

May 2017

SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 48, Issue 2

THE STORY OF TWO LIMESTONE MONUMENTS

BY GABY NEUNZERT

— SEE PAGE 6



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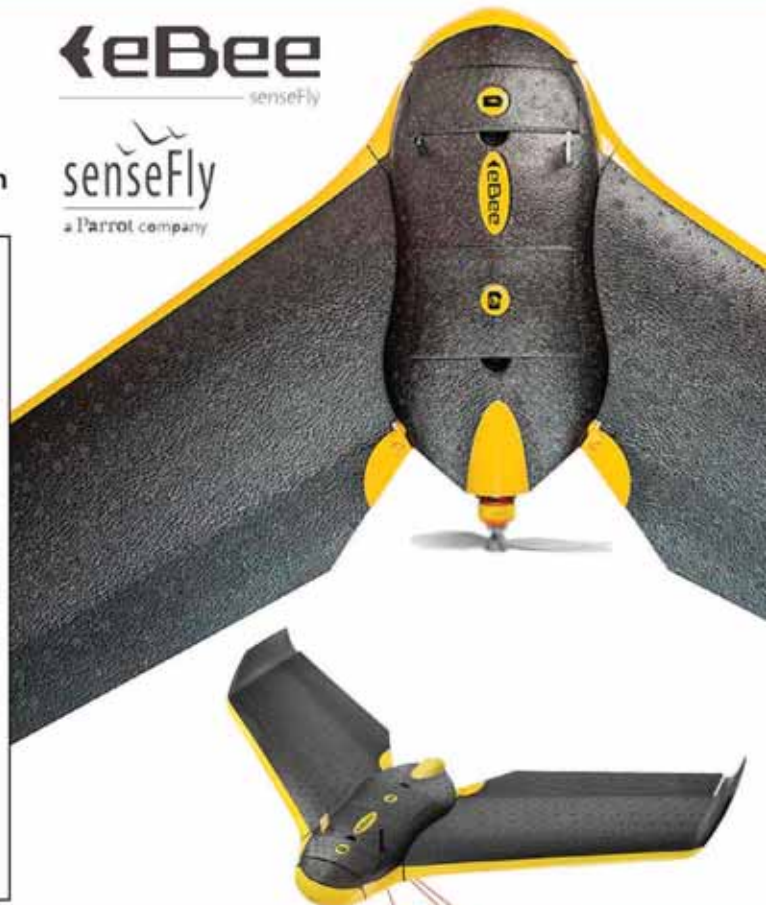
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SIDE SHOTS

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VOLUME 48

NUMBER 2

■ President's Letter	4
■ From the Editor	5
■ The Story of Two Limestone Monuments	6
■ We are Almost There!	9
■ Control Points No. 36 – Telemetry	10
■ Rule of the Month: Asking Questions	12
■ BLM Cadastral Letter	13
■ 2016 PLSC Awards	14
■ NSPS 2017 Spring Conference Report	17
■ Scenes from the Rocky Mountain Surveyors Summit	18
■ NSPS Board of Directors Meeting	20
■ Legislative Committee Update	22
■ Chapter Summit Report	24
■ PLSC Board of Directors Meeting	29
■ Chapter News	31
■ Sustaining Members	34

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Dear Fellow Members of PLSC:

Is everyone ready for springtime in Colorado! With the extremely mild weather along the Front Range it hasn't really felt like we had a winter this year. Hopefully Mother Nature will not do much harm once the trees and bushes have begun to bud out.

We have just completed our RMSS conference for 2017 and although the final numbers are not yet in, it appears that financially this was another successful PLSC event. At the RMSS the 2017-2018 PLSC BOD was introduced along with the committee chairpersons. I would like to thank Kayce Keane, who served as Vice President and chair of the Education Committee and the RMSS Executive Planning Committee for spearheading the planning and execution of another quality RMSS program.

Two major items are coming to fruition this year, the bill/law regarding County Surveyors and the funding of a potential two year surveying program through Colorado Mesa University (CMU).

First, congratulations to Paul Bacus, chair of the Legislative Committee for his determined leadership in getting a bill that better clarifies the duties of a County Surveyor and identifies services that can be provided by the County Surveyor passed into law in March. Most importantly the bill brought a much better understanding of the role of Professional Land Surveyors in the State of Colorado to both legislative houses in Colorado, and with this knowledge will serve to protect the important role that surveyors have in Colorado in the future. Thanks also go to Warren Ward, Bryan Douglas, Leif Joy and our lobbyists for their support & suggestions for the bill.

The second item is that the PLSC continues to actively participate in the input for the potential survey program curriculum at CMU that now includes a commitment for an endowment to support the program over the next 5 years. Details are being worked out with CMU but we believe that a two year program has a high degree of becoming a reality for the fall of 2017. Continued thanks to Alan Blair, Tom Sylvester, Patrick Green and Teresa Smithson and others for their participation in this effort.

We continue to compile information related to the filling of the position of a Colorado State Geodetic Coordinator. There was a brief presentation at the RMSS and Teresa Smithson will be introducing this position at the GIS Colorado meeting in Grand Junction in April 2017.

continued next page

FROM THE EDITOR



There is more interesting news and information in this issue than usual, I am pleased to say. With two excellent articles from Gaby Neunzert and Warren Andrews, news from the highly successful Surveyor's Summit and Chapter Summit meetings, progress in the state legislature and with

the latest efforts to establish a new degree program in surveying at Colorado Mesa University, and the reports on the spring conference of the NSPS, there is something for everyone in this issue.

Gaby's article is about the mysterious limestone monument placed in the northeast corner of Colorado in the 1860's, and how such a large monument could have been set in those days. Thanks to Jerry Penry for supplying current day photos from this remote location.

Tom Sylvester wrote an update article, "We're Almost There!" about progress toward a program at Colorado Mesa University, including funding progress and a search for a professor. Tom is "guardedly optimistic" that a new program will be in place by the fall of this year, which is very good news indeed. Following his article on stadia, Warren Andrews now addresses the technique of telemetry, used for measuring distances remotely. Earl Henderson's rule of the month feature is about asking the right questions for boundary determinations.

We then have a list of the 2016 PLSC appreciation and distinguished service awards recipients, each of whom were presented a plaque at the Surveyor's Summit in February. I have put together a brief summary of my meeting at the NSPS spring conference

in Silver Spring, Maryland, including "Lobby Day" meetings with some of our elected officials. This is followed by a long list of highlights from the NSPS Board of Director's Meeting.

There is a legislative update from Paul Bacus, covering the issues of the county surveyor, Torrens Title, and digital document storage by clerks and recorders. This is followed by the transcript from the Chapter Summit meeting, held on February 15th during the Surveyors Summit conference. As you will see, it was another lively and substantive discussion about many topics of interest to the chapters. And as usual, this issue wraps up with the latest news from the chapters.

As the NSPS Director, I enjoy reporting the details about news, activities and initiatives of the NSPS. But there is a better and more direct way. There is an email called "*NSPS News and Views*" sent out weekly that I personally find to be well worth reading. You can scan the topics and click on only those that are of interest to you, often taking less than a minute. Give it a try! It used to be restricted to members only, but is now available to all, so you can share it with any colleagues who may be interested. Go to www.nsps.us.org and under the Resources tab, select *News and Views*. There is a "Subscribe" link in the upper left. You can unsubscribe at any time, of course. The stories are right there on the web page too, but I find the weekly email to be a convenient reminder to check in on the latest. Keeping us informed is an important part of the mission of NSPS, and of the PLSC via *Side Shots* and other means. News and stories for this magazine are always welcome.

JB Guyton
Editor, *Side Shots*

President's Letter from page 4

The PLSC GPS day is scheduled for April 29th, 2017 in conjunction with the scouting event at the National Western Stock show complex. Please watch for announcements by email and on the website as the day nears. Thanks to Brian Dennis for coordinating this event this year.

The Surveying Symposium at the RMSS focused on Continuing Education (CE) for Colorado Land Surveyors. This session provided discussion on the pros and cons of a requirement for CE in Colorado. At the NSPS conference that I attended in March, I was able

to discuss the CE requirement with many other state leaders and gathered their input. This will be one of the key initiatives the PLSC legislative committee will be pursuing this year.

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

Sincerely,
Todd Beers, PLS, President

The Story of Two Limestone Monuments

By Gaby Neunzert, PLS

When Colorado became a state on March 21, 1864, surveyors were called upon to survey the boundaries of the new state. This presentation only addresses the theory and associated field work for the initial monumentation of the NE corner and a point-on-line common to Colorado, Nebraska and Kansas in September-October 1868 by Oliver N. Chaffee.

Colorado and Wyoming are the only states in the union which have a 90° angle in each corner of their state boundary and their shape, at least conventionally, could be called a rectangle. But when draped over the “spherical” earth, Colorado’s northern (latitude 41°N) and southern border (latitude 37°N) as east-west lines, follow a small circle route of different radius and are called parallels. The eastern (longitude 25°W) and western (longitude 32°W) borders, called meridians, are straight lines which ultimately converge at the geographic pole; thus because of convergence the northern border is shorter by about 21 miles than the southern border. Roughly, the southern border is 386 miles and the eastern and western state lines are about 276 miles long. Colorado’s eastern boundary changed from 25° W to 102°03’05” W, when the US changed its prime meridian from Washington to Greenwich in 1884.

Conceptually, it is possible to locate a point horizontally on the surface of the earth by several

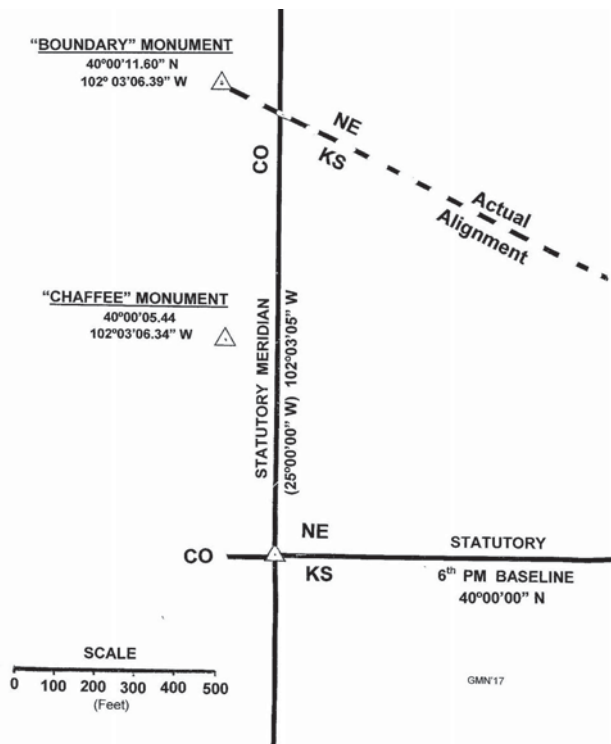
methods, but ultimately all latitude and longitude determinations start with astronomical observations. In the northern hemisphere, vertical angle observations to a navigation star for latitude need to be made; the classical star used was Polaris, the North Star. Longitude on the other hand requires a joint observation of a star and an accurate time difference to a reference astronomical station. At sea, accurate time became possible with John Harrison’s portable chronometer in 1837, which made positioning within several nautical miles possible. In the continental US a timing error of one second resulted in a positional error of roughly 1200 ft, an accuracy not routinely achieved until the 1930’s, when radio shortwave was used to broadcast the Greenwich Mean Time (GMT) signal.

A modern day illustration for determining longitude can be made by imagining a star, or the sun, shining a vertical laser beam onto the rotating earth below. The beam, actually a vertical meridian plane, would sweep from east to west around the earth in 24 hrs mean solar time or in 23h56m04.9s sidereal (star) time. By selecting a starting point, i.e. the Royal Greenwich Observatory, and knowing for example that the “beam” has traveled for 2 hours to the west, the longitude is: 24hrs for 360° or 1 hr for 15° and 2 hrs for 30° west.

With the completion of the first railroad line along the Platte River in 1870 and the use of their telegraph, which was invented by Samuel Morse and others in 1844, the stage was set for latitude and longitude determination. Usually the local observatory was located on railroad property within earshot of the telegraph shack. Station [“USE ASTRO PIER”, PID AT2900 with NAD’83 coordinates of 40°59’09.0066” N and 102°21’40.27738” W], about 5 miles west of Julesburg, is still in place some 140 years later ! Of historical note is the fact, that this station most probably was used by the astronomer F. Kampf, 5 years later, as part of the Wheeler party survey of Colorado.

A modern surveyor possibly will have to expand his/her creative imagination to realize that a concrete pier or a stone footer of old “astro” station is a necessary ancestor of GPS. Other than a base to mount an instrument, the site preparation was minimal. A canvas “fence” 6-8 ft tall with an opening to the north was erected to break the never ending wind. Probably by the “method of equal altitudes” a meridian was established and referenced with a permanent sight. Illuminating, especially of the crosshairs, without electricity, must have been a constant problem; a candle or a kerosene lantern comes to mind.

Making the astronomical observations for longitude by the meridian passage method required patience. With only written Morse code communication, the observer at the reference station in the east (on the grounds of



Statutory vs Actual Monumentation

the Omaha Central High School, Nebraska) and the field surveyor in Julesburg had to agree in writing on the stars to be sighted and the times to be observed. At the reference station, with the instrument in the erect position and aligned on the meridian, the instrument person called out “mark” when the proper star just touched the vertical crosshair (made from spider web). Upon hearing the command, an assistant then notes the time to the nearest second on a chronometer. After waiting about 25 minutes for the star to “travel westward” from Omaha to Julesburg, the field surveyor sees the star in the instrument, which is already aligned on the meridian. Again, when the star touches the vertical crosshair, he calls out “mark”, but this time the telegraph operator sends a “click signal” back to reference observatory, where the time to the nearest second is recorded. The time difference divided by roughly 15°/hr yields the longitude difference. A basic addition to the operation required that during the following night the procedure was repeated with the telescope in the inverted position, in order to minimize leveling and instrument errors. Accuracy improved appreciably with the invention of direct keying and the use of a chronograph, which eliminated the voice commands.

Starting at the “Astro” station in Julesburg, CO, the General Land Office surveying party with Oliver N. Chaffee-surveyor/astronomer in charge, ran due north for a distance of 89.65 chains to the 41° N parallel. Next they turned due east and after 16 miles 10.47 chains arrived at the NE corner of Colorado where the first limestone monument was set. [NE Corner of Colorado, Reset, MN0401, NAD’83’ coordinates 41°00’08.46340”N 102°03’05.63653”W, last station recovery 2015]. Compared to a theoretical location, the monument is located about 850 ft too far north and amazingly right on the meridian. Starting on September 24, 1869, the survey party followed the meridian due south on a random line, from the NE Corner just set.

On September 28 and roughly 69 miles later they arrived in the vicinity of the 40°N Parallel or the 6th Principal Meridian Baseline, surveyed by Todd and Withrow in 1859. Unfortunately they could not find any evidence of it on the ground in order to set the tri-point of CO, NE and KS at the intersection of the meridian and the baseline, as required by statute - see drawing. From astronomical observations, most probably a solar observation, the location of the 40°N Parallel was calculated and a monument was set – later called the “Chaffee monument” [Chaffee Corner, LK0526, NAD,83 coordinates 40°00’05.44125”N 102°03’06.34448”W]. Compared to a theoretical location, i.e. at the 40°N Parallel (the Kansas-Nebraska state line) the monument is located about 540 ft too far north and amazingly only about 100 ft west of the meridian. From the monument just set, the line was run due north, with section corner monuments set every mile, for a distance of 68 miles 79.59 chains, back to the 41st parallel. The return survey started on October 1, 1869 and finished on October 7; even in modern times, roughly 150 years later, it would be very difficult to resurvey this in as short a time, even



with automobiles, GPS and all the modern amenities.

Following the surveying principle that a monument on the ground controls, it is not clear why a second monument, labeled [BOUNDARY MON CO, KS, LK0774, NAD,83 coordinates 40°00’11.60021”N 102°03’06.39188”W] was set in 1990. This now locates the “new” and official monument about 1170 ft to the north and about 130 ft to the west of the statutory position.

Other than the physical evidence of a stone marker(s) still standing, there are no written records for two of probably some of the largest surveying monuments set in the state of Colorado and how they were placed. It is strictly conjecture, but is assumed, that both monuments were delivered by the railroad and this immediately raises the question how to cross the South Platte River, which is about 1/3 mile wide, on the way to the ultimate destination. A quick calculation of a 1 ft by 1 ft by 6 ft tall limestone monument yields a weight of about 1,000 lbs, or the equivalent of about 10-12 sacks of cement. Even with a single stone, this would require a wagon drawn by 2 horses. With probably no bridges and certainly no roads, it undoubtedly took some skilled driving to maneuver the load across at least 70 miles of open prairie. Also without a motorized hoist nearby, to load and unload the wagon must have posed a challenge; a ginpole, block and tackle, as well as just raw manpower, come to mind. Unlike a modern surveying party consisting of at most 2 people, this surveying team of bygone days must have consisted of the chief surveyor, at least one or maybe two chaining parties of 3 people each, a cook complete with a “chow” wagon and horse, the wagon carrying the monument(s) with at least 2 horses and a driver, and finally there must have been more men hired for manual labor. Progress probably was not impeded by searching for the land owner to receive permission to trespass, or waiting for a key to a locked gate. ■

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We Are Almost There!!

An Update on the Status of a Land Surveying and Geomatics Degree Program at Colorado Mesa University and Western Colorado Community College

By Thomas W. Sylvester, P. E. and P. L. S.

As most of you may know from the article by Alan Blair in the February 2017 Side Shots, the PLSC has been investigating ways to bring a surveying degree program to Colorado. Our most promising avenue appeared to be an Associates of Applied Science degree through Western Colorado Community College (WCCC) under the auspices of Colorado Mesa University (CMU) in Grand Junction, Colorado.

Our ad hoc committee has been Alan Blair, chairman, Teresa Smithson and me, with significant contributions from Gaby Nuenzert, Paul DeGraff, Patrick Green, Peter Krick, Rick Mason, and Becky Roland. This committee worked closely with Jean Adkins, a special consultant assisting Tim Foster, President of Colorado Mesa University, as she prepared an extensive report discussing the pros and cons and the financial consideration of the two-year Associates of Applied Science degree in surveying. Just before the Rocky Mountain Summit she provided us with an Executive Summary of her report to President Foster. This Executive Summary was discussed at the Chapter Summit Wednesday night and for all of the attendees of the Rocky Mountain Summit during Thursday lunch. The report recommended a 2 year Associates of Applied Science degree designed to hopefully meet the AES Board's educational requirement for licensure and ABEET's criteria for such a survey degree program. The program is now winding its way through the WCCC/CMU approval process.

In the meantime, the PLSC has entered into discussions with Liz Meyer, the CEO and VP of Development for the Colorado Mesa University Foundation, for the PLSC to provide endowment seed money to help fund the program. In March the PLSC Board of Directors passed a resolution to provide \$250,000 over five years to an endowment, pending approval of the language of the endowment and approval of the program. This will consist of \$100,000 up front with the remaining \$150,000 to be raised incrementally in the years to follow. We have received an initial first draft of the Memorandum of Understanding which is being reviewed internally as this is being written.

Also in March, the WCCC Curriculum Committee approved the program. Dennis Bailey-Fougner, Vice President, Community College Affairs at WCCC, has reached out to the PLSC for assistance in designing advertising brochures for recruiting students for the program. Becky Roland is in the process of using the NSPS and PLSC resources to help create the brochure.

On April 13, 2017, the CMU Curriculum Committee met and approved the program as an Associates of Applied Science Degree in Land Surveying and Geomatics and as a Post Baccalaureate Certificate program in Land Surveying and Geomatics.

There are still two stages left before the program is officially approved. These are the Faculty Senate which should meet in late April and the CMU Board of Trustees which should meet in May. However, Christine Murphy, WCCC and CMU Developmental Education Director, assured me that the most important approval was the CMU Curriculum Committee. The Faculty Senate and CMU Board of Trustees are typically pro forma approvals of the CMU Curriculum Committee's recommendations. However, I caution that it's not over until it's over!

Ms. Murphy was optimistic enough in the approval to ask the PLSC's ad hoc committee to help establish the qualifications for the professor to head the program so that they will have little delay in starting their search once final approval is given. Those of you who think you may be interested in the position, please dust off your resumes and be ready to apply as soon as they advertise. We want to be sure we have the most qualified individual to develop and head up the program.

I am guardedly optimistic that we will have a Land Surveying and Geomatics program at WCCC starting in the fall of 2017.

In the meantime, Ms. Julie Christiansen, a math teacher at Central High School in Grand Junction who has championed our Trig Star program, has gotten approval through the state for an Introduction to Land Surveying program at Central. Central High School is the STEM school for the Grand Junction District 51 School District. This course will meet 2 times per week for both the fall and spring semester and may well be our first "feeder" school for the WCCC/CMU program. Although, next year's class registrations are not done yet, Ms. Christiansen says word of mouth indicates that there may be 8 to 10 students interested. The PLSC and Western Colorado Land Surveyors chapter have offered to assist her in any way we can.

All in all, it appears that we have a very healthy future for surveying education in Colorado.

I want to thank everyone who has participated to date to get us this far. Without all of their support, enthusiasm, and hard work, we would not be where we are today. ■

Control Points – Number 36

Telemetry

By Warren Andrews, PLS

Besides stadia, another method of measuring distances remotely, before EDM's, was by using a horizontal bar of known length and recording the horizontal angle between the end points of the bar. (The two horizontal tic marks shown in Figure 1 would only work for stadia if you could anchor the stadia board or level rod horizontally at a right angle to the line of sight).

The principle of using a horizontal rod of known length (the Wild rod shown in Figure 2 from an old Wild Heerbrugg instruction manual is an exact two metre invar subtense bar) is part of the overall concept of telemetry or tachimetry.

If you use a two metre bar and measure the angle subtended between the two ends then for a right triangle with the small angle being half of your measured angle, you have the third angle of the triangle by subtracting the small angle from 90 degrees. You also have the short leg of the right triangle as being exactly one metre. Therefore by straight trigonometry, you can solve for the other two sides of the triangle. With a measured vertical angle you can then solve for the horizontal distance and elevation.

An alternate is if you use the full length of the subtense bar as the short side of the right triangle and the full measured angle as the smaller angle of the right triangle to compute with. Possibly longer distances could be achieved this way if the subtense bar at one end is at

right angles to the line of sight rather than the middle of the bar being at right angles. Note: There is never a vertical correction for distance using this method as there is in stadia measurement for an inclined line of sight. ■

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

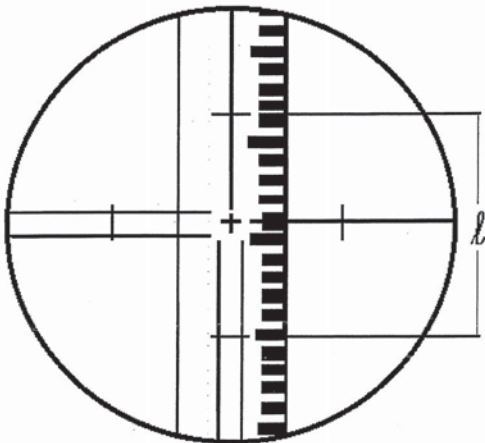


Fig. 1

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) focal distance.

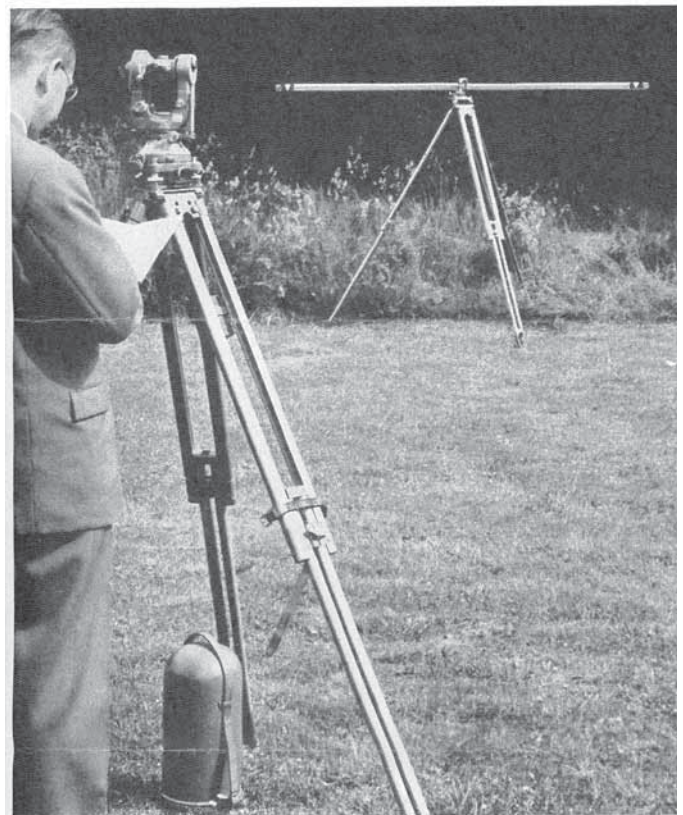


Fig. 2

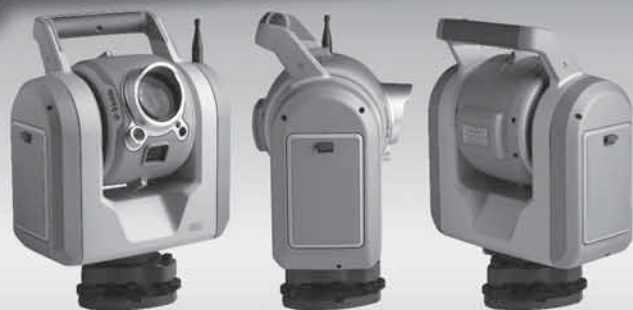
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Rule of the Month: Asking Questions

By Earl Henderson, PLS

So...I've been wondering lately if we, as a profession, are asking the right questions of ourselves when we're performing our boundary determinations. Or more particularly, I'm wondering if we're asking ourselves the questions in the right direction. For instance, if we're measuring to a particular corner location and find a monument in that vicinity (which brings up the question of "How far off is too far?") often the question that comes up about the previous surveyor is "How far off were they?" Should we instead be asking ourselves "How far off are we?" Let's ignore, for the moment, the issue of making boundary decisions based on measurements and focus solely on the measurements... just this once. So if the measurements are being analyzed don't we first need to know how much error is in our measurements before we can even ask if the previous surveyor was off at all? Just because we measured to a location 0.20' different from the found monument doesn't mean that found monument is outside our error ellipse, right? So if it's inside our error ellipse why would we not accept it as marking the corner? And how large was the error ellipse when that monument was set? Does that ellipse overlap our ellipse? Where is Euclid when we need him, right? I try to approach this issue as if I'm the one with the error and the previous surveyor did a better job of measuring than I have. I don't know that, but if I think of it from that point of view, the evidence I find tends to be more acceptable, even if the found monument is more than 0.20' away from my measured location.

So now that we've used our measurements and dimensions to get us to a location where we've found some evidence of a property corner, let's say a monument, what's the next question? It should be, "Is that the original monument?" Because if we have found the original monument then by law it has no error in measurement and has been defining the corner location since it was set. Sometimes we can answer this question easily with an absolute and resounding "yes". If so, then Yee Haa and let's go home. But many times we can't be that definitive. And when we can't we then need to ask some more questions. "Could it be the original monument?" "Is there something that makes me feel it is, or is not the original monument?" And as we all know those questions often don't have definitive answers either. So in that situation I try turning the questions around and ask, "Can I prove it is NOT the original monument?" Or, "Is there any reason not to accept this found monument as the original monument?" Or, "Would accepting, or not accepting, this as the original monument agree or disagree with other evidence I see of where the property line might lie?" It can get confusing for sure when these question start mudding the cranial waters. But hey, that's why we get paid the big bucks.

If we have determined that our found monument is not the original monument we need to return to the "How far" question and ask if the monument was set "within the standards of measurement at the time". But I think we'd be better off asking if we can prove if the monument was NOT set within the standards of the time. By asking that question we may be more likely to accept existing monuments rather than set a pincushion monument nearby. "Standards" in this instance can be equated to "error" and let's face it, there's a lot of error floating around in the breeze out there. There's our error and the previous surveyor's error just to name the two most obvious. The Compass Rule, Least squares and error ellipses exist because of known errors in measurements in order to balance out the errors to produce a more likely determination of where the measurement was taken than an unbalanced location. Did you notice the words "more likely"? The balanced location determination is NOT the absolutely true location. It's just more likely, that's all. So be careful if you're ever making a decision based on your measurements being more precise than they really are. And be especially careful if you're making decisions based on your measurements being more precise than the previous surveyor (which they may be) or the original surveyor (which they likely are).

In fact, you should be extremely careful if you're making legal decisions based on measurements at all. And even though that issue needs to be addressed in several more articles, let's return again to "How far off is too far?" It turns out that the law is not about perfection in measurements but the preponderance of evidence. And measurements, either ours in the field or those shown on a plat or described in a deed, are merely evidence of where a corner exists on the earth. Measurements give us a good spot to start looking for physical evidence. Measurements, in other words, don't get to be the defining factor when answering the question of "How far off is too far?" unless there's absolutely no other evidence available. And if you find yourself in that situation then you're not looking hard enough, IMHO.

I try to simplify all these questions by remembering that I read somewhere (and I apologize for not making a reference to the original author here) that "The basis of civilization is a stable boundary system." Through 98% of civilization there has been a major military conflict somewhere and I'd bet that 99% of those conflicts have been over a boundary of some sort, the Trojan War being possibly the sole exception. So why conclude that evidence creating conflict among neighbors is superior to evidence supporting harmony among neighbors? If you are like me, you lean toward harmony rather than conflict whenever possible. If you're asking the right questions that is. Are you?

Be safe out there. ■



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

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www.co.blm.gov



CO-956
9650

March 27, 2017

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 31, 2016, through January 12, 2017, 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. 32 N.	R. 6 W.	NMPM	1627	Plat & Notes	10/31/16	1
T. 32 N.	R. 5 W.	NMPM	1627	Plat & Notes	11/04/16	1
T. 49 N.	R. 9 E.	NMPM	1664	Plat Only	11/14/16	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

2016 PLSC Awards, presented at the 2017 Surveyor's Summit Conference

Roger Nelson-Honorary Life Member Award:



Roger served as PLSC President from 2011-2014 and as a PLSC Director prior to the President position. Roger has been a key contributor to the Colorado Surveying Profession and the PLSC for many years. Roger has served as a director on the CCPS BOD and

continues to be involved with the PLSC legislative committee that he chaired for many years. Over the past 8 years Roger has been an instructor for the PLSC PLS & LSI refresher course that is presented annually—typically two sessions have been taught by Roger. In addition, Roger has been a speaker at surveying related seminars, the International Right of Way Association (IRWA) and at CCPS conventions. Over the past two years Mr. Nelson has been the WestFed delegate for the PLSC appointed by the PLSC President.

Todd Beers-Distinguished Service Award:



For distinguished service during the past year in a succession of volunteer positions of increasing importance and visibility, on behalf of the PLSC. Todd Beers has repeatedly demonstrated extraordinary leadership, initiative and technical

prowess during numerous land surveying related events. Todd's professionalism, devotion, and service to our organization is in keeping with the finest traditions of land surveying and reflect great credit upon him, the Northern, Central and Southern Chapters, the Professional Land Surveyors of Colorado, the National Society of Professional Surveyors and our profession.

List of Merits: PLSC President 2015-2016, RMSS contributions, Chapter Summit contributor, Legislative Committee contributions, GPS Day contributions, GIS in the Rockies Presenter, Peaceful Valley (Boy Scout) participant, and outstanding professional land surveying resource.

Brian Dennis-Distinguished Service Award:



For distinguished service during the past year in a succession of volunteer positions of increasing importance and visibility, on behalf of the PLSC. Brian Dennis has repeatedly demonstrated extraordinary leadership, initiative and technical

prowess during numerous land surveying related events. Brian's professionalism, devotion, and service to our organization is in keeping with the finest traditions of land surveying and reflect great credit upon him, the Southern Chapter, the Professional Land Surveyors of Colorado, the National Society of Professional Surveyors and our profession.

List of Merits: RMSS contributions, Chapter Summit contributor, Legislative Committee contributions, GPS Day organizer, Peaceful Valley event's organizer, Southern Chapter Guest Presenter, Koi Fish Display Guinness World Book certified professional, all around great professional surveying resource.

Kayce Keane-Distinguished Service Award:



Kayce accepted the chairperson position of the education committee in 2015 and has done a tremendous job in leading the planning committee on both the 2016 & 2017 RMSS annual conference. Kayce has always been one of the go to people from the Northern

Chapter (serving as president in past years) and on the PLSC BOD. Kayce is always providing input on subject matter in front of the board and often volunteers to follow through with additional tasks.

List of Merits: PLSC Vice President, RMSS organizer, Chapter Summit contributor, Northern Chapter board member, all around great surveying & GIS resource.

Patrick Green-Distinguished Service Award:



Patrick was elected the Mesa County Surveyor in 2010 and took the oath of office in January 2011. He was re-elected in 2014 where he is presently serving.

He is a Past President of our Western Colorado Land Surveyors chapter of the PLSC, and is presently a WCLS Board Member.

He is also a Board Member of the PLSC serving as the ethics chairman and on the legislative committee. He has also been one of the mainstays in helping at the sign-in desk at the Rocky Mountain Summit for several years and in helping at the desk throughout the day.

Patrick is also a member of Colorado Association of County Surveyors, currently serving as Vice President and has been instrumental in fighting the efforts to eliminate the office of County Surveyor from our Colorado Statutes.

He has also been one of the key drivers behind the PLSC's attempt to establish a surveying program at Colorado Mesa University. Through his political contacts, he has been able to get written support from the Mesa County Commissioners, our WCLS Chapter, the PLSC, and the NSPS. These all helped to prompt President Tim Foster to establish an investigative committee at CMU to evaluate the viability of such a program. And he continues to take an active part as the PLSC works through the details of such a program with CMU.

With his extensive experience, he brings an exceptional level of professionalism to the office of Mesa County Surveyor. He works closely with the Mesa County Commissioners, the offices of the Mesa County Attorney, Clerk and Recorder, Assessor, Treasurer, Planning Department, Data Information Systems, Graphical Information Systems, and the public giving advice and resolving various boundary questions throughout Mesa County.

Kevin Bowman-Appreciation Award:



Kevin is part of the next generation step up into a leadership role by volunteering to serve as the Northern Chapter Secretary-Treasurer. He has made significant contributions to keep the Northern Chapter vibrant and relevant, including dragging the chapter into

the present by getting us setup on electronic banking. Special note: Kevin is pursuing licensure, but is already firmly part of the surveying profession.

Steve Parks-Appreciation Award:



Steve is part of the next generation step up into a leadership role by volunteering to serve as the President of the Northern Chapter. He has made significant contributions to keep the Northern Chapter vibrant and relevant. Steve has enticed co-workers to

become active in the chapter and is a leader expected to encourage yet another generation of surveyors to excel through his example, mentorship and continued support of their participation in educational offerings.

Tony Fendick-Appreciation Award:



Tony is part of the next generation step up into a leadership role by volunteering to serve as the Acting President Elect and now as a Director for the Northern Chapter. He has made significant contributions to keep the Northern Chapter vibrant and relevant, including bringing in new

ideas about recruiting military personnel. Special note: Tony is pursuing licensure, but is already contributing to solutions to problems identified within the surveying profession.

Heather Lassner-Appreciation Award:



Heather is part of the next generation step up into a leadership role by volunteering to serve as the new Northern Chapter Secretary-Treasurer. She has made significant contributions to keep the Northern Chapter vibrant and relevant, including revamping the

website, updating our content, submitting our budget on time and participating in the GIS in the Rockies PLSC Tract. Special note: Heather is pursuing licensure, but is already a respected member of the surveying profession.

Photos: Mike Greer

SAVE THE DATE!

8th Annual Rocky Mountain Surveyors Summit

March 7-9, 2018

Arvada Center

Call for Abstracts

The 2018 Rocky Mountain Surveyors Summit Planning Committee is looking for topics that will add to Attendees' knowledge. Presentation times are either 2 or 4 hours. If you have a presentation that you would like to share, please send your presentation title and abstract to broland@plsc.net. **The deadline for submitting an abstract is August 15, 2017.** For more information on submission and up to date information on the Summit, go to www.plsc.net.

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NSPS 2017 Spring Conference Report – March 13-17, Silver Spring, MD

By JB Guyton, Colorado NSPS Director

The National Society of Professional Surveyors held another very successful conference in March, continuing their mission to represent the surveying profession nationally on a wide range of topics. I was pleased and proud to represent Colorado surveyors in this impressive group of people.

The highlights of the NSPS board of directors meeting is shown separately in this issue, which will give you a good idea of their current efforts. I was assigned to two working committees, the ALTA/NSPS Standards Committee and the newly formed UAS Committee, to examine the issues surrounding the fast growing use of aerial surveying methods. I also represented Colorado on the Western States Director's Council.

I had the honor of participating in "Lobby Day," where I was able to be part of a delegation that met with elected officials, to advocate for three initiatives of greatest importance to the NSPS board. The issues were:

- 1) Flood insurance reform, with better surveying, mapping and elevation data requirements, to enable FEMA to better calculate its risks;
- 2) Sponsorship of provisions allowing for improved utilization of surveying and mapping technologies and applications in any upcoming infrastructure legislation in the 115th Congress;

3) The NSPS is urging co-sponsorship of the Freedom from Government Competition Act to allow private sector surveyors to serve the needs of federal departments more efficiently. A robust, qualified and competent private sector exists within the mapping and surveying profession, and government at all levels should utilize it, not duplicate or compete with it.

For more detailed information on these issues, including official position papers, visit www.surveyingandmapping.net/issues.html. Taking the time to write, email or fax your state legislators on these or other issues really can make a difference.

I was able to meet with Rep. Jared Polis and Rep. Mike Coffman in person, and with legislative aids for Sen. Michael Bennet, Sen. Cory Gardner, Rep. Doug Lamborn, Rep. Ed Perlmutter and Rep. Diana DeGette. I was impressed by the time and attention that each devoted to listening to our concerns.

As I stated in my Editor's letter in this issue, I would strongly encourage you to sign up for the NSPS "News and Views" email newsletter, and to visit their website at www.nsp.us.com to explore all of the resources that are available to you as joint PLSC/NSPS members. ■

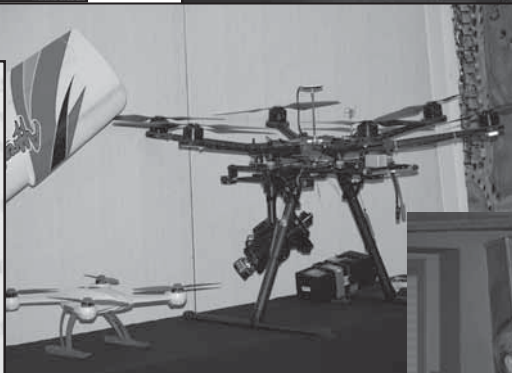


Meeting with Rep. Mike Coffman (R-CO) in the Rayburn House Office Building, Washington – From left, Becky Roland, Pat and JB Guyton, Mike Coffman, Brian Raber, and Todd Beers.



Rep. Jared Polis (D-CO) with JB and Pat Guyton.

People and scenes from the 7th Annual Rocky Mountain Surveyors Summit





February 15-17th, 2017
Arvada Center for the
Arts and Humanities.

NSPS Board of Director's Meeting Spring Business Meeting - Silver Spring, MD March 17, 2017

The NSPS Board of Director's Spring Business Meeting was held at the Sheraton Silver Spring Hotel and Conference Center in Silver Spring, MD on Friday, March 17, 2017.

Secretary Tim Burch reported on the following:

- Diligently working on making the organization paperless
- Suggestion/comments/questions regarding content and formatting should be forwarded to the Secretary (tburch.iplsa@gmail.com)

Past President Tony Cavell provided the following notes:

- Recognized the challenges of a rapidly growing association while trying to keep our profession's relevancy in the public eye.
- Ongoing bylaws review and revisions will be necessary to keep up with technology and current communications environment

Treasurer Bob Miller reported on the following:

- "It's a great day to be a surveyor!"
- Current statement of accounts along with past and future budgets were previously submitted
- NSPS Accounting Manager Bob Jupin has been working to improve our accounts for better ROI opportunities and should be commended for his efforts to structure our investments for security

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

- Fall meeting will be in conjunction with the Texas Society of Professional Surveyors in Frisco, Texas on October 4-7, 2017
- Quarterly Executive Director report will be posted shortly on the NSPS website
- heroX contest for replacement of ALTA/NSPS Land Title Survey has received 70+ submittals, none of which cover the actual duties under surveyor purview
- Young Surveyors Network is growing quickly and will become a great asset to our association
- Boy Scout Jamboree will be held in West Virginia in July, and will continue to request funds for supporting that event
- Discussions ongoing with CFedS to evaluate NSPS taking on the management of the program
- FIG 2022 Congress bid continues to be evaluated and securing cost estimates for Orlando hotel and conference space

Bylaws and Resolutions Committee will now be chaired by Tom Berkland:

- Will be finalizing a position statement on our 100% membership policy
- Revisions to the bylaws based upon technology and environmental changes are now on the docket for addressing

Education Committee member Rich Vannozzi provided the following on behalf of Chair Stephen Gould:

- Committee thank you to Past Chair Andy Sturgeon for his dedication to the Committee during his lead
- University of Maine is developing a degree program for surveyors to available online
- Results of the Student Competition –
 - Four (4) Year Program:
 1. Texas A&M Corpus Christi
 2. Oregon Institute of Technology
 3. Penn State University Park
 - Two (2) Year Program
 1. Central New Mexico Community College
 2. Dunwoody College of Technology

External Affairs Committee Chair Patrick J. Beehler reported:

- Ongoing coordination with all subcommittees under External Affairs
- Creation of secure file exchange system for committee communications is being sought

Executive Director Curt Sumner gave a special presentation for the original members of the Certified Surveyor Technician board:

- CST board formation began in 1986
- Original members:
 - Clay Adams, Dick Bull, David Scott, Ron Torrence, Bob Moynihan
- Ron & Bob were in attendance and received commemorative paperweights

Government Affairs Committee Chair Patrick A. Smith reported on the following activities:

- Very active Lobby Day w/MAPPS on March 15 with three (3) main topics for discussion with legislators
- Ongoing correspondence w/ USDOL on Davis/Bacon memo reversal
- Workforce development continues to be a hot topic, but focusing on how individual states need to take the lead on creation of programs
- Political Legislation Action Taskforce (PLAT)

continues to grow but asks that all Directors request their state members to sign up with the registry to provide better coverage

- Creating more interaction with state affiliate's G/A committees so issues are addressed nationwide
- Constant review of new legislation to stay abreast of opportunities to address surveying issues
- Successful in promoting the passage of FLAIR Act, Digital Coast Act and PIPES Act
- PAC will require additional funding for continued support of legislators NSPS Young Surveyors Network Vice President Christopher Glantz gave short presentation:
- NSPS YSN Officers:
 - President Dan Kvall (MN)
 - Vice President Chris Glantz (OR)
 - Secretary Heidi Jackson (WA/OR)
 - NSPS YSN Delegate Amanda Askren (WA)
- Currently have members in all 50 states and districts
- Still looking for YSN Representatives for the following states:
 - Arkansas, Massachusetts, Mississippi, Nebraska, South Carolina
- Participating with NSPS on Future of Surveying and Workforce Development Task Forces
- Working monthly to continue building group goals and unity
- Next full gathering will be at NSPS Fall Business Meeting in Frisco, TX during October, 2017

Surveyors Historical Society Chair Rich Leu offered:

- Gave a short presentation of the Fall 2016 event in the Adirondack Wilderness, New York
- Next event - Concord, MA at Walden Pond – Sept. 14-15, 2017

FEMA Chair Dan Martinez provided the following updates:

- New elevation certificate is now available for use
- Tennessee will be holding CFS training and exams in Sept. 2017

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

Public Relations Committee Chair Lisa Van Horn and subcommittee chairs discussed the following:

- Communications Chair Patti Brooks reported on the ongoing progress of committee interaction
- Workforce Development Chair Emily Pierce provided an update on the groups formation and goals of interaction with the individual state's programs
- Michigan Director Craig Amey noted that the reciprocal program with other states helping cover NSPS activities helps the host director tremendously
- TSPS Executive Director DJ Kyle spoke of the

success with attending the School Counselor's conferences

- Chair Van Horn shared YouTube videos of the "augmented sandbox" and how it could be utilized as a centerpiece for a conference display

Miscellaneous Committee Updates:

- New NSPS Fellows – Bob Akins, Bob Miller
- NSPS Foundation Appointments – Joe Dolan & Gerry Curtis
- Private Practice Subcommittee is working on manual for guidance
- POLC Chair Bill Coleman reports average age of LS test taker is 38 years old, with a 49% passing rate
- NCEES is looking for reviewers to help with evaluating exams
- UAS Committee is now formed and working toward creating goals
- NSPS Model Standards and Definitions will need to be updated

UNFINISHED BUSINESS

Previous motion – Best Practices Guidelines – still pending and will report in at the Fall Business Meeting

NEW BUSINESS

- Motion – 3DEP State Legislation Template (Passed)
- Motion – CIBORG Program (Passed)
- Motion – Spring Meeting / Lobby Day (Passed)
- Motion – Officer Elections (Failed)
- Motion – Conference Schedule (Failed)
- Motion – PAC Appointments (Passed)
- Motion – Opposition of Alaska DPPS (Passed) (Final motion documentation attached)
- Committee Appointments – Vice President Van Horn to complete with 30 days
- ExCom Director Election – Mark Sargent & Bob Akins - two (2) year term

KEY DIRECTOR BALLOT & PREVIOUS AWARD

The 2016 Fall NSPS Business Meeting Key Director was presented to Rick Howard.

The recipient for the 2017 Spring Business Meeting Key Director by written vote is Henry Dingle.

Service Awards

- 5 Years - Jim Sens
- 10 Years - Larry Graham & Rick Howard
- 15 Years - Cotton Jones & Rich Leu

Next Meeting:

To Be Held During the Texas Society of Professional Surveyors Fall Conference in Frisco, TX – October 4-7, 2017 (Time & Place TBD) ■

Legislative Committee Update

By Paul Bacus, PLS

The 2017 Legislative session is far from over and what a session it has been! This year we have taken up the offensive and instead of just defending ourselves, we did something about it. Two years ago, when we first started the inquiry into the position of County Surveyor I must admit the situation was bleak. County Surveyors had a bad reputation and the worst pay that I had ever heard of. Over half the positions are still vacant, and in a good portion of those the County does not want another mouth to feed no matter how small. So, we rolled up our sleeves and got to work.

We reviewed all the statutes that refer to the county surveyor and interviewed County Surveyors that were having problems. Oddly enough *30-10-905 remuneration-expenses* was interpreted as being nonfunctional, you are restricted to the salary alone, strange thing naming a statute after something that couldn't be done. So, we went through all the statutes to make them clear, and went to capitol hill.

Representative Chris Kennedy took up our cause and we were the 17th bill out of the House. We went through Local Affairs Committee and the House floor without one dissenting vote. The Senate was not so kind. It took a lot of lobbying, meetings, phone calls and an amendment but we made it, 4 out of 5 Senators voted for our bill and the single dissenting vote came from Senator Martinez-Humenik, who was the sponsor of the bills that we defeated that would remove the requirement for a County Surveyor. On the floor of the Senate we were clean not a single dissenting vote, including the Senator. Senator Martinez-Humenik after the vote felt that we should back her next effort to remove the position, I'm told, taking it to the Governor's office. On February 23rd, Terminalia by the way, back to the House floor where we went clean again. So, the bottom line is everyone in Colorado Congress has voted for us, some 3 times.

Are we done? Not by a long shot. Senator Martinez-Humenik has promised to try again and the last

time she waited until 4-11-2016 to introduce her bill.

Then there has been a lot of action this year. For those of you that are Torrens Title fans, it will probably be dead by 2018. Torrens Title systems have been dying all over the globe, even South Australia, Torrens home. It is being replaced by a land registration system. The advent of GIS and GPS have enhanced land registry systems based on maps or a cadastre, there is only a short amount of time before we adopt that system, but more on that later.

The question of vacated right-of-ways has come up. SB 17-097 by Senator Martinez-Humenik ties the vacated right-of-way to the parcel. Since a court case, *Sky Harbor v. Jenner* severed the right-of-way in a race-date case all vacated right-of-ways are suspect. This has generated numerous quiet title actions where you must bring suit against "*all persons that may have an interest*" in other words imaginary people. We are hopeful that this will pass and will support it as we can.

The Clerks and Records have sent a bill forward to eliminate the physical copies of maps and go to a digital future. According to statute, 38-50-101 (3) we have to submit our plats on 3 mil Mylar which was designed to work on blue print machines, where light goes through the document. Scanning technology relies on reflection, which is directly opposed to our standard. We must seriously consider what the term "record document" is going to mean and how it is produced. Further there is an intrinsic value to inspecting the original document. It may fall to us to convince the state and counties that the value of these old documents is priceless.

So once again it's time to roll up our sleeves and address the way we store documents. Every day the art and science of surveying is being reinvented, let us take care to ensure that we are the authors. ■

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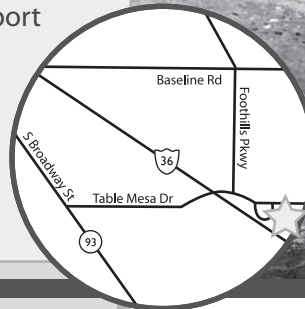
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Chapter Summit 2017

7th Annual Rocky Mountain Surveyor's Summit

Arvada Center for the Arts • February 15, 2017, 7:00 to 9:00 P.M.

Todd (Beers): The purpose of this meeting is to get input from Chapters, which has been very effective in the past. We will go through the agenda, recap what we did, not trying to solve things but have a discussion, get some definable action items too. If you want to make a point, please get right to it, keep it short and sweet.

JB (Guyton) (Facilitator): We are going to go clockwise with introductions. We have some guests, including Dave Doyle to talk about geodetic certification, and Pam Fromhertz, about base stations and other things. We will end promptly at 9:00.

Tom (Sylvester): I would like to talk about the progress toward a degree program at Colorado Mesa University. Alan Blair is our Chair, Paul Bacus involved, Theresa Smithson has been working on it, Pat Green helped get this underway, etc. Several of you were at our August board meeting when CMU officials attended. When we didn't hear from them by mid-October, I called them, got passed around, Gaby Neunzert put together a draft 2-year curriculum. Jean Atkins was hired as a consultant. We gave her a developed curriculum and some numbers for equipment. She prepared a 40-page report for Tim Foster. We are looking at initially a 2-year program and hope to grow it into a 4-year one, once the first is off the ground. She has made her recommendation; committee is still digesting the details. My feeling is that it is going to happen. The school needs to sign off; also they will be looking for a significant contribution from the PLSC, to help seed a \$250,000 endowment. If all goes well, we could see a surveying program in Colorado by this fall. The breakeven is 8 students. Like hunting elk, long hikes,

7 days, finally spot an elk, sneak up to shoot and then the real work begins, to pack it, etc. For this program, it's like we just spotted the elk herd.

Teresa (Smithson): Jean said that whatever her recommendations have been in the past, so far Foster has taken 100% of her recommendations. And she is recommending a program for this fall.

JB: It needs to be pointed out that Tom, Patrick, Theresa, Alan and Todd, and the others, you have succeeded after 15 years and you have all of our admiration (applause).

Todd: Sounds like there is going to be a request for support. We have \$360,000 in the scholarship fund.

Teresa: I think without a \$100,000 seed endowment, this program will not happen. The PLSC will have to decide if it wants a program in Colorado or not.

Todd: We just had a symposium on continuing education. We have been mentioning this for the past couple of years, pursuing it legislatively. It was a good panel, small and large companies, and good flow from the audience.

Alan (Blair): Everyone was in agreement; the problem is the mandatory part. People don't like being told what to do, but this must be viewed as a benefit to the public. I think we have actually lost some support for mandatory.

Todd: That's always been a problem. I will pursue this at the NSPS conference, how to go about it, additional



Photo by Mike Greer

costs, PLSC role for monitoring or vetting. We are not worried about those who attend these conferences, but the ones who do not. Next step is to build up a case for doing this, based on support from other states, and DORA. They must be on board.

Paul (Bacus): The statute is not hard to do, just specify a date it must begin. But we have to sell DORA on it first.

Teresa: DORA is made up of three professions; architects do continuing education, engineers and surveyors don't.

Tom: If we pass non-mandatory continuing education, can the board require it as disciplinary action?

JB: Moving on to #3, Paul Bacus now has the floor.

Paul: Sending out emails about the county surveyor issue has been phenomenal. We had a 4 for and 1 against vote, the vote against by Senator Martinez, who doesn't like me. But it was all of us who put this through. I am very confident that this will go through. One amendment, where DORA will specify monuments to be used, the other is that county commissioners "may" reimburse the surveyor.

Becky (Roland): Can you write something to send out to our members to thank them?

Paul: When we thanked both members for their support, both showed up for the vote. Lobbyists were helpful for clarifying how to vote.

Todd: Different subject, Mike Greer is term limited as a member of the board, so we are looking for nominations to fill that role. Communicate with Becky if interested or know of someone.

Patrick (Green): I wanted to thank Mike for doing such a good job.

Eric (Carson): Does he or she have to be a photographer, or can Mike continue in that role?

JB: Next item is #4, the website. We will now hear from Becky.

Becky: Kim Wyatt has been updating the website for everything you are sending in. She can get items in within 24 hours. But we are not utilizing this tool enough. I receive calls about meetings, members of the public wanting to know more. I know Facebook has had more activity. We can provide more tools at the chapter level to communicate with your members. We can set up a page for your chapter on our website.

Todd: The website is critical as a place to go first for information. The Oklahoma site is neat. The PLSC board just approved a budget, has a few thousand dollars for

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someone who really knows websites to beef it up, and make it easier for updates. Brian Dennis is the Chair of the website committee; along with Becky are the ones to contact with suggestions. A map of the chapters would be helpful. Phone calls still good for input, member or not, etc. script needed. Steve Parker was helpful for sorting by counties. Now chapters can be calling up local people, if you know them, call them.

Teresa: Thinking about Steve's database, we could put that into the website as an interface for the public for finding a surveyor.

Becky: We get two kinds of requests through the website. Many are interested in the profession, looking for education, parents calling for their kids. We give options for staying in Colorado or going outside of it. We can always use more people to help answer these emails. Also get requests from the general public. They often think we are DORA, or a surveying company.

Teresa: That's why a list of members on the PLSC for the public would be a value added.

Brian: About the website, we will be addressing the question asked at youth events, "how do we get into surveying?" It was accidental for many of us. There's nothing good on line that tells you how to do that. We are looking at the website, and a trifold brochure to take to these youth conferences and the schools. We could put the CMU and online programs in it. We need a place for people to go, where some thought has been put into it. If a parent wants to know who their kid should talk to, the chapter representative could be the one to direct them, including what local companies could be offering internships. If you have ideas for this trifold pamphlet, submit it to me.

Steve (Parker): About the spreadsheet, we worked on a flowchart of how to become a surveyor, and we were stumped; it is on a case by case basis now. In the Southern chapter, we set up a database on the website.

Teresa: That's a value added for our membership.

Steve: We ran into surveyors not wanting their information on the website, especially home based businesses and individuals. I had to get permission, and a link to invite others to be included.

Teresa: Perhaps that could be on next year's membership application, asking how information should appear on website for public use. And what kinds of services are offered. Also, we forgot to thank Paul for getting that bill about county surveyors to the legislature (applause).

Paul: We're not home yet.

JB: The next item is about promoting membership, and

as we have been saying, adding value so that we can get our numbers up.

Eric: Seems like we have talked about value added for a number of years. That might not be the way to add members. We are trying to recapture people who were lost, or capture new people.

Brian: You can turn them into the board. That will attract membership.

Becky: Two or three years ago, we did call lapsed members. There was an overwhelming feeling that the PLSC didn't represent them, and it was down to the dollar, not wanting to pay the dues. It may be that we are not communicating the value well. Also, why should I pay you if you are doing these things anyway? A lot of people know each other in this profession, and if they are slighted in any way, they will hold a grudge for years. I think the website is much better at communicating since then, but it's an issue.

Eric: I do recall doing that.

Brian: A lot of the nonmembers are owner/operators, and we need to think more about what the benefits are for them. We have group liability insurance program, we might also try health insurance group discounts, or something similar so the membership dues are covered by the savings.

Eric: I think that is already covered through our inclusion in NSPS. They offer those programs.

Brian: Yes, but people want to know what the PLSC is doing.

Becky: Also, we can provide NSPS memberships for \$40, not available individually.

Shawn (Clark): Things that make or save money for small business operators a benefit, such as supplier discounts.

Scott (Throm): Companies might benefit from memberships rather than just individuals in a company.

Todd: Or a group discount. All of this is on the table.

Brian: 60% of surveyors are owner/operators, who don't want to take the time off to come here. If they don't care about the local organization, they won't care about the national.

Kevin (Kucharczyk): Other states' websites offer discounts. North Carolina has office supply discounts; those savings more than cover the cost of a membership.

JB: We all know people who have let their memberships lapse. If we could all just call them and ask them to be

advocates, that personal communication can make a big difference, as Todd has been saying for years.

Todd: We must have answers to all of these common objections.

Eric: When someone calls out of the blue, is there something we have to track what they are saying?

Todd: Every chapter was sent a script to ask these questions.

JB: We are at 53 minutes, doing well. Do members outside of the front range still feel left out of the PLSC, or is that issue over with?

Eric: It isn't just geographic anymore, there is an age component to the "good old boys club."

Todd: I'd say ten years ago, there was a huge divide between the PLSC chapters. Many of those objecting are now out of the system. The outreach efforts have been effective. I was on the opposite side and spent years trying to turn that around.

Tom: We should look at our voting members on the board. Some chapters are not represented. Every chapter should have somebody on the board.

Todd: I try to have someone from each chapter and call them, but if people don't want to raise their hand and get involved, there are vacancies.

Teresa: So is there a vacancy reserved for each chapter?

JB: Yes.

Todd: Bottom line is that if a chapter is complaining, no one is keeping them from throwing their hat in the ring. If someone wants to be represented and no one steps forward, it's their issue.

Becky: On the demographics, if you look at this meeting, we have more women and younger people than we have ever had.

Brian: It is changing; I remember when I was the youngest at these conferences.

JB: I would like to turn this over to Dave Doyle now.

Dave (Doyle): I am here representing AAGS, American Association of Geodetic Surveying. Four years ago, AAGS was approached by NSPS to develop a geodetic certification program, similar to the hydrographic certification program. We did an online poll last year for NSPS members to identify needs, what's important. We got over 1,000 responses. We are now developing the protocols to put a certification program together. The fundamentals of geodesy is not required of land surveyors anywhere in the country. But there is a need

for those who understand that background, without having to attend a university for two years. We are looking at seminars, on line videos and conferences. We are now gathering existing video presentations for the website for anyone, not just surveyors. We are working on affiliations with state organizations, discussing degrees of access to materials on the site.

JB: Thank you Dave. We will now hear from Pam.

Pam (Fromhertz): I am pleased to see that you have money in the budget for CORS. NGS is in the process of updating policy for the calibrated baseline. They are looking at maintaining one baseline per state, the rest to be maintained by the states themselves. It will be up to the state. We are trying to make software for total stations simpler, to more easily maintain and verify baselines. All of the baselines in the state are Tier 1 right now. We would maintain one as Tier 1, the rest would be maintained as Tier 2. We have measured three times in three years, and they have been very stable, some more so than others. We are measuring to millimeters.

Eric: So could this be taken up by the state chapters, or is it done by state officials?

Pam: It could be taken up by the DOT, or a chapter, it's up to the states. New survey coordinator at the CORS level, Daryl Shanks. Not sure if it will be taken up at that level.

Eric: So is there a rule that a federal or state employee do it?

Pam: No. Colorado has one of the most baselines.

Tom: Why is it one per state?

Pam: I wondered the same question. CDOT says it should be one every 200 to 300 miles. Drive times are an issue; we try to make it a one day trip to check a baseline. 2 to 4 days to do the check, before and after you check your equipment.



Todd: We are going to have a ten minute presentation tomorrow about the Colorado Geodetic Coordinator, it's in the binders, looking for input from everybody. Not yet set in stone, will be doing a Survey Monkey as well, to develop what this position should entail.

Teresa: Is there something we can do to help communities understand the value of core stations, like the eight in Grand Junction? Pueblo is dropping one.

Pam: Most of the CORS are through cooperative efforts with state and local organizations. How to make it happen is the issue. Mesa County has been fortunate, with Frank Kochevar support. A coordinator would be ideal to help communicate and encourage local support.

JB: We are doing well on time. I wanted to ask if anyone has issues or questions about NSPS that they want to tell me, as the representative.

Todd: I want to think that you may have a presentation for the chapters about what the NSPS is all about, not necessarily that you attend.

JB: I will put together a compendium for that.

Tom: Did you know the NSPS has a radio program? That was news to us.

Brian: We could talk about how to use the website to do more of that. When I did TrigStar, none of the kids knew that was an NSPS function, or that surveyors were sponsoring that whole thing.

Eric: Those email blasts the NSPS sends out are pretty good. I get so many emails, but I actually do open those, don't necessarily read them all. For those in bigger companies, pick out one article and forward it to an owner operator and suggest they take a look at it. Can engage younger guys, introduce them to the NSPS. One asked me about the CST program, to get some credentials without having to go back to school. A good example.

Teresa: I've learned a lot more about the NSPS from News & Views emails.

JB: It's one digital magazine that I really love, and would recommend it. Any other comments from the chapters about where we are heading as a profession?

Shaun (Lee): I'm probably the second youngest in the room. We have been talking about the generation thing a lot. The next generation is on social media. The #1 thing promoting business right now is Facebook.

Teresa: Shaun created our Facebook page.

Shaun: Just started it. For example, I just posted a picture of this meeting on Facebook, and it is already

being reposted to another page for comments. It's not the foundation, but can push the younger generation toward a web page. It's a different way of communicating other than just email scenarios. There are opportunities to promote.

Eric: I was talking to one of the vendors outside, talking about the younger generation of employees and access to phones, texts, YouTube, Instagram, etc. during the course of a workday. How much of your day do you actually spend working now? Everybody's guilty of it.

Shaun: It's discipline, obviously. It's more of a community than other forms of communicating.

Brian: When I was attending the youth group conference in Minnesota, they were making a YouTube video. I will get back to that group of all millennials, they are so into social media and I am not. I will get back to them and provide feedback on what they are doing, try to use at a local level.

Heather (Lassner): Any news, such as legislative news from Paul, something affecting education, you could do a YouTube video and put it on the webpage.

Shaun: If you have any questions, let me know.

Todd: Shaun is part of the Central chapter, attends those meetings. He is excellent, and we appreciate your passion.

Steve: In the past, we have taken pictures and sent them to Becky. We could provide video footage, is there editing capabilities? You have to pare down content to something someone would want to watch. You need about an hour of content to make a 7 minute clip that people will watch.

Becky: There is definitely video editing software out there.

Steve: It's still a matter of time and dedication to be a blogger.

JB: Only a minute remaining. Teresa and Brian have agreed that we will attend a national meeting of school guidance counselors, and looking for additional help for staffing a booth there in July. It will be at the Denver Convention Center. We can convey the message of what surveyors do, in turn, to parents and students.

Todd: Thanks everybody. ■

PLSC Board of Directors

March 9, 2017 • Conference Call

1. Call to Order: Beers

d. PLSC and CMU need to be proactive in marketing and fundraising.

Todd Beers, President, Central Chapter
Steve Parker, Vice President, Southern Chapter
Alan Blair, Secretary/Treasurer, Central Chapter
Becky Roland Executive Director,
Paul Bacus, Director, Northern Chapter
Teresa Smithson, Director, Central/Western Chapter
Eric Carson, Director, Central Chapter
Ralph Pettit, Director, Central Chapter
Tom Sylvester, Director, Western Chapter
Roger Nelson, Past President and WFPS Delegate

MOTION: To approve an endowment of \$250,000 for the CMU Survey Program over 5 years with \$100,000 paid initially pending approval of the endowment agreement between PLSC and CMU and pending CMU's final approval of the program. (Blair/Smithson)

Approved unanimously

- The program needs 8-10 students per year to be self-sustaining
- Todd Beers would like to see CMU consider a campus on the front range or develop online courses.
- Tom Sylvester noted that this could become a Rocky Mountain regional program.
- Theresa Smithson will notify CMU on the results of this meeting.

2. Quorum confirmed

3. Colorado Mesa University Endowment for Program
- a. \$100,000 now and \$250,000 within 5 years
 - b. Endowment language should be reviewed by attorney – Alan Blair confirmed Ed Bristow would be willing
 - c. Need a provision for disposition of funds if the program closes. There would be no refund of funds back to PLSC or donors.

4. Next Meeting Date – April 13

5 Adjourn ■

Obituary

Merle Wesley Rust



Merle Wesley Rust, PLS passed away at home, March 19, 2017 in Castle Rock, CO. with family by his side. Born in Rocky Ford, CO. on January 13, 1935 to John and Alma (Unger) Rust, he grew up in Loveland, CO as one of eight siblings. Merle graduated from Loveland High School in 1953 and served three years in the U.S. Army, 10th Mountain Division. He married Sonia (Turner) in 1959 and lived in

Arvada, CO. for many years, raising a family and operating his land surveying business. Merle greatly enjoyed his surveying profession and retired to travel extensively with his beloved Sonia and proudly served his local American Legion Honor Guard for ten years at Fort Logan. He is survived by his Wife, sons Gary (Theresa) and Steve (Michael Ingram), and granddaughter Sara Rust. Merle bravely battled Parkinson's disease and in lieu of gifts, Merle can be honored by contributing to the National Parkinson Foundation (www.parkinson.org).



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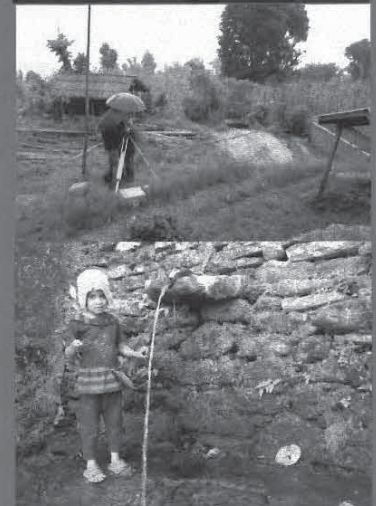
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CHAPTER NEWS

CCPS

The PLSC annual conference was held in February and the turnout was excellent once again. 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, our new board is looking forward to 2017. I'd like to formally announce the new officers and directors. The new officers are as follows. Kevin Kucharczyk, President; Shawn Clarke, Vice President; Mark Wilson, Secretary; Scott Throm, Treasurer. The Directors are Robert Boehm, Devon Arnold, Brian Socia, Randy Fortuin, Julia Keilman, Shaun Lee and Gavin Pickett.

CCPS held its January General Membership meeting at the Table Mountain Inn located in Golden. There were around 50 members in attendance, making it the most attended in recent memory. Chuck Hutchins and crew from Vectors, Inc. gave a demonstration of the Trimble SX-10 Scanning Total Station. Many thanks to Chuck and Vectors, Inc.

Also, CCPS helped coordinate a training workshop for OPUS Projects in March which was attended by more than 20 members. Thank you to NGS, Bill Stone and Pam Fromhertz for facilitating the training.

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.

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

Kevin Kucharczyk, PLS
CCPS President

NC-PLSC

The Northern Chapter met in January at King Surveyors in Windsor for a presentation from Ron Rennke from Galloway on a boundary problem involving double monumentation and the effect of the retracement of deeds. This spurred a lively discussion about decision making and records research. One aspect of this presentation that really stuck with me was the need for more discussion about our day to day problems and stories in meetings. I think it would benefit the PLSC to promote our organization as a way to help bridge the age/information gap that seems to be ever present in our industry. Heather Lassner and I also discussed reformatting some of our meetings to be less lectured and more social, as a way to stimulate more discussion and debate on technique and methods that we seem to be losing.

There was no meeting in February in anticipation of the Surveyors Summit.

March took us down to Flatirons in Longmont for a presentation from Charlie Tucker from Farnsworth

Group on Railroad history and future. This was a very informative session as he outlined safety expectations and regulations from BNSF Railway. And, of course, his history lesson was interesting and welcome as he dove into old surveyors in the early day of Colorado's development. I reached out to Charlie afterwards to gain more knowledge about these safety regulations to make sure our company was up to date. He recommended that all of our crews get certified through ContractorOrientation.com.

We look forward to the spring weather and a busy summer!

Steven Parks, PLS
President NC-PLSC

NW 1/4 CLS

The NW1/4 will be meeting again this month (April) and in the interim, we have some interesting news! This Chapter has had several meetings in the last 12 years devoted to the issue of duplicate corners. To recall the issue at hand, Routt County has several subdivisions, totaling thousands of lots that were platted in the latter sixties to early seventies and monumented and surveyed by the original surveyor. A period of some 25 to 30 years passed and then a local surveyor proceeded with setting duplicate corners anywhere from a few tenths of a foot to 30 or 40 feet away from the original corner. Only the "newer" corners were clearly marked, flagged and assumed by many landowners to be the true corner, when the older, original corner may have sat nearby in a less obvious scenario. Very few of these corners were filed with the County Surveyor with an updated plat, and even when an updated plat was filed, the original corners were rarely referred to or noted on the newer map.

The situation became increasingly frustrating to the local surveying community in the early 2000's as other surveyors worked in the gradually developing subdivisions and began to understand the extent of the problem. In 2006, the then Routt County Surveyor wrote a letter to the County Commissioners specifically referring to one set of over 20 adjacent lots in North Routt County that had a complete set of duplicate corners. And then the Great Recession hit.

The NW1/4 had several meetings during the "dead times" concerning this County wide situation- some of the affected subdivisions are in South Routt- and the new County Surveyor wrote a letter to a particular HOA in South Routt informing the HOA of this potentially lurking issue.

Fast forward to the last week. Routt County Planning finally took note of a site plan showing the duplicate corners in one particular North Routt Lot and refused to issue a Building Permit for an addition until the matter

of duplicate corners was resolved. Furthermore, the Routt County “redflagged” all of the lots referred to in the 2006 county surveyor letter so that they also could not get a building permit until the issue was resolved. So there are now over twenty lots known to be affected by this Routt County action, and an unknown number of lots throughout the County that could be affected in the future. And that number could be in the hundreds, based upon our estimates of how many lots throughout Routt County may have this issue of duplicate corners.

Routt County officials, including the Routt County Surveyor, County Attorney, County Planning and the Surveyor in question who still practices in this area will be meeting in the near future in an attempt to rectify this situation. Meanwhile, there are a number of relevant questions for all surveyors throughout this state and in the region:

- 1) Are the newer corners set by the local surveyor valid since a plat was never filed with the County Surveyor, the older, original corners were not found or noted and thus a few state statutes were ignored?
- 2) What are the rights of the affected landowners in this situation?
- 3) Did Routt County “overreach” in this situation or is their concern valid since they are the “holder” of the affected utility easements and the adjacent rights of way, which in many cases have utilities in them?
- 4) What the heck would a Surveyor from outside Routt County do if they came upon one of these lots with duplicate corners and could not find a filed plat?

Stay tuned on this one!

Brian T. Kelly
President, NW1/4

SC-PLS

We kicked off the New Year with our first meeting at Farnsworth Group in Colorado Springs. Paul Bacus, PLS – Chair Legislative Committee, was our guest speaker. Paul spoke on the topic of defending the “County Surveyor” position. By contacting each Senator and Representative we were able to defend this bill. Thanks for all your support Paul.

Several of our Board Members - Steve Parker, Brian Dennis, Mark Johannes, Spencer Barron & Don Hulsey, set up a booth for “District 20 College and Career Day” at The Chapel Hills Mall in Colorado Springs. It was a one day event with hundreds of students exploring their options in the work force. We met many students and parents that were interested in the surveying field.

We feel that it is very important to appear in the public venues and help our future generation learn about the surveying field. Many of us attended the 5th annual Rocky Mountain Surveyors Summit in Arvada in February.

We also have a few newly elected 2017 Board Members. Steve Parker will be serving as Secretary for the 2017-2018 SCPLSC, Mark Johannes & Eric White will serve as 2017-2018 Board of Directors.

Don R. Hulsey, PLS
SCPLS President



WHEREAS, the nature of surveying has changed dramatically since the Colonial Era when it was defined by the description and location of land boundaries; and

WHEREAS, the surveying profession has since expanded to include hydrographic, engineering, geodetic, and cartographic surveys; and

WHEREAS, professional surveyors provide important services through the use of legal principals, procedures, sophisticated equipment, and techniques, including satellite-borne remote sensing devices and automated position, measuring, recording, and plotting equipment; and

WHEREAS, the role of the surveyor is important in the development of Colorado as well as our nation; and

WHEREAS, Coloradans are encouraged to recognize professional surveyors and the important work they provide to our communities, and to reflect on the historical contributions of surveying and the new technologies that are constantly modernizing this honored profession;

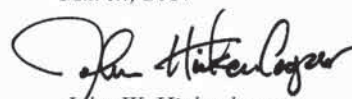
Therefore, I, John W. Hickenlooper, Governor of the entire State of Colorado, do hereby proclaim, forever after, the period between March 20, 2017 and March 24, 2017, as

SURVEYORS WEEK

in the State of Colorado.



GIVEN under my hand and the Executive Seal of the State of Colorado, this twentieth day of March, 2017


John W. Hickenlooper
Governor

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