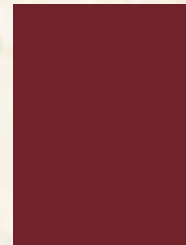


February 2010

SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 41, Issue 1



LESSONS
FROM
SURVEYING
DOWNTURNS
OF THE PAST

- page 7



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*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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Dear Fellow Members:

Happy New Year. I hope 2010 yields more business and a strong financial recovery for everyone. The 2009 Fall Technical Session and Annual Membership Meeting was a success. I know that many of our fellow surveyors are either out of work or getting by on much less work right now. Thank you to all who were able to participate despite these tough economic times.

Congratulations to all who won an award at the meeting, including Thomas Sylvester (Surveyor of the Year), Warren Andrews and Ed Bristow (Citizen Surveyors), Roger Nelson and Pamela Fromhertz (Distinguished Service) and Dan Corcoran and Charles Adams (Appreciation). Thanks to you all for your hard work and dedicated service to the PLSC.

The Legislative committee has been working hard to improve some of the statute language regarding land surveying. A recently-proposed addition was to increase the minimum standards for licensure.

A proposed bill included some additional requirements to be able to take the PLS exam including the following:

- 20 years of progressive experience with no education beyond high school (vs. the current 10-year requirement);
- Board-approved college credit hours in Geodesy, Boundary Law, and Computation and 12 years progressive experience. This was added to lessen the 20 year requirement by getting a minimum amount of education that many believe is needed for a land surveyor to be able to practice;
- A 4-year non-surveying degree plus board-approved college credit hours in Geodesy, Boundary Law, and Survey Computation and 6 years progressive experience. Again, this helps to lessen the requirements for 20 years of experience for a surveyor who may already have a college education.

The above changes are in addition to the current 2-year surveying degree and experience path, the 4-year engineering degree with experience, and the 4-year nonboard-approved surveying degree with experience.

It was decided that we might wait to propose most of the changes until the next sunset, which is in 2013. The legislative committee kept the proposed 20 years in the new changes. 20 years, it is thought, will encourage survey interns to get more education, which is also more in parallel with the standards for professional engineering. You may review the standards for engineers to become licensed by examination and experience (no college degree) under C.R.S. 12-25-112(4) and 12-25-114(3).

As you can see, the proposed bill would require either a minimum amount of college-level coursework, or a great deal of time and experience. A couple of states have determined that land surveyors are not professionals because they do not require higher edu-



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This issue includes an article by yours truly, based on the idea that some of our most senior and seasoned PLSC members have seen several economic downturns over the course of their careers, and just might have learned something from them that would be good for us to hear right now. While no two recessions are quite alike, the stories were interesting, and the advice very practical. There was also a certain degree of hope for the future for those of us in the surveying business. I hope you find it interesting.

We are also reprinting an article on the controversial topic of requiring a 4-year college degree in surveying to attain legal and public recognition that we are, indeed, part of a true profession. The author is Dr. David Gibson, who is an advisor to the Metropolitan State College of Den-

ver's surveying program. The publisher of Professional Surveyor magazine was kind enough to allow us to reprint this in *Side Shots*. This includes some very interesting court rulings in Florida, Kentucky and Maine, and is well worth considering as the Board and the Legislative Committee deliberate over what would be best for Colorado in the future.

I also wish everyone a very happy and prosperous New Year.

JB Guyton
Editor



President's Letter from page 4

cation. You may read more about this in Dr. Gibson's article in this issue of *Side Shots*. The larger question becomes, of course, whether this sort of minimum education should be required to adequately protect the public. Some arguments for such a change include:

- GPS is currently becoming a standard land-measuring method for surveyors. It is theorized that you really shouldn't be using GPS to measure, if you don't have a basic understanding in geodesy.
- Boundary Law is, of course, extremely important to understand if you are going to set boundary corners. Boundary retracement as opposed to original surveys is probably the primary practice of land surveyors today. Understanding boundary law is arguably something that the professional land surveyor needs more than strict mathematical application.

- Survey computations, at a minimum, should be understood by all surveyors. Basic trigonometry and statistics are good background, but many would argue that you really need to apply this sort of math to survey-related problems.

This is a very controversial topic, but these are some general rationales for the proposed laws. If you have input as to minimum standards for licensure, please let me or any of your PLSC Directors know.
Sincerely, Tom Adams, PLS



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Lessons from Surveying Downturns of the Past

By John B. Guyton, PLS



Doyle Abrahamson



Chic Chichester



Gaby Neunzert



Gus Chambers



Ira Hardin



Bob Stollard



Warren Andrews

Long-time members of PLSC discuss their past experiences with tough economic times

Land surveying, in all of its various stages of development and sophistication, has been around for thousands of years. Because of its importance, an observer could conclude that the demand for surveying would be somewhat constant. But as we know too well after enduring the slowdown in 2009, the demand for surveying services is highly dependent upon development activities, which in turn are dependent upon the health and vigor of the overall economy.

At the time of this writing, the Labor Department reported that another 85,000 jobs were lost in December, and unemployment remains at 10% nationally. While the Gross National Product (GNP) has seen some gains, the turnaround in employment that the experts were expecting by now has not materialized. While Colorado's unemployment rate is not as severe, at 7.5% in December, you don't need a PhD in Economics to know that the situation for non-government surveyors, or anyone connected to the state's construction professions and trades, is in a near-depression.

Since this country has not seen any downturn this serious and prolonged since 1981-83, when the national unemployment rate reached 10.8%, we have an entire generation who has never known such hard times. Discouragement for all of us comes naturally enough, given how long things have spiraled downward.

So, I decided to ask some of the senior members of the PLSC, who have been around long enough to see several economic downturns in past years, for stories of their past experiences with tough times. Some of the messages were surprisingly hopeful.

A recurring theme in the response to questions for this article was the importance of government work and for continuing education during hard times. Getting up to speed on new technologies can result in new opportunities later.

CHIC CHICHESTER, PLS of Denver, a founder and former President of the PLSC, said, "Contract Surveyors Ltd. was founded to handle the mineral surveying surge. Over 30,000 unpatented mineral claims bear my name, located in 5 western states. In 1986, we saw this drying up. We also did land surveys (but) the phone was not ringing like it had been." After Chic announced to Art Hipp and Homer Gibson that he was planning to move to California to find work, Homer asked him to work for the BLM on a temporary basis. "I wrote a paper on the Front Range project; I was told later that it got the Denver office a \$20 million grant. While working at BLM, I got a real break. Trimble was putting on a two day introduction course about GPS in California. I paid my own way out and back. My mind was made up when I got back that I was going to learn how to do a GPS survey. The rest is history. I have done GPS in all 50 states."

WARREN ANDREWS, PLS of Lakewood, a former PLSC President and *Side Shots* Editor, diversified with government work and education. "Because I was peripheral to surveying from 1966 to the present (my other job was as a mining engineer with the Federal government), I was not as impacted by the surveying

downturn. My experience has been to have another source of income besides surveying. Even going back to school again, which I did...is an alternative to get ready to go when things get better again."

IRA HARDIN, PLS currently of Las Cruces, NM and a founder of the PLSC, said that the worst year in memory for him was 1974. He was operating a surveying and engineering firm working on mountain subdivisions when sales of those properties declined. He said that the larger and more diversified firms were, and are now, less affected than the small ones. Ira's advice: "Keep current with the latest tools, such as GPS and AutoCAD. Increase your skills and (therefore) your potential scope of services. Join a professional society and become active in the PLSC." He also suggested, "Become a Certified Public Survey System Surveyor, which will expand your market."

GUS CHAMBERS, PLS of Morrison, a former PLSC President, wrote, "The last worst time for us was 1987-88 when we were overstaffed and underworked. We tried to hang on to our talented people, expecting a quick turnaround, but that was not to be. We had to get small and have remained so ever since. The marketplace was turned inside out, with small firms bidding on the only available work which was highway, pipeline, large industrial projects and government contracts. Conversely, as large firms' work loads dried up, some of them started going after small local cadastral jobs. In a race to the bottom, pricing went crazy. Firms who

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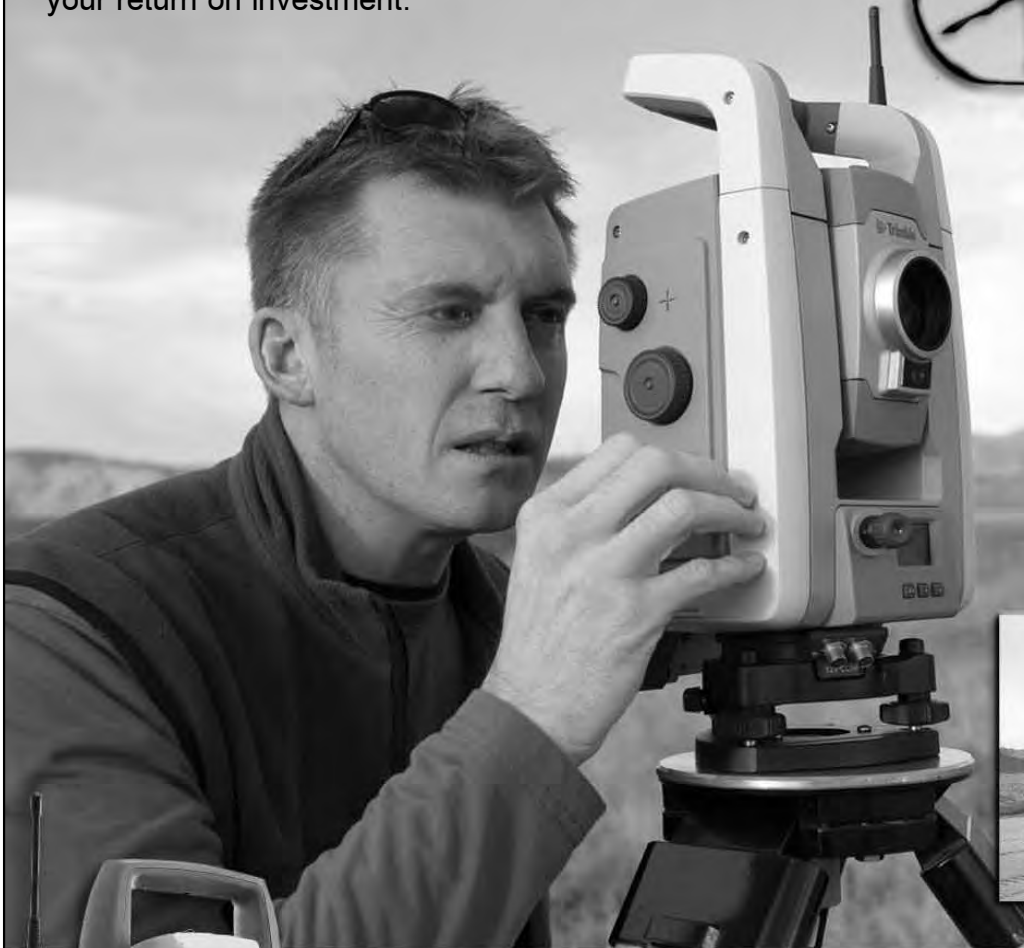
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'bought' large contract projects were damaged by their naïve bids."

Gus described an interesting solution used back then: "A group of us founded the Central Chapter during those hard times. As the members of the CCPS became friends as well as colleagues, we came to know the special skills and territories that each was most comfortable working within. To this day we still refer jobs around this group according to those specialties."

As for the current crisis, Gus reports some friction between small and large firms. "Small shops like ours are an 'endangered breed' as many Colorado survey businesses have been bought by national and international outfits. There is a loss of institutional memory and survey history when this occurs. It is a good practice to be cordial with the competition. We have always shared our information freely with our colleagues and have built up a body of records that we could not have obtained through public records only. It is frustrating to call a large company about a survey issue and be told that they cannot spend the time to talk to us if it is not 'billable to a client.' In conclusion, we've found a way to be nice AND endure."

BOB STOLLARD, PLS of Denver, also a former PLSC President, was working on the Air Force Academy site in Colorado Springs between 1955 and 1960. But after that, "work was very slow and almost non-existent." He said that his boss at the time found that "the most important thing was to attend the City Council meetings, water and sanitation meetings, military meetings and town council meetings of the small towns that needed improvements for water, sewer, street paving, etc. where Federal grant money was available." He also said that owners and managers of surveying firms should simply "get out of the office and do more," and to cut costs by performing more field work themselves during the bad times.

DOYLE ABRAHAMSON, PLS of Aurora, another former PLSC President and a frequent speaker at PLSC workshops, said, "In my experience, over the last 40 years that I have been in this business, we have had slowdowns within our profession about every 7 to 10 years." He said that past slowdowns affected small and large firms equally. "Some firms consolidated or went out of business permanently. Every case had other factors to consider when the downturn came, such as the owner needing money now for retirement."

So, what signs were there at the start of a recovery, that we might watch for today? Doyle said, "Watch for new projects to start getting going and it will not be long and everyone will want to get their projects started again. The next thing we will have more surveying work to do than we have surveying companies to do them."

He emphasized this most positive and encouraging point: "*Surveying is always one of the first professions to pick up after our economy has had a downturn.*" Perhaps the economic forecasters should be keeping an eye on surveyors.

GABY NEUNZERT of Golden, a former Professor at the School of Mines and a current contributor to the surveying program at the Metropolitan State College of Denver, was a teacher during most of the previous downturns. The worst year for him was 1990 when the surveying program at Red Rocks Community College was shut down. Instead of seeing surveyors leaving the profession, Professor Neunzert instead saw geologists and people from other professions returning to school to study surveying. His advice for today is to get all of the education you can. "Education is the future of surveying. It is paramount that you understand what you are doing!"

So, the advice from these surveying professionals who have seen this all before is straightforward: Downsize, tough it out, maintain your professional connections through the PLSC and its chapters, seek government work if possible, and above all else, maintain your commitment to continuing education in preparation for the next upturn. And keep in mind what Doyle said, that we will be among the first professions to enjoy the start of the next upturn. What a great day that will be.

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Control Points

By Warren Andrews, PLS

LOGARITHMS

As a method of calculation I had thought about writing something on slide rules, but realized that there is probably a necessity to detail the basic mathematics first, otherwise known as – what is a logarithm? The concept is rather simple, it's just another way to multiply and divide numbers.

The astronomers in Medieval Europe, such as Copernicus and Kepler when they realized the huge distances they were working with, needed a better way to compute very large numbers. Doing it the old way by hand by means of simple multiplication and division was extremely slow and cumbersome and could take days or even weeks to compute one distance. Napier came up with a solution to their problem.

The short cut is based on powers of a number. For example: $10^2 = 100$; $10^3 = 1,000$; $10^4 = 10,000$ and so on. The key is the 2,3,4 powers of 10. By definition the logarithm of 100 to the base 10 is 2; the logarithm of 1,000 to the base 10 is 3 and so on.

To use an expanded example, if you take the following number series:

1/8, 1/4, 1/2, 1, 2, 4, 8, 16, 32, 64
Or $1/2^3, 1/2^2, 1/2^1, 2^0, 2^1, 2^2, 2^3, 2^4, 2^5, 2^6$
the corresponding logarithms are:
-3, -2, -1, 0, 1, 2, 3, 4, 5, 6

Now instead of multiplying 4 times 16 to get 64, just add the exponents or logarithms which are $2 + 4 = 6$ and the number whose logarithm to the base 2 = 6 is 64. You are adding instead of multiplying and the addition of small numbers is much easier than multiplying big numbers. To put it in mathematical terms: $\log_2 4 = 2$; $\log_2 16 = 4$; $2 + 4 = 6$ and the antilog of 6 to the base 2 is 64. Symbolically if $x = b^y$ then $y = \log_b x$.

Division works similarly but you subtract logs (or exponents) for the answer. 64 divided by 4 = ? $\log_2 64 = 6$; $\log_2 4 = 2$; $6 - 2 = 4$ and the antilog of 4 = 16 which is the answer. You can also take roots of numbers by dividing the logarithm of the number by the root. For example: $\sqrt[3]{64} = ?$ $\log_2 64 = 6$; 6 divided by 2 = 3; the antilog of 3 to the base 2 = 8; therefore the $\sqrt[3]{64} = 8$. For powers you multiply instead of divide. $4^3 = ?$ $\log_2 4 = 2$; 2 times 3 = 6; antilog₂ 6 = 64. What happens if you have a number that's not a simple integer such as given above? Well, you need tables such as were worked out very laboriously centuries ago.

The examples above use 2 as a base. The two logarithmic systems most commonly used are to the base 10, called common or Briggs logarithms, and to the base

e [2.7182818...which like π for a circle is an oddball number but which turns out to be highly useful in mathematics.] Logarithms to the base e are called natural logarithms. In ordinary notation to distinguish between the two, common logarithms are given as *log* and natural logarithms are given as *ln*, both without the subscripts which are understood.

In usage of logs in surveying calculations, one more thing a person has to keep straight is where the decimal point is. For example: The log of 843 is 2.9258 (to 4 decimal places). The tables give 9258 as the log of 843 (called the characteristic of the log) and the 2 is one less than the integers to the left of the decimal point (called the mantissa).

Other examples are:

Log 8.43	= 0.9258
Log 84.3	= 1.9258
Log 843	= 2.9258
Log 8430	= 3.9258
Log 84300	= 4.9258
Log 0.843	= 0.9258 – 1 or preferably 9.9258 – 10
Log 0.0843	= 0.9258 – 2 or preferably 8.9258 – 10
Log 0.00843	= 0.9258 – 3 or preferably 7.9258 – 10

Notice the characteristic of the log stays the same but the mantissa changes to indicate where the decimal point is.

For surveying calculations before the HP hand calculators or before the old hand cranked Monroes, the C&GS used logs of which the following is an example:

$54,927.32 \times \sin 32^\circ 17' 48'' = ?$

$\log 54,927.32 = 4.73978841$ (to 8 decimals)
 $\log \sin 32^\circ 17' 48'' = \log \sin 32.296666670 =$
 $\log 0.53430317 = 9.72778775 - 10$

4.73778841
9.72778775 – 10

14.46757616 – 10 The antilog of 4.46757616 = 29,347.84

Seems cumbersome, but it's a lot quicker, easier, and less productive of errors than hand multiplying with eight – place natural trig functions! (If you are checking this on a hand calculator, it won't give you the right answer as given above for the log sin of the angle but the actual negative number (-0.27221225) but when you add them together it still comes out correctly.

(To be continued next time on the slide rule.)

Rules of the Game: The Four-Year Degree Standard for Surveying's Recognition as a Profession

By Dr. David W. Gibson

(Reprinted with Permission. Originally appeared in the December 2009 issue of *Professional Surveyor Magazine*)

The trend is growing in the United States toward a legal requirement of a minimum four-year degree as the definition of a "profession." If surveyors wish to be generally regarded as professionals, then a national four-year minimum standard is very important.

First Four-Year Standard Application

A 1992 Florida Supreme Court decision (*Garden v. Frier* 602 So.2d 1273) was the first in the nation to apply the four-year degree standard to surveying. The decision was applied to wording in Florida's Ch 95, Limitation of Actions statute. If a member of a "profession" causes damage, the damaged party has only two years to bring a negligence suit from discovery of the error. If a member of the general public causes damage, the damaged party has four years to bring a "general negligence" suit.

For this case, a client of a local licensed surveyor brought suit in local trial court, claiming damages from a survey. The suit was brought in the third year after discovery of the error. The surveyor defended, saying that because he was a licensed professional surveyor the suit must be brought in two years; therefore the suit should be dismissed. The trial court held for the surveyor.

The client appealed eventually to the Supreme Court, who had to develop a general definition of a "profession" for the Limitation of Action statute. After deliberation, the court ruled that the Florida surveying profession was not a profession because of the lack of a four-year degree standard at that time. Florida had passed a four-year requirement for surveying licensure in 1987, but because of an 11-year grandfathering period almost all newly licensed 1992 surveyors did not have a degree.

The 1992 Supreme Court fol-

lowed a 1988 Supreme Court definition of the statutory term "professional" in a case involving insurance underwriters/agents, *Pierce v. AALL Insurance Co.*, 531 So.2d 84 (Fla.1988). The 1992 court stated: "Accordingly, in harmony with the central thrust of *Pierce*, we hold that a 'profession' is any vocation requiring at a minimum a four-year college degree before licensing is possible in Florida. There can be no equivalency exception."

The 1992 court also compared engineers with surveyors in Florida: "Thus, all future admittees must hold a four-year degree, and all engineers accordingly are professionals for purposes of the statute of limitations. Land surveyors with sufficient qualifying experience, on the other hand, can be licensed without a four-year degree § 472.012(2)(e), Fla. (1991). Accordingly, some future admittees could be licensed without a four-year degree, and land surveyors thus are not professionals for purposes of the statute of limitations."

The court was quite clear and certain. This case created a shock wave among surveying professionals nationwide in the early 1990s.

The Next Step

Kentucky Trial and Appellate Court Decision ruled on a similar case (*Gardiner Park Development, LLC, et al v. Matherly Land Surveying, Inc.*, 2003). The Kentucky Statute of Limitation of Actions also has a reduced time for an aggrieved party to bring a negligence suit against a professional (KRS 413.245, the one-year professional malpractice statute). However, like Florida, the Kentucky statute did not define "professional," and the court had to make a definition.

The trial court applied Florida's *Gardner v. Frier* definition that a profession must have a four-year degree standard for entry. There-

fore Kentucky surveyors were also declared non-professionals.

The surveyor appealed, and in 2005 a Kentucky appeals court reversed and remanded the decision. The big issue on the appeal was the confusion between engineering surveying versus land surveying services. Because states like Kentucky still permit engineers to do some surveying (non-boundary work related to an on-going engineering design/construction project), the trial court did not strike a distinction between engineering surveying versus land (boundary) surveying in the decision.

The appeals court addressed this distinction, basically saying if the surveyor who caused the damages was doing "engineering" surveying then the one-year statute of limitations would apply, because engineering had a four-year degree standard. However, if the damages were caused by work that only a land surveyor could perform (boundary work), then the one-year statute would not apply, because 2003 land surveying statutes did not require a four-year degree, and land surveying is not a profession.

Even though the case was "reversed and remanded" back to trial court, the trial court, upon rehearing, evidently held that the damages were caused by boundary surveying work that only a land surveyor could do. Therefore, the initial trial court decision stood: Land surveying is not a profession in Kentucky.

The Kentucky appeals court stated: "However, the parties are in disagreement about whether the services ... are those of a professional engineer or those of a land surveyor. This, in our view, is a question to be determined by the trial court. Therefore, the judgment of the Jefferson Circuit Court is vacated and the case remanded to the circuit court for a determination of what services are professional engineering versus land

surveying. To the extent that the claims relate to professional engineering, they are subject to the one-year statute of limitations in KRS 413.245 and should be dismissed.... To the extent that the claims relate to land surveying, they are not subject to the statute of limitations in KRS 413.245."

The 2003 case caused great concern to the Kentucky surveying profession. Surveyors there immediately began to develop legislation for a four-year degree standard. That legislation passed in 2006 and is in the grandfather period at this time.

The U.S. Fair Labor Standards Act

In 2008-2009, Maine surveyors were surprised to find that the U.S. Department of Labor ruled that they were not members of a "learned profession," because Maine state statutes do not require surveyors to have a four-year degree to be licensed. Maine surveyors fought the DOL decision and asked ACSM to help. After a diligent challenge to

the ruling, the surveyors lost, and the DOL decision stands.

The U.S. Congress adopted a federal act termed The Fair Labor Standards Act (FLSA), first enacted in 1938 with numerous changes since then. The purpose of the federal law is to be sure that employees are treated equitably while they work. As a result, the FLSA establishes minimum wages for certain types of employees and work and requires time and a half for overtime work. However, if a person is a member of a "learned profession," the employer does not need to meet the act's requirements. Maine survey employers wished to be exempt. The DOL said they must meet the FLSA because they are not in a learned profession, due to the apprenticeship system still in place.

The DOL website provides a description of FLSA, as well as "learned profession" (§ 541.301). Its last sentence is particularly telling: *"The typical symbol of the professional training and the best prima facie evidence of its possession is,*

of course, the appropriate academic degree, and in these professions an advanced academic degree is a standard (if not universal) requisite." To be a member of a learned profession, you must have the "appropriate academic degree," and the "advanced academic degree" is standard. Of course, the non-four-year-surveying states do not meet this requirement.

The surveying "profession" is walking a fine line of professional recognition in the United States. The 1970s and 1980s movement to a national four-year degree standard has slowed, and many states now are not supporting that action today. The public image of the surveyor as a technician is very strong. The four-year degree standard is needed to clearly identify the surveyor as a professional in both the public's eye and also according to these growing legal standards of a profession.

David W. Gibson is the founding program director of the Geomatics program at the University of Florida in Gainesville, Florida.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7093
www.blm.gov/co



CO-956
9655.2

November 13, 2009

Mr. Tom T. Adams, President
Professional Land Surveyors of Colorado
1210 24th Lane
Pueblo, Colorado 81006

Dear Tom:

This letter is to inform you of official cadastral surveys in Colorado that have been accepted from, January 1, 2009 through September 30, 2009, and are now available from the Public Room, Bureau of Land Management, Colorado State Office, 2850 Youngfield Street, Lakewood, Colorado, 80215.

The accepted original surveys, resurveys, supplemental plats or remonumentations are listed below by township, range, meridian, group #, type, approval date and number of plats.

<u>Township</u>	<u>Range</u>	<u>Meridian</u>	<u>Group #</u>	<u>Type</u>	<u>Approved</u>	<u>Plats</u>
T. 5 N.	R. 92 W.	Sixth	1495	Plat & Notes	01/27/09	1
T. 42 N.	R. 7 W.	NMPM	1482	Plat & Notes	02/24/09	1
T. 2 N.	R. 72 W.	Sixth	1413	Plat & Notes	03/11/09	1
T. 39 N.	R. 6 E.	NMPM	1437	Plat & Notes	03/26/09	1
T. 39 N.	R. 7 E.	NMPM	1437	Plat & Notes	03/26/09	1
T. 37 N.	R. 10 W.	NMPM	1519	Plat & Notes	03/31/09	1
T. 51 N.	R. 7 W.	NMPM	1405	Plat & Notes	05/07/09	1
T. 1 N.	R. 72 W.	Sixth	1413	Plat & Notes	05/20/09	3
T. 2 N.	R. 72 W.	Sixth	1413	Plat & Notes	05/20/09	4
T. 14 S.	R. 83 W.	Sixth	1491	Plat & Notes	06/04/09	2
T. 15 S.	R. 83 W.	Sixth	1491	Plat & Notes	06/04/09	1
T. 16 S.	R. 71 W.	Sixth	1481	Plat & Notes	06/09/09	1
T. 3 S.	R. 73 W.	Sixth	Sec. 15	Suppl. Plat	07/20/09	1
T. 18 S.	R. 70 W.	Sixth	Sec. 3	Suppl. Plat	08/31/09	1
T. 32 N.	R. 20 W.	NMPM	1501	Plat & Notes	09/24/09	1
T. 41 N.	R. 7 W.	NMPM	1469	Plat & Notes	09/30/09	2
T. 3 S.	R. 73 W.	Sixth	1470	Plat & Notes	19/30/09	2

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,

Paul Lukacovic
Acting Chief Cadastral Surveyor for Colorado

Central Colorado Professional Surveyors 2010 Annual Meeting & Conference

*Sponsored by
Central Colorado Professional Surveyors
Chapter of the Professional Land Surveyors of Colorado, Inc.,
and Metropolitan State College of Denver
Latitude: 39°44'47"N Longitude 105°00'27"W*

Plan to attend on Friday February 26th and Saturday February 27th, 2010. Registration begins at 7:00 a.m. and classes start at 8:00 a.m. both days.

All Classes will be held in the Tivoli Center, 900 Auraria Parkway, Denver, Colorado 80204. The Tivoli Student Center is on the downtown Auraria campus of Metropolitan State College of Denver (Metro State). The Tivoli is easy to access from Interstate 25. It is centrally located just west of downtown Denver and south of the Pepsi Events Center, at 900 Auraria Parkway, Denver, Colorado 80204. Parking is available in the Metro State parking garage and pay lots west of the Tivoli Center for a daily fee. See <http://www.Colorado-Surveyors.org> for a more detailed map.

Friday 2/26/10, 7:00 a.m. Registration and check in.
Saturday 2/27/10, 7:00 a.m. Registration and check in.

BUSINESS TRACK

Strategic Planning and Proposal Writing Workshop

Dena Wyatt & Martha Cusick Eddy,
Marketing Evolutions – 4 contact hours

Basic Business Contracts and Protecting Your Business.

Jennifer Lufman, ESQ,
Fairfield and Woods, P.C. – 4 contact hours

Surveyors surviving the recession

Jeff Salmon – 2 contact hours

Going Mobile

Jeff Salmon – 2 contact hours

Land Use Representation

Jeff Salmon – 2 contact hours

Errors & Omissions Insurance

Howard Kohler – 2 contact hours

PROFESSIONAL TRACK

Advanced Case Studies in the Public Lands Survey System

Dennis Mouland – 8 contact hours

Review of the Colorado Monument Record

Mike Drissel – 2 contact hours

Ethics for the Professional Land Surveyor

Alan Blair – 2 contact hours

Geodetic Coordinate Data Base (GCDB)

Paul Lukacovic – 2 contact hours

TECHNICAL TRACK

Colorado Survey Law, Board Rules and Policies

Doyle Abrahamson\Roger Nelson – 2 contact hours

Colorado State Plane Coordinates

Gaby Neunzert – 4 contact hours

Legal Terms Workshop

Diana Askew – 2 contact hours

Survey Instrument Adjustment Workshop

Mike Weller (Frontier Precision) – 4 contact hours

Heartsaver® CPR Course

Clay Dobronyi,
CEO STAT Medical Training – 4 contact hours

CONFERENCE MEETINGS

Friday 2/26/10 12:30 p.m. to 1:00 p.m.

CCPS Meeting and Installation of New Officers

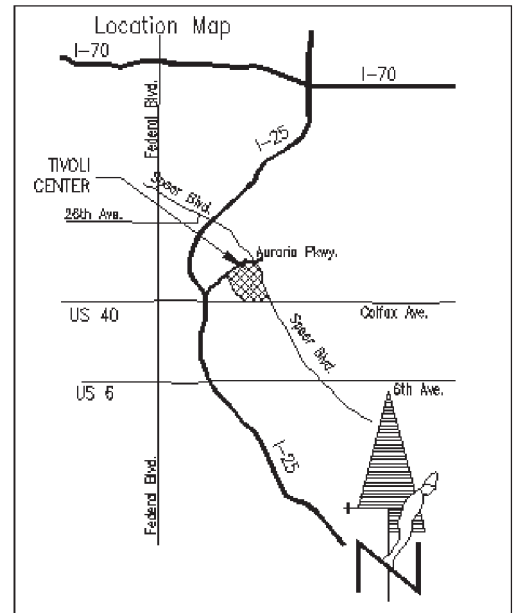
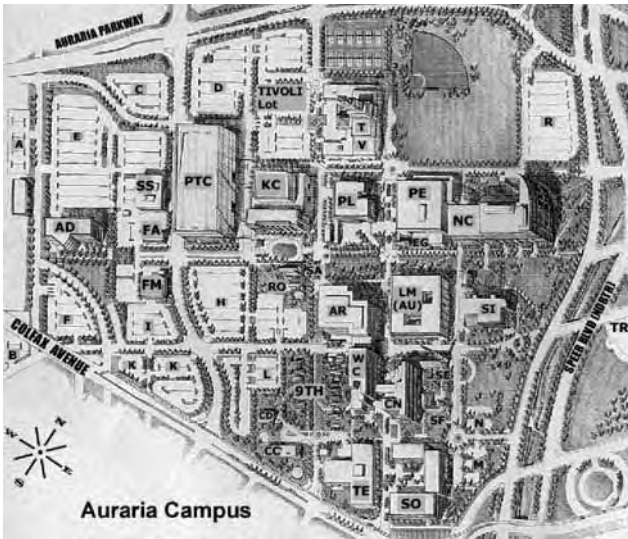
Friday 2/26/10 6:00 p.m.

PLSC Board of Directors Dinner and Meeting

CENTRAL COLORADO PROFESSIONAL SURVEYORS

P.O. BOX 628 Littleton, CO 80160

Detail Map from www.Colorado-Surveyors.org



REGISTRATION FORM

Please registration early so we have a good count for the food needed. Registration includes lunches, beverages and snacks, class materials, instructors' fees and access to exhibitors. Student rate is for full-time students with current student ID.

Parking fees (cash) may apply for on campus parking.

The CCPS has implemented an online registration process this year for those wishing to pay via credit card. Please go to either <http://www.colorado-surveyors.org/> or <http://www.plsc.net/> for the link to the online registration form.

REGISTER EARLY, ON OR BEFORE FEB. 12, 2010.

Days	Member	Non-Member	Student
1	\$175	\$225	\$50
Both	\$250	\$300	\$80

L E T T E R

Mr. Tom Adams, President
c/o Ms. Diana Askew, Executive Director
Professional Land Surveyors of Colorado, Inc.
P.O. Box 704
Conifer, CO 80433

Re: 2009 Surveyor of the Year Award

Dear Mr. Adams and all of the Members of PLSC:

I was deeply honored, humbled and downright flabbergasted to have been awarded the Professional Land Surveyors of Colorado 2009 Surveyor of the Year Award at last fall's PLSC annual meeting. I want to thank you and the full membership for the honor.

There are so many others in our organization who give time and effort back to their communities and our profession and who are as deserving, if not more deserving, of the recognition and thanks that you have bestowed upon me.

I know that a large part of the consideration for the award has been my involvement with the mentoring program that the Western Colorado Land Surveyor's chapter is sponsoring here on the Western Slope, my interest in ensuring that Metro State College maintains a viable surveying degree program, my advisory role for the surveying portion of the Mesa State College's Construction Management degree program, and my involvement with the Grand Valley School District 51's School to Career Advisory Council. These efforts stem from my belief that we should all give back in some way to our communities and professions depending on our capabilities and talents. I just happen to have the audacity to believe that my talents are best expressed in encouraging the education of the next generation of Professional Land Surveyors.

However, my contributions were not achieved alone. A special thanks and recognition should also go to Gaby Neunzert who has been totally selfless in providing me guidance and materials for the Mentoring Program and to Teresa Smithson who had the courage to get the Mentoring Program off the ground and successfully running here on the Western Slope before she found greener pastures in Iraq. The members of the Western Colorado Land Surveyors have also been very supportive and have provided me with the encouragement and the wherewithal to keep the program going.

Again, I want to give you all a heartfelt thank you for this wonderful award.

Sincerely,
Thomas W. Sylvester, P.E & P.L.S.



Now Available

A masterful documentation and historical perspective of each initial surveying point for federal public lands in the United States. Published in 9x12 format, Initial Points of the Rectangular Survey System features a 4-color section with more than 130 photos depicting monuments and landmarks.

Number of copies	Price
1	\$89
2-5	\$79
6-10	\$69

Call 303-428-9529
to order

C. Albert White's second book, **INITIAL POINTS** **OF THE RECTANGULAR SURVEY SYSTEM**

Never before, in the history of surveying, has so much pertinent and interesting material been so meticulously compiled in one publication. (White personally visited EVERY Initial Point.)

Mr. White's first book, *A History of the Rectangular Survey System*, published by the BLM in 1983, is considered the definitive work on the U.S. Public Land Survey System. Arguably the most distinguished authority on the history of nineteenth and twentieth century public lands surveying, White began his career with the General Land Office in 1946. Both as BLM and a private surveyor, he applied his zeal to a wide range of activities. White's expertise represents a bridge between the wisdom and experience of the American heritage of land settlement and the contemporary uses of surveying technology.

Initial Points of the Rectangular Survey System is undertaken in the spirit of, and dedication to, Mr. White's remarkable contributions to his field. Net proceeds from its sale will be returned to the Professional Land Surveyors of Colorado Inc. Scholarship Fund.

Help Wanted...Renew Your Surveying License On Time!

Your help is desired to help us help you stay out of trouble with the Colorado Board of Licensure for Architects, Professional Engineers and Professional Land Surveyors and in the meantime protect Colorado consumers.

The Board sees an unbelievable number of situations every year of individuals who have failed to renew their Professional Surveyor's license on time and practiced without a license. In fact, this is the number one violation of the practice act!

The reasons that are offered boil down to some common themes: I forgot; I thought I renewed but I guess I didn't; I moved and I forgot to notify the Board so I never got the renewal notice; I thought that my assistant/secretary/wife/boyfriend, et cetera, handled it; it's the Board's fault because I did renew my license...or I thought I renewed my license.

The result is that depending on how long it takes for the individual to "remember" to renew, the Board often takes disciplinary action against the individual because it is against the law to practice land surveying without an active license.

So, here's where we need your help. And the steps are just 1-2-3 easy!

1. Go to the Division of Registrations website at www.dora.state.co.us/registrations and click on Registrations Online Services.

2. Select the option for "I have an individual license."

3. Click the link for "Set up your password" and follow the instructions.

4. Once you have logged into your account, check your mailing address and update it if it is not correct. Please add your email address or update it, too. We will use electronic communication increasingly in the future.

5. Also, check your license status to be sure it is active and note the expiration date in your calendar to remind yourself of when it is time to renew your license the next time.

6. Make note of your password, and when your license is 45 days away from renewal, come back to the site to renew your license electronically.

7. This is perhaps the most important step in helping us: Tell every other licensee that you know in your company, in the next office, in your association, on your projects, in your social circles, and in your neighborhood to go through steps 1-6, too...please!

See? That wasn't so hard, huh? And maybe you have prevented yourself or someone else from falling into this problem that can have long-lasting consequences.

If you happen to find that you do have an expired license, the process and forms to reinstate your license

can also be found online at <http://www.dora.state.co.us/aes/forms.htm>.

Remember, it is each licensee's responsibility to renew his or her license on time and to keep the Board informed of any address changes. With our online system, you can handle all of this yourself in real time, any time, day or night.

Thank you for your help!

The Colorado Board of Licensure for
Architects, Professional Engineers and
Professional Land Surveyors
<http://www.dora.state.co.us/aes>

Legislative Committee News

By Alan Blair, PLS

The PLSC legislative committee was presented with an aggressive slate of issues to pursue for the next session of the state legislature. The committee has developed language for three statutes:

- A surveyor's affidavit of correction;
- Minimal educational requirements for licensure;
- Mandatory recording of court decrees resolving boundary lines.

These three bills are being moved forward for consideration in the next legislative session. The legislative committee is looking for direction in 2010. If you think, "There oughta be a law," let a PLSC board member know your opinion.

PLSC Board of Director's Meeting Minutes

Thursday, November 12, 2009 – Fall Technical Session Annual Membership Meeting

Recognition of PLSC Board Members and Officers Present:

Tom Adams, Michael Greer, Diana Askew, Micheal Bouchard, Doug Berling, Roger Nelson, Russell Clark, Patrick Green, Stan Vermilyea, Gary Gable, Warren Ward, JB Guyton, Dave Difulvio Absent: Dave Freienmuth

Annual PLSC Recognition Awards – congratulations to the following recipients!

Surveyor of the Year: Thomas Sylvester

Citizen Surveyor: Warren Andrews & Ed Bristow

Distinguished Service: Roger Nelson & Pamela Fromhertz

Appreciation: Dan Corcoran & Charles Adams

Changes to Membership Dues (All dues now include one chapter affiliation)

Full Voting Member: \$ 110.00; Associate: \$ 75.00
Student: \$ 30.00 Retired: \$ 60.00 Sustaining: \$ 230.00

Tally of Ballots for the membership vote for required changes to the bylaws

Should the Bylaws be amended for Sarbanes-Oxley?

Yes: 61, No: 8. PASS

Tally of Ballots for the membership vote for an optional change to bylaws

Should the Bylaws be amended for Honorary Life Membership? Yes: 60, No: 9. PASS

NSPS Governor, Warren Ward

Recap of the Railroad Abandonment Bill: Any railroad that is abandoned if there is not a record or if the center of the tract controls the boundary of the railroad, there is a law in Colorado that is widely ignored at this time and this is a problem across the US.

Motion: Warren Ward moves to write a letter for the Board of Directors of the PLSC to approve, to be sent to the representatives from Colorado in the United States Congress in support of the railroad abandonment law.

Tom Sylvester seconds. Vote: unanimous approval.

Respectfully submitted:

Diana E Askew, PLS

PLSC Secretary-Treasurer

Secretary-Treasurer, Diana Askew Treasurer's Report

Bank Accounts	9/30/2009 Balance	10/31/2009 Balance	11/30/2009 Balance	12/31/2009 Balance
Checking at Wells Fargo - Main Checking	26,592.17	22,878.68	45,353.27	35,553.92
CSEF Checking at Wells Fargo	2,773.16	2,766.27	2,691.27	2,691.27
CSEF Savings at Wells Fargo	50,448.39	50,476.04	50,646.82	50,743.33
Merchant Checking - Credit Card Acct	3,767.05	7,437.04	5,008.39	10,100.31
PLSC Savings at Well Fargo	40,106.99	40,123.91	40,137.11	40,150.74
TOTAL Bank Accounts	123,687.76	123,681.94	143,836.86	139,239.57
Investment Accounts				
ICA - Roger Patterson Scholarship Fund	21,649.45	21,649.45	22,963.96	23,461.52
Merrill Lynch - PLSC Scholarship fund	25,282.00	25,282.00	27,064.10	27,764.90
WMIF - Roger Patterson Scholarship Fund	21,398.80	21,398.80	23,206.00	23,788.94
TOTAL Investment Accounts	68,330.25	68,330.25	73,234.06	75,015.36
OVERALL TOTAL	192,018.01	192,012.19	217,070.92	214,254.93

CCPS

The CCPS 2010 spring technical session has entered the final planning phase. The technical workshop will provide three tracks for the workshop sessions: Professional, business and technical. Some speakers and topics of interest include Dennis Mouland with the BLM, who will be speaking on "Advanced case studies in the Public Lands System," Jeff Salmon, a writer with Professional Surveyor Magazine, will be hosting discussions on surveyors surviving the recession, going mobile and land use representation, and Alan Blair will provide a session on "Ethics for the Professional Surveyor." Other topics to be presented include a strategic planning and proposal writing workshop, basic business contracts and protecting your business, Colorado survey law, board rules and policies, legal terms workshop, a heart-saver CPR course with certification, errors and omissions insurance, Colorado state plane coordinates, a survey instrument adjustment workshop, Colorado monument records review, and the Geodetic Coordinate Data Base. This will be a very diverse and well rounded conference that we are sure will be valuable to the professional land surveyor. We hope you can all attend! Please see the announcement of the CCPS workshop in this issue of *Side Shots*. Any suggestions are welcome and can be provided via the CCPS website or any Board of Directors member.

Our October general meeting included Mr. Earl Henderson, PLS, current CCPS Director as guest speaker and Mr. Bryan Baker with Frontier Precision as guest vendor. Earl provided a very interesting history of the boundaries of Colorado including the four corners monument which has had some national press lately. Thanks to our vendor member who updated the group on GPS, total station and scanning equipment from Trimble Navigation. The next CCPS general meeting

will be at the Northwest location, the Table Mountain Inn at 1310 Washington Avenue, Golden, Colorado on Thursday January 28, 2010 at 7:00 P.M. Free dinner begins at 6:30 P.M., cash bar opens at 6:00 P.M. Guest Speaker: Mike Blakeman from Moedus, LLC will be providing an introduction to static and mobile mapping with High Definition Scanning. Guest Vendor: Benjamin Philips with Cad-1. General Membership Meetings are held on the fourth Thursday of the following months: January, March, May, August and October.

CCPS will be awarding scholarships at the upcoming technical workshop in February, 2010.

Continued thanks to Alan Blair, PLS who is the CCPS web master assisting in the maintenance of the web site - we greatly appreciate all of your efforts, Alan!

Elections for the 2010 CCPS Board of Directors positions have been compiled and the elected members are as follows:

Joe Conway, President; James "JJ" Rihanek, Vice President; Aaron Willis, Treasurer; Norm Simonson, Secretary

Directors: Robert Snodgrass, Earl Henderson, James Beatty, Shawn Clarke, Chris Raml, Warren Ruby and James Holben

The next Board of Directors Meeting will be held at: SEH Inc., 390 Union Boulevard, Suite 630, Lakewood, CO 80228 on Thursday, January 7, 2010 at 6:00 P.M. Board of Directors Meetings are held on the first Thursday of every month.

Respectfully submitted,
Todd G. Beers
CCPS President

CSRN

The Colorado Spatial Reference Network would like to thank the PLSC and its respective chapters, and all of our members and supporters for all you have done for us throughout 2009. We are truly grateful and appreciative.

Looking back on 2009, the CSRN is proud of its many accomplishments, including a new website developed by Bohannon Huston, seven Open Board meetings with telephone conference available; two Open General Meetings with technical presentations given by industry experts such as Hixon, Intuicom, Leica, NGS, O'Neil's Positioning, Trimble and many others. The CSRN provided four reports to the PLSC, published four eNewsLetters online and published two articles in *POB Magazine* and *Side Shots*. The CSRN had representatives in attendance at seven separate training events and ended the year by providing a half day training session at GIS in the Rockies.

In cooperation with the PLSC, the CSRN has begun collecting annual membership dues from PLSC members effective January 1, 2010. Dues for sustaining and non-PLSC members (i.e. geospatial industries) will continue to be waived for the year. Whether you are joining the PLSC for the first time or renewing your annual membership, please consider becoming a member of the CSRN in addition to your regular chapter.

As we look ahead to 2010 we are excited about the many opportunities available for us to help support and expand Real Time Reference Networks throughout the state. Our newly installed Board of Officers and Directors are: President, Dan Smith; Vice President, Brian Dennis; Secretary, Jan Sterling; Treasurer, Todd Beers. Directors are Pam Fromhertz, Mathew Barr, Lawrence deVries, Jack Sparks and Daniel Akin.

C H A P T E R N E W S

The CSRN will host a panel discussion at the January 19 SCPLS meeting. Our next Open Board Meeting is scheduled for January 26. We will also have a booth at the CCPS Conference in February.

If you are interested in learning more about the CSRN please contact us through our website at www.CSRN.us or you may contact me directly at 303-512-4401 or daniel.a.smith@dot.state.co.us.

Dan Smith
President - CSRN

NC/PLSC

We currently meet at 6:00 P.M. the first Wednesday of the month, September through May, in various Northern Colorado locations. Attendance has been down and we are trying to determine if there is a bet-

ter day to meet. We will be sending out an e-mail regarding our meeting night. Please take the time to respond. We are sincere in our desire to reach our Northern Chapter members and to provide a valuable and relevant program. We want your participation and input!

We anticipate hosting 2 or 3 educational programs as part of our monthly meetings between January and May. Sample topics to be discussed: Scanning, Crime Scene Surveying, Marketing, and Tips on Preparing a Winning SOQ. If you are a current Northern Chapter member and are not getting your monthly invitation, are a member of another chapter, or are involved in the surveying profession and would like to visit, please e-mail Rob Hintz rob.hintz@fcgov.com so he can give you directions to the next meeting.

The December meeting is our annual social meeting and was held at Abbondanza Pizzeria in Longmont. Those who attended enjoyed a nice meal and informal conversation. This year good cheer is necessary to just get through and we are all hoping 2010 brings a rebound to the survey market. We are all wishing for a Happy New Year!

Laine Landau
Director, NC

NW 1/4

The NW 1/4 hosted their last meeting of the 2009 year on December 11th at the Holiday Inn in Craig, Colorado. They must really like us because we had the only cold room in the place. Present were Dave Ginter, Peter Epp, Lloyd Powers, Jim Joy, John Noonan, Tom Effinger, Skidge Moon and Brian T. Kelly, with President Gordon Dowling presiding.

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CHAPTER NEWS

After finishing the normal items of business we proceeded to the program produced by Dave Ginter with a technical assist from John Noonan on the Power Point coordination. Dave is the BLM Surveyor based in Craig and has been producing a presentation on the basics of Cadastral Surveying for Range Technicians, Rangers and other employees of the BLM that may come into contact with section line issues. We all know that with hand held GPS, anyone can be a surveyor. Dave's program started in the beginning, with the Land Ordinance of 1785 under the Articles of Confederation. The fledging colonial government had quite a task before them, surveying, inventorying and selling off vast tracts of land in the west. The West at that time was Ohio, Indiana, etc., to the east of the Mississippi River. The Louisiana Land Purchase had not taken place yet. None other than Thomas Jefferson, himself a surveyor amongst many other things, stepped into the breach to develop the early methodology for Sectionalized Land Survey, called Cadastral Surveys. Cadastral is one of those old English terms that includes recording, surveying and most importantly, taxing!

Dave's program then led through what constituted an official survey - the authorizing documents, field survey and survey returns. Towards the end of the evening, he arrived at the really interesting part, survey of Section 36 in a Township within the Escalante Canyons WSA south of Grand Junction. This particular section is in the most southern section of the Ute Meridian. The Sixth Meridian and New Mexico Meridian also border the area. And that is where he left it until the next program this winter, where we find out about setting intermediate corners on a township line bordering another Meridian.

Brian T. Kelly, Sec.-Treasurer
NW1/4



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SCPLS

The Southern Chapter calendar for 2010 has been set and is available on our chapter page at www.plsc.net.

The ballot for Chapter officers has been sent out and the new officers will be installed at the February chapter board meeting.

In March the Southern Chapter member meeting will be held at the Manitou Springs Historical Society located in the Miramont Castle in Manitou Springs, CO

The meeting will provide an opportunity to all attending to view a collection of surveys, plats, field notes, mineral surveys and other documents from the firm of Sawyer and Garstin. Sawyer and Garstin

were in business around the Manitou Springs and Colorado Springs areas in the early 1900's.

The cost for the evening will be \$10 and includes dinner, a tour of the castle and a presentation of the historic maps and documents.

A formal invitation will be sent via email to all the members of PLSC.

Mark Johannes
President, SCPLS

SWC/PLSC

At our November meeting a committee was formed for organizing our 2010 seminar. Volunteers for the committee were Dave Seiler, Bob Drum, Josh Casselberry, Ed

Young and Dave Freienmuth. I would like to thank all of the volunteers in advance for their time and effort.

A "Call for Nominations" was made at the November meeting and via e-mail. So far the nominations are Rob Trudeau for President, Tom Au for Vice-President, Ed Young for Treasurer and Parker Newby for Secretary. Voting will take place at the January meeting scheduled for January 19, 2010 at Christina's Bar and Grill at 6:00 p.m. (F.Y.I.: Tuesday is \$4.00 burger night at Christina's) I am urging all members to attend and get involved in your local chapter.

Thomas E. Au, PLS
President, SWC/PLSC

Southern Chapter Fall Technical Conference

September 10-11, 2010
in Colorado Springs

Mark your calendars today - It's shaping up to be another great line-up of guest speakers, and vendors showing off the latest technologies.



WCLS

WCLS finished off 2009 in November with a meeting to establish a slate for new officers. One of the Chapter's concerns regards the slow progress for proposed legislation, especially the bill addressing modern professional education requirements. It is pretty frustrating to see two years of effort placed in establishing a proposed bill, only to see it shot down by the Board and DORA at the last minute. If DORA has always been intending to address the issue in 2011-2013, why waste the time and energy that

was spent between 2008-2010?

At our January meeting, WCLS installed new officers as follows:

President, Tom Sylvester; Vice President, Richard Bullen; Secretary/Treasurer, Brian Bowker.

Good luck to all of them and thanks ahead of time for their sacrifice and leadership.

WCLS will be presenting our annual Spring Seminar on Friday, May 7, 2010, featuring, among others, Mr. Geoff Anderson. He will be presenting a seminar regarding the

Quiet Title Suit as it pertains to Colorado law. This should be of interest not only to land surveyors, but also to title examiners and attorneys. Details will be provided closer to May, but mark your calendar and come visit Grand Junction during the Downtown Art and Jazz Festival that weekend. It's our best time of the year for fun, including Cinco de Mayo, Palisade Bike Fest, and a racing event at Highline Lake.

Rick Mason
Outgoing President, WCLS

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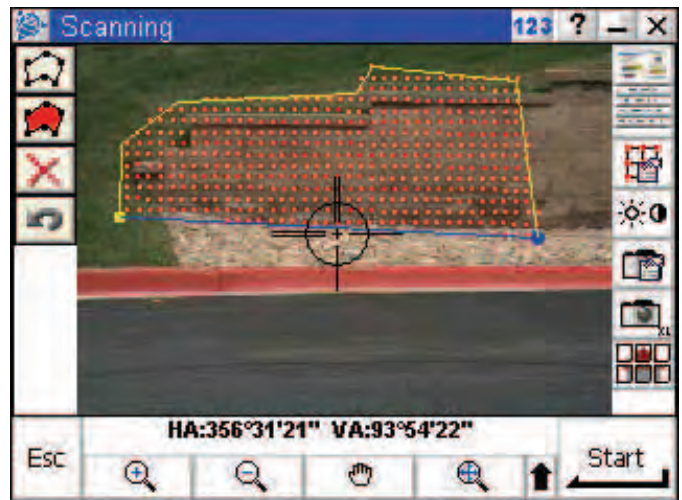
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