be ineffective. It may be that the only effective encouragement for a more holistic approach is economic.

It is no secret that modes of data collection that were once intriguing possibilities are now everyday tools. The capacity to manage and analyze the massive amounts of data these systems are producing has not only kept pace but outrun them in some respects. Presentation and display have evolved to the level of virtual reality. But as the technologies shift and change clients turn more and more to trusted consultants for advice and solutions. That means that those geospatial professionals must be well-versed and capable of not only choosing and applying the most efficient and cost-effective methods whatever they are.

Data originates from a variety of sources, but the client needs a unified view. Integration is essential. It must be said that being a purveyor of such solutions has never been more of a challenge. It requires not only skill in data collection and measurement but also data management, processing, display, geodesy, photogrammetry, numerical analysis, communication and more. In other words, as the Red Queen told Alice, "It takes all the running you can do, to keep in the same place." It is nevertheless a race worth running. Those that listen to their client's most carefully and widen their footprints the most are likely to be richly rewarded.

The Markets and Markets report released last year that the global LiDAR market was about \$219 million in 2012 and will be about \$551 million in 2018. <http://www.marketsandmarkets.com/Market-Reports/lidar-market-1261.html> . That is a lot of money. I am sure everyone would like as large a portion of that market as possible. On the other hand, according to Geoff Zeiss's keynote address at South Africa Surveying and Geomatics Indaba (SASGI) last year, "Global revenues from geospatial products and services is estimated to be \$150 - \$270 billion per annum, about 0.2 % of global GDP, and this is expected to grow by an average 13% per year through 2016." <http://www.ee.co.za/wp-content/uploads/2014/05/Geoff-Zeiss.pdf>. Wouldn't you rather be playing on that field?

Rule of the Month

C.R.S. 38-51-103 Procedure for Subdividing Section

By Earl Henderson, PLS

I know you're wondering, "Don't we all already know how to subdivide a section?" After all, isn't that THE most basic aspect of learning how to survey in the PLSS? 38-51-103(1) puts into Colorado State Statute that the BLM Manual is to be followed when subdividing a section. (2) gets a bit more detailed, but continues to follow the BLM Manual for all intents and purposes. So if we all already know this, your next question has to be, "What is this guy writing this article about?" Well believe it or not this article is NOT about the procedure for subdividing a section. Like I said, we all already know how to do that. This article is about not subdividing a section. Now even I'm confused, so let me try to clear it up. How many times have any of us been faced with a survey of an entire, unsubdivided section and been asked to create a subdivision by the owner of that section of land? Maybe some of the old-timers out there have done it, and possibly one or two of us in the not too distant past. But in the vast majority of surveys in which we're surveying aliquot parts of a section these days we are not subdividing sections. What we're doing is retracing a parcel that was previously subdivided.

So the very first question any of us should be asking on almost any survey we are contracted to perform is, are we an original surveyor or retracement surveyor? Our procedures are quite different depending upon the answer to the question. Are we subdividing a previously unsubdivided parcel of land? If so, then we're original surveyors and our decisions and procedures must comply with the laws governing original subdivisions. But if we're retracement surveyors then our decisions and procedures must comply with the laws governing retracement.

The entirety of 38-51-103(2) describes how a previously unsubdivided section of land *may* be subdivided and must be monumented, along with giving the original government survey precedence. But if we have determined that we are in a retracement situation, then this entire subsection has no bearing on our survey.

38-51-103(1) states that whenever we are conducting a survey locating land described by the PLSS we *shall* proceed according to the BLM Manual. That does NOT say that we are to break down the section as if it were never subdivided before and establish monumentation based on our measurements without regard to previous subdivisions of the section. Our legal obligation in a retracement situation is to honor the original subdivisions of the section, and/or the aliquot parts. And there is plenty of support for this in the BLM Manual. My copy of the BLM Manual is almost overwhelmed with highlights supporting this concept. But just for one look at the last two sentences in Section 5-29. "Under fundamental law, the corners of the original survey are unchangeable. Even if the original survey was poorly executed, it still controls the boundaries of land alienated under it." Our obligation is not to become Mr. Fixit and redo the subdivision of the section, but to honor the original survey to the best of our ability based on the evidence.

The hard part is not knowing what to do but in actually doing it.

Be safe out there.

State Board Update

By Joyce J. Young, Program Director

State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors

Hello, Surveyors! Thanks for taking the time to pop by and read my offering for this issue of Side Shots. We hope that you will find some useful information here and consider providing us your feedback on what you might like to see us address in these pages in the future.

Observations...

When reviewing cases brought before the Board, Board Members recognize certain trends in the work prepared and submitted by some Land Surveyors. In this edition of *Side Shots* we want to highlight specific information on the topic of the requirements for filing Land Survey Plats.

The statute requiring the depositing of land survey plats, §38-51-107, C.R.S. seems simple enough. If you accept a monument that is not of record with the county clerk and recorder's office then you must submit a land survey/improvement survey/ALTA/NSPS plat. However, if you are working in a platted subdivision less than 20 years old you do not have to

deposit a plat even if you set new monuments.

Actually it is a bit more complicated than that. Per §38-51-106(1)(k), C.R.S. *Any conflicting evidence must be shown on your plat.* This would include within those subdivisions less than 20 years old. Also, Board Rule 6.5.4.1 requires that you explain on your survey why you are not accepting an existing monument and setting your own, this applies to subdivisions less than 20 years old. This topic was covered in detail in Earl Henderson's "Rule of the Month" article in the May 2016 Side Shots. Board Rule 6.5.5.1 further clarifies §38-51-107, C.R.S. in that *a plat must also be prepared and deposited for any monument found substantially at variance (according to Rule 6.5.6) with dimensions shown on deposited or filed plats or if the monument results in conflicting boundary evidence which has not previously been shown on a plat deposited or filed in accordance with Section 38-51-107(1).* Once again including newer subdivisions.

Rule 6.5.6 Precision and Accuracy Standards applies directly to the two previous Rules as it states *the PLS shall use his/her professional expertise and judgment*

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to determine the precision and accuracy required for a given project which shall meet or exceed the minimum of care established by the profession in Colorado.

Keep your address updated and sign up to participate.

As you are likely aware, Board Rule 4.11 requires you to keep your name, address, telephone, and email address current with our office. As we approach 2017 rulemaking and your October 2017 renewal cycle, it is important that the Board has your most up-to-date contact information.

To check on and change any of this information, please visit your Online Services Account at:

<https://apps.colorado.gov/dora/licensing/Default.aspx>

To sign up for rulemaking notifications, sign up at:

http://www.dora.state.co.us/pls/real/sb121_web.signup_form

To be placed on the Early Stakeholder Engagement list, where you will be engaged in rules drafting activity prior to the formal rulemaking process, please email this request to the Board Office:

dora_AESboard@state.co.us

Licensing Info as of December 15, 2016:

1693 Professional Land Surveyors with an Active license (576 non-residents);

4 Professional Land Surveyors with a license in Active w/ Conditions status (on probation/practice monitoring)

9 Suspended Professional Land Surveyor licenses (Actions from 1993-2014);

38 Retired Professional Land Surveyor licenses; and,

261 Land Surveyor Interns (dating back to 1983) - Enrollments expire when a land surveyor intern becomes a licensed Professional Land Surveyor in Colorado.

For a current list of licensees, which will include disciplinary action(s), visit <https://apps.colorado.gov/dora/licensing/Lookup/GenerateRoster.aspx>

For question about any of the information provided here, please email us at dora_AESboard@state.co.us

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Colorado Mesa University Update

By Alan Blair, PLS

As the Chair of the unofficial PLSC committee to bring a surveying degree program to the state, I offer this report on the progress toward that end.

You may be aware that a statute was passed requiring an educational component for the path to licensure as a Professional Surveyor beginning in 2020. The requirement is for an Associate of Applied Science Degree (AAS, 2 year) in surveying or a degree in some other field with a minimum 22 semester hours of relevant courses acceptable to the Colorado Department of Regulatory Agencies (DORA) of Architect, Engineer and Survey (AES) Board.

The PLSC has been communicating with colleges on the Front Range and on the Western Slope to explore what is required to initiate an AAS degree for surveyors.

Thanks in large part to Tom Sylvester, Peter Krick and Patrick Green, the most promising discussions have been with Colorado Mesa University (CMU) in Grand Junction.

CMU has engaged a consultant to produce a report on how best to develop an AAS degree. The consultant reviewed our draft of suggested courses and posed a number of questions to clarify our suggestions. They were directed questions regarding who should teach the courses, the needs and costs for equipment and what we envision for the content.

We responded to the inquiries and will seek an in-person meeting within the next couple of weeks. The consultant's report is due to the college by the end of January.

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NSPS Board of Director's Meeting

Fall Business Meeting - Chandler, AZ - September 30, 2016

John B. Guyton, PLS, Colorado Director



The NSPS Board of Director's Fall Business Meeting was held at the Wild Horse Pass Casino & Conference Center in Chandler, AZ on Friday, September 30, 2016.

HIGHLIGHTS OF THE MEETING INCLUDE:

Approval of the Spring 2016 Business Meeting minutes

Executive Director Curtis W. Sumner spoke on the following topics:

- Plaque remembering Malcolm Shaw commissioned by Director Akins (OH) and will be presented to Malcolm's family by Director Brooks (NY)
- NSPS Young Surveyors are now affiliates via signed MOU
- U.S. Institute of Building Documentation (USIBD) seeking MOU w/ NSPS
- Draft language created for Alaska DPPS
- International Property Measurement Standards has included NSPS as a resource
- hero^x is offering \$100K prize for replacement of ALTA/NSPS Land Title Survey
- Membership Poll – majority would like to have CEU's available at national meetings
- Staff is working on a database of speakers for national/state/chapter use
- Dan Muth, APLS Chairman, spoke regarding efforts from legislative groups to deregulate professional licenses
- The National Association of Realtors declined the NSPS request to add suggested language to their Code of Ethics
- Workforce Development will be a main concentration of government/agency interaction

- NSPS is now the lead organization behind "Future of Surveying Taskforce" originally introduced by NCEES

Bylaws and Resolutions Committee Chair Jan Fokens asked that members forward all educational programs consider creating a student chapter.

Geodetic Surveyor Certification Committee Chair Mike Dennis reported the group is moving forward and is looking to broaden the certification beyond strictly surveyors.

Certified Survey Technician Chair Art Haase provided the following details:

- CST applicants up 40%
- Two new Board Members (Rambeau & Burch)
- Updating tests to reflect new technology

Education Committee Chair Andrew E. Sturgeon reported on good attendance at the committee meeting and getting good ideas for new directions to entice participation. There has been a good deal of conversation regarding 4 year degrees in surveying and the difficulty many have in obtaining them due to life circumstances and the lack of a program in their area. Great Basin Community College in Nevada is currently offering a 4-year degree in surveying online which many may find interesting and beneficial.

Student Competition Chair Rich Vannozzi shared the theme of the 2017 contest – "High Precision Vertical Control Application" and will be held on Monday, March 13 in Silver Springs, MD during the Spring Business Meetings.

External Affairs Committee Chair Patrick J. Beehler reported that very few committees reported activity and would appreciate more effort by membership.

Government Affairs Committee Chair Patrick A. Smith offered these items:

- Ongoing correspondence w/ USDOL on Davis/Bacon memo reversal
- Continuing to seek legislators for utility location legislation
- UAS legislation w/ FAA Re-Authorization
- Water Resource Development Act (WRDA)
- Creation of the Political Legislation Action Taskforce (PLAT)
- PAC will require additional funding for continued

support of legislators

- NAD22 Datum Sample Legislation now available from NGS

Nominations and Elections Committee Chair Jon Warren stated a slate of candidates will be introduced as a motion later in the meeting.

NSPS Political Action Committee Thomas W. Brooks, Jr. requested that every member consider making a contribution to the PAC in order to sufficiently fund the efforts of our GA Committee.

Public Relations Committee Chair Lisa Van Horn provided a short presentation on the efforts of the committee, new materials available for directors to utilize at meetings and contests aimed at promoting the profession.

Young Surveyors Committee Chair Amanda Askren thanked the Board for completing the MOU signed prior to this meeting and provided a short presentation on the progress of the group.

NSPS Foundation Chair Joe Dolan encouraged the Board to donate to specific funds and promote scholarships to all students. He also reported the 2016 scholarship winners will be announced within the following week.

UNFINISHED BUSINESS

ALTA/NSPS Certificate Chair Paul Burn reported the committee is active and using the CST and hydrographic certification program as a template. Be aware that News and Views often has question and answer section on the ALTA/NSPS Standards, moderated by Gary Kent. Mr. Kent has entertained many questions on survey requests to perform an update. Look for his response in News and Views in the near future. During the committee meeting it was noted that the 2016 standards have addressed a lot of questions and the committee members have been please with them.

F.I.G. 2022 Chair John D. Hohol reported that he and Curt visited Orlando to meet with a conference planner for the proposed Congress. The formal bid will be finalized and made in 2018.

The official adoption of the three-day meeting schedule was accepted by the Board with further emphasis to be made on committees.

NEW BUSINESS

- Motion – Ascension of Vice President to President-Elect
- Motion – Nominations for NSPS 2017 Elections
- Motion – Policy on Elections
- Motion – Policy on Affiliation with NSPS

- Motion – National Surveyor's Week
- Motion – Public Relations Photo Contest
- Motion – NSPS/AAGS Minimum Standard GNSS Survey
- Motion – "Be A Surveyor" Website Administration Duties

(Results of motions and final documentation attached)

The following committees provided written reports prior to the meeting (See NSPS website):

- Professional Practice
- Standards Committee
- Certified Hydrographic Surveyor

KEY DIRECTOR BALLOT & PREVIOUS AWARD

The 2016 Spring NSPS Business Meeting Key Director was presented to Lisa Van Horn.

The recipient for the 2016 Fall Business Meeting Key Director by written vote is Rick Howard.

RANDOM NOTES

During the West Fed meeting Ray Mathe, representative from CA, mentioned new test/review during license renewal. The licenses would be required to review various surveying issues during online renewal and be quizzed at the end of the presentation. The format is such that if the licensee answers a question incorrectly, they are guided towards the right answer in review. In other words, everyone passes, but has to go through the informative session to complete their renewal. It seems like a great way to instill knowledge and raise the overall level of the profession, which is ultimately what we are all striving for in representing all surveyors throughout the country. Let us not forget the big picture as we meet and discuss the individual issues.

NEXT MEETING: MARCH 17, 2017 @ 9:00AM IN SILVER SPRINGS, MD.

PLSC Board of Directors Meeting Minutes

September 12, 2016 – Merrick & Co.

1. Call to Order at 4:36PM

In attendance: Todd Beers, Kayce Keane, Alan Blair, Becky Roland, Paul Bacus, Teresa Smithson, Steve Parker, Paul DeGraff, Tom Sylvester, J.B. Guyton
Not in attendance: Eric Carson, Patrick Green, Leif Joy, Parker Newby, Mike Bouchard, Roger Nelson,
Guests: Brian Dennis

2. Quorum confirmed

3. Agenda modifications

- a. Add Elections after financial discussion
- b. Add scholarship request from WCLS under Scholarship Committee Report

4. Approval of Minutes from previous Meeting

- a. Add that a Committee was established during the Chapter Summit that will work with Colorado Mesa University (CMU) on curriculum for the survey program. Volunteers for the Committee are Todd Beers, Tom Sylvester, Patrick Green, Alan Blair, and Gaby Neunzert.

MOTION: To approve the August 19 Board Minutes as amended. (Bacus/ Smithson)
Approved unanimously

5. Financial Items Beers/Blair/Roland

- a. 2016 Budget to Actual Review
 - a.i. Reviewed the July 2016 financials and discussed anticipated expenses between August and December 31 (fiscal year end)
 - a.ii. Chapter budgets due 12/1 for Chapters participating in Summit
 - a.iii. Chapter financial reports are due March 15 each year
 - a.iv. Paul Bacus requested the last financial report from the Northern Chapter from Becky.
 - a.v. Board travel to the August Chapter Summit is reimbursable
 - a.vi. Becky will adjust the account summary formula for Operational accounts.
 - a.vii. 2017 membership dues income will post in fiscal year 2017.
 - a.viii. Becky will send the August 2017 financials and summarize the investment activity/performance.
 - a.ix. Investment Performance review will occur during annual budget approval.
- b. Update on Investments

6. Elections

- a. Open Positions
 - a.i. President – Todd willing to run again

- a.ii. Vice President – Kayce unable to run again due to workload
- a.iii. Secretary/Treasurer – Alan willing to run again
- a.iv. Directors
 - a.iv.1. Tom Sylvester willing to run again
 - a.iv.2. Teresa Smithson willing to run again
 - a.iv.3. Leif Joy – Todd will contact
 - a.iv.4. Patrick Green - Todd will contact
- b. Becky will send out a call for nominations to the membership

7. Reports

- a. Scholarship – need a Committee Chairperson
 - a.i. Roger Nelson and Laine Landau volunteered to be on the committee.
 - a.ii. Tom Sylvester volunteered to chair the committee.
 - a.iii. WCLS awarded a scholarship to Cody Van Winkle to study at University of Wyoming. The award was \$1,500. Cody has been working for Peter Krick over the summer. Usually, this scholarship is presented by WCLS and PLSC. Tom Sylvester asked if PLSC would be willing to share the cost again this year.

MOTION: To approve \$750 in scholarship funds be paid to WCLS from PLSC for Cody Van Winkle's 2016 scholarship award. (Sylvester/Keane)
Approved unanimously

b. Membership Committee

- b.i. Becky sent the list of LSI/PLS that are not current members to Chapter Chairs to make personal calls to professionals in their Chapter to encourage them to join and find out why they are not currently members.
 - b.ii. Becky will send a script to Chapters to use when gathering information on why these professionals aren't members.
 - b.iii. Teresa will send the GIS map of licensed surveyors to Steve Parker this week. Goal is to post as a resource on the PLSC website.
 - b.iv. PLSC Facebook page/group has been set up. Directors are asked to join the group.
 - b.v. Steve Parker will send content to post on the Facebook page to Becky to post.
 - b.vi. Becky will be redesigning the "How to Become a Surveyor" page on the website based on other State Society pages.
- ## c. Rocky Mountain Surveyors Summit
- c.i. The program is due 9/15 and needed to finalize the online registration.

- c.ii. Central Chapter has completed their portion of the program. Northern and Southern Chapters need to review and approve what Kayce has sent them.
- c.iii. Almost all abstracts received from the membership were accepted.
- c.iv. Keynote is Stahl. Will have a presentation on Ellicott.
- d. Legislative Committee
 - d.i. No change since the last meeting
 - d.ii. Paul Bacus is still working on contact list for Chapters
 - d.iii. Tom Sylvester asked that professional certificates from DORA remain on the to do list
- e. Ethics and Fair Practices Committee – no report
- f. Trig Star Report
 - f.i. Jan Sterling wrote an article for November side shots
 - f.ii. Tom Sylvester will keep the board posted
- g. GIS in the Rockies
 - g.i. Steve Parker noted there is a full track on surveying
 - g.ii. PLSC will have a booth and an ad
 - g.iii. GIS will look for a new venue and leadership structure for 2017
 - g.iv. Anticipating record numbers this year
- g. GPS Day Planning Committee-April 29, 2017 at Compass Tools
 - h.i. The committee is planning the event with Dave Sidle and Brian Coleman who will coordinate with Boy Scouts
 - h.ii. Becky to post GPS Day on website calendar we'll have an alternate date in May
 - h.iii. Planning different activities for 2017
 - h.iv. Need to draw Girl Scouts in Teresa Smithson will send information to Brian Dennis. She will also include information for Society of Women Engineers
- i. President's Report – no additional report
- j. Vice President's Report – no additional report
- k. Secretary/Treasurer's Report – no additional report
- l. Executive Director's Report – no additional report
- m. NSPS Delegate's Report – meeting in Chandler AZ at the end of the month; CCPS is sponsoring Bob Savage to attend the Young Survey Professionals' meeting
- n. WSPS Delegates' Report – meeting after the NSPS Meeting in AZ; Roger Nelson is attending
- o. Front Range Surveying and Mapping Program Report

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8. Brief Update on Colorado Mesa University Surveying Program
 - a. CMU met Friday – no word yet
 - b. Tom Sylvester and Alan Blair will follow up with CMU and update the PLSC Board
 9. QBS Invitation (\$1,200/year)-Does PLSC wish to participate?
 - a. Need board member assigned to attend meetings – Revisit annually
 10. AAGS Affiliation Discussion -Does PLSC wish to be a member?
 - a. No cost to PLSC
- MOTION:** To approve PLSC joining AAGS as an affiliate. (Blair/Smithson)
Approved unanimously
11. Chapter Reports
 - a. Southern – member meeting 9/20 in Colorado Springs; Holiday Party
 - b. Central – no report
 - c. Northern – no additional report
 - d. NW ¼ – no report
 - e. Western – Tom Sylvester thanked the Board members who attended the Chapter Summit last month; There were about 25 attendees for their Summer Seminar
 - f. Southwestern – no report
 12. Next Meeting Date and Location – December 5, 2016 at 4:30PM at Merrick & Co.
 13. Adjourned at 6:00

Action Items Summary:

All

- Investment Performance review will occur during annual budget approval.
- Becky sent the list of LSI/PLS that are not current members to Chapter Chairs to make personal calls to professionals in their Chapter to encourage them to join and find out why they are not currently members.
- PLSC Facebook page/group has been set up. Directors are asked to join the group.

Paul Bacus

- Paul Bacus is still working on legislative contact list for Chapters
- Need to draw Girl Scouts in. Teresa Smithson will send information to Brian Dennis. She will also include information for Society of Women Engineers

Todd Beers

- Contact Leif Joy and Patrick Green to determine if they wish to serve another term

Steve Parker

- Steve Parker will send content to post on the Facebook page to Becky to post.

Becky Roland

- Paul Bacus requested the last financial report from the Northern Chapter from Becky.
- Becky will adjust the account summary formula for Operational accounts.
- Becky will send the August 2017 financials and summarize the investment activity/performance.
- Becky will set up a login for AssetMark for Alan Blair or share hers, if necessary.
- Becky will send out a call for nominations to the membership
- Becky will send a script to Chapters to use when gathering information on why these professionals aren't members.
- Becky will be redesigning the "How to Become a Surveyor" page on the website based on other State Society pages.
- Becky to post GPS Day on website calendar we'll have an alternate date in May

Teresa Smithson

- Teresa will send the GIS map of licensed surveyors to Steve Parker this week. Goal is to post as a resource on the PLSC website.

Tom Sylvester

- Tom Sylvester and Alan Blair will follow up with CMU and update the PLSC Board

Alan Blair

- Tom Sylvester and Alan Blair will follow up with CMU and update the PLSC Board

Treasurer's Report

1:48 PM
12/08/16
Accrual Basis

PLSC Profit & Loss January through December 2016

	11/30/2016	2016 Budget	\$ Difference	% Difference
Income				
Scholarship	2,600.00	5,000.00	(2,400.00)	52%
Silent Auction	1,984.00	1,500.00	484.00	132%
Summit Income	121,655.00	88,000.00	33,655.00	138%
Refresher Course Income	12,025.00	8,800.00	3,225.00	137%
Refresher DVD	1,050.00	2,400.00	(1,350.00)	44%
GIS in the Rockies	6,500.00	1,500.00	5,000.00	433%
Membership Dues				
NSPS Dues	8,360.00	8,440.00	(80.00)	99%
Membership Dues				
Voting	22,990.00	23,210.00	(220.00)	99%
Associate	6,000.00	5,550.00	450.00	108%
Sustaining	3,450.00	4,140.00	(690.00)	83%
Student	45.00	60.00	(15.00)	75%
Retired	300.00	240.00	60.00	125%
Membership Dues Subtotal	32,785.00	33,200.00	(415.00)	99%
Total Membership Dues	41,145.00	41,640.00	(495.00)	99%
Miscellaneous	410.00	50.00	360.00	820%
Side Shots Ads	3,796.00	4,000.00	(204.00)	95%
Total Income	191,165.00	152,890.00	38,275.00	125%
Expense				
BOD/Chapter Summit Meetings	1,200.17	1,500.00	(299.83)	80%
Side Shots	12,179.90	12,000.00	179.90	101%
Awards	332.65	1,600.00	(1,267.35)	21%
Scholarship				
TwIST	600.00	1,000.00	(400.00)	60%
Trigstar	500.00	0.00	500.00	0%
Other Scholarships	1,500.00	4,000.00	(2,500.00)	38%
Refresher Course	1,959.22	1,500.00	459.22	131%
Supplies, Bus	19.57	150.00	(130.43)	13%
Storage	400.00	600.00	(200.00)	67%
Merchandise				
Tax prep		2,000.00	(2,000.00)	0%
Web Site	880.00	4,000.00	(3,120.00)	22%
Web Site - Don Lambert	1,000.00	1,000.00	-	100%
Lobbyist	7,500.00	5,000.00	2,500.00	150%
Travel, Bus				
BOD Travel	534.66	3,000.00	(2,465.34)	18%
WFPS Travel	1,682.64	6,000.00	(4,317.36)	28%
NSPS Travel	2,253.69	9,500.00	(7,246.31)	24%
Credit card/Bank Expense	3,440.97	3,669.36	(228.39)	94%
Insurance	600.00	600.00	-	100%
Miscellaneous, Bus	20.00	150.00	(130.00)	13%
Phoenix AMC	20,212.50	28,000.00	(7,787.50)	72%
Postage	555.06	500.00	55.06	111%
Dues				
NSPS Dues	8,360.00	8,440.00	(80.00)	99%
Chapter Disbursements	5,500.00	5,500.00	-	100%
RMSS Chapter Distribution				
NCPLSC	3,552.00	3,552.00	-	100%
SCPLSC	3,900.00	3,900.00	-	100%
CCPS	6,750.00	6,750.00	-	100%
RMSS Meeting Expense				
Promotion	450.00	2,500.00	(2,050.00)	18%
Supplies	22.77	750.00	(727.23)	3%
Copies/Printing	3,322.41	1,000.00	2,322.41	332%
Attendee Food/Beverage	28,596.54	25,000.00	3,596.54	114%
Speaker Travel/Expense	5,646.57	8,000.00	(2,353.43)	71%
PLSC Meeting Expense - Other	-	500.00	(500.00)	0%
Total PLSC Meeting Expense	38,038.29	37,750.00	288.29	101%
Total Expense	123,471.32	151,661.36		
Net Income	67,693.68	1,228.64		

Account	Balance	Date
PLSC Business Savings - Wells Fargo	\$285.66	11/30/2016
PLSC Business Checking - Wells Fargo	\$21,548.93	11/30/2016
Key Bank - Checking	\$10,000.00	11/30/2016
Key Bank - Savings	\$30,000.00	11/30/2016
Invest at Personal Benefits	100,000.00	
Total Operations:	\$161,834.59	
PLSC Scholarship Fund Savings - Wells Fargo	\$186,368.11	11/30/2016
Invest at Personal Benefits	\$174,527.24	7/31/2016
Total Scholarship:	\$360,895.35	
Total:	\$522,729.94	

Greetings PLSC Membership.

Your PLSC Board has made another financial decision affecting your PLSC holdings.

President Beers, Executive Director Roland and I met at Key Bank to begin the transfer of funds from Wells Fargo. KeyBank is one of the largest bank systems in the United States.

The recent indiscretions toward depositors by Wells Fargo irked many of us and continued affiliation with the institution is unnecessary as other equal choices are available. PLSC was not affected by the scandal, but it still raises concerns.

Beyond that, I have been receiving fraudulent requests to make wire transfers from an unknown source. I point this out as another reason to switch banks and also to provide a cautionary tale. The wire transfer requests come from a legitimate email address and ask that I contact the sender for details to make the transfer (The source of the requests is not Wells Fargo). I have no reason to execute wire transfers on behalf of PLSC and ignore the requests, but they continue to arrive in my inbox once a week or so. Further inspection of the email address reveals that, though the text appearing on the sender line is apparently legitimate, a reply would go to an entirely different source. It is my hope that changing banks will eliminate this annoyance.

At the time of this writing, we have not received an up-to-date accounting for the recent investments with Personal Benefit Financing. We promised that in December, but it is not yet available. I will report on that at the Board meeting during the Summit in February.

CCPS

Greetings everyone. Here we are again, Thanksgiving is over, Christmas is quickly approaching, and another great year is almost in the books! I'd like to start by saying thank you to the dedicated CCPS members I see time and time again at the general meetings. During the October meeting in Golden we had some excellent conversation regarding future CCPS-funded special projects, prospective general meeting topics, special project showcases, and improved membership benefits. The feedback gleaned from these conversations is invaluable to the CCPS board as we want nothing more than to provide our members with the services and support they demand. Look forward to a great 2017 schedule.

As the CCPS begins to plan our 2017 General Meeting calendar we will definitely take all of the valuable information into consideration when formulating the upcoming events. I would like to remind all of you that we would be very excited to offer you or your company an opportunity to showcase one of your exciting projects to the rest of the surveying community. Please reach out to any of our board members to discuss.

Over the last year the CCPS as well as the PLSC and other chapters have been diligently working on planning the upcoming PLSC 2017 Rocky Mountain Surveyors Summit that will be held February 15-17, 2017 at the Arvada Center. The CCPS would especially like to thank Kayce Keane and Todd Beers from the PLSC for keeping us all on track. The time and energy they put into this annual event is staggering. If you see them out and about please give them a pat on the back to show your appreciation. The conference lineup looks outstanding and the online registration is ready for enrollment!

As Kevin mentioned in the last edition of *Side Shots*, two CCPS Board of Directors members recently relocated out of state, so we currently have one opening for a Board member – the candidate does not have to be a PLS. If you or someone you know is interested in serving on the Board of Directors, please send an email to colocentralsurveyors@gmail.com

I hope all of you had a wonderful holiday and happy new year!

David Kuxhausen, PLS
CCPS President

NC-PLSC

The Northern Chapter met in November at Tait and Associates for a presentation from Lee Lovell on "Survey Data Adjustments and Boundary Survey Calculations That Resemble Survey Data Adjustments". His presentation on statistical accuracy was enlightening for us younger surveyors especially. It is always very easy to take for granted the computing power that our equipment has these days and makes us better surveyors to understand where these data and calculations are coming from. Paul Bacus was in attendance to discuss and brainstorm the layout and design for the 2017 CRS manuals and in between updates from the World Series Game 7, I think we made some real progress. We continued our discussion about beefing up recruiting efforts as well as changing the meeting days to allow people to attend who might otherwise be obligated elsewhere.

Our annual Christmas party was held at Grimm Brothers Brewery in Loveland. Heather Lassner gets all of the credit for a great night, with Christmas trivia, food and libations. We had no agenda or talking points, but somehow discussed surveying all evening long.

We look forward to a new year with the PLSC and hope to see everyone in February at the Summit.

Steven Parks, PLS
President NC-PLSC

NW 1/4 CLS

A fair section of the NW1/4 attended the late fall seminar in Casper, Wyoming to meet our CEU requirements for the other states we are licensed in. Ironically, bordering states of Nebraska, Wyoming, New Mexico and Utah all have requirements of CEU's and our home state has none. I suspect I am preaching to the choir here, but I find it fascinating that one of the best educated states in the union with a burgeoning high tech business sector has no requirement for any CEU's. I wouldn't worry about it; the world does not change much anymore.

So, in the vehicle with me on the road trip to Casper from Craig was Lloyd Powers, PLS and Mike Frahrer, PLS. We were set on attending the session on Boundary Lines and Prescriptive Easements hosted by Kristopher M. Kline of North Carolina. It turned out to be one of the more informative and relevant seminars I have attended over the years. Many times, these seminars tend to drift to the esoteric and the everyday practices of a Surveyor can fall by the wayside. This year, it was not the case. The Boundary Law and Prescriptive Easement sections quoted state statutes from all the surrounding states, but

CHAPTER NEWS

there were more similarities than differences between the states. Although the statutory limits can vary from five years to twenty years depending on the State and circumstances, the fundamentals of what constitutes adverse possession and a prescriptive easement is remarkably similar between the states. The exceptions seem to be Kentucky and West Virginia, where I suspect illegal stills may exist, but all kidding aside, these two states sort of bucked the norm: usage for a period of time by another party, open and hostile, sometimes paying taxes depending on the State and the fact that the legal transfer of that land or prescriptive use actually takes place at the end of the statutory period, not when the actual court case occurs. So if your eighteen years for adverse possession in Colorado finished in 2000, that is when you actually took title to the property, not the court date of November of 2016.

Poor people that lost the property to either adverse possession or prescriptive easements do not get a refund on their paid taxes for all those years that someone else used it!

On the way back from Casper, we stopped in at Independence Rock, which is a National Historic Landmark. It also has some surveying history relevant to us all, and with the permission of our esteemed editor, that will be a future article.

Brian T. Kelly
President, NW ¼

SC-PLS

The November Members Meeting was held at Farnsworth Group in Colorado Springs. Our Speaker was Pam Fromhertz, NOAA National Geodetic Survey Colorado State Geodetic Advisor. She spoke on the progress of the new upcoming GEOID. The GEOID Slope Validation Survey 2016 requires many high accuracy control points to be set east to west along Interstate 70, Hwy 50, & Hwy 160 in Colorado. They are spaced approximately every mile along the survey route, capable of being occupied by a GPS fixed height pole tripod, a level rod and a Lacoste-Romberg relative gravimeter. In the end we are looking to have 2cm accuracy (based on a 1 cm gravimetric geoid) in Colorado. Pam also touched on several other topics such as using DS World, and OPUS project. In the end we all enjoyed a mouthwatering spread of smoked brisket, pulled pork, baked beans, and fried okra from Bird Dog BBQ.

For more details and to get involved with southern chapter events, check us out at: www.scpls.net

Don R. Hulsey, PLS
SCPLS President

SWC-PLSC

The SW Chapter will hold its next meeting on January 17th, 2017. Our speaker will be Dave Freienmuth from Animas Surveying and Mapping. Dave is the La Plata County plat reviewing surveyor and will be discussing his role in that capacity. This is a contracted position that is separate from the elected County Surveyor and Dave will be informing the group on his process for doing plat reviews on behalf of the Planning Department.

The SW Chapter wishes the entire Colorado survey community a Happy New Year.

Parker S. Newby, P.L.S.
President – SW Chapter PLSC

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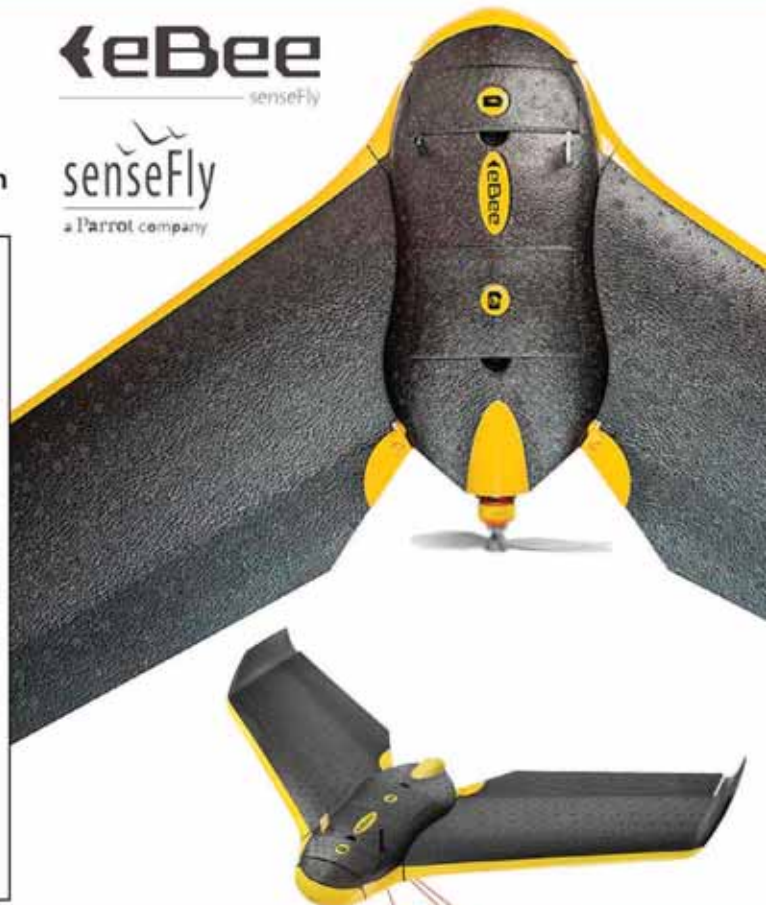
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