

The **OREGON** Surveyor



A publication of the Professional Land Surveyors of Oregon

Vol. 39, No. 4

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Professional Land Surveyors of Oregon


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Tired

■ Greg Crites, PLS



This issue will find the usual contents, as you might expect. Some of you may think you're tired of the same old stuff, where's the "pop", or maybe even relegate this issue to the periodical bin on the back of your toilet! Whoa there fellow professionals. I'm finding it difficult to get content for this magazine, which to me is inexcusable. Let's examine some of the issues that may be driving this situation.

I often hear the excuse that you don't have the writing skills to turn in an article for publication. My reply will always be "I don't care!" That's why the magazine has an editor and an editorial team. Your command of the "King's English" may be weak, but we can fix that, and, as an added benefit, once we've put a bit of "spit and polish" on your submission, we'll send it back to you for review prior to publication to get your blessing. Best of all, that's free! We only ask that you put your personal feelings on the shelf and accept a bit of healthy criticism. After all, you subject yourself to far worse scrutiny every time you submit a record of survey to your local county surveyor!

There are several added benefits to submitting an article to our magazine that I seem to feel you may not realize. First, you get the chance to subject yourself to some editorial scrutiny (oh what fun!), but more importantly, your peers can learn from the experiences you've felt are important enough to share with them. After all, where has a great deal of your learning in this profession come from? I can't help but overhear the conversations in the breakouts at our annual conference. "War stories" are a common part of the conversational landscape. Well, guess what? Those stories can be a valuable part of mentorship, something we all realize is an incredibly important part of our professional education. So, my admonition to you is, write them down, send them to me and see if your experiences can reach a much wider audience. If we publish them, your incentive is receiving professional development hours for your effort! Frankly, I can't think of a more enjoyable way to earn them!

There is a selfish benefit to submitting your articles for publication. I sleep better when I'm confident the magazine will not be short on content, which to me is nothing short of embarrassing. So, that being said, I know how passionate you are about this profession, so dammit, put a bit of that passion to paper and let's hear from you.

Changing the subject, how do you like the cover photo? I've got to tell you, I'm so thankful to have Pat Gaylord as a member of our organization but I'm even more thankful for his photographic skills! When he sent me the image, I was awestruck by his creativity and have to admit, there's a bit of smug pride in having him as a part of the magazine team because he really takes the pressure off me, at least in that part of the publication process.

I'm an avid watcher of Art Wolfe's program on OPB, "Profiles from the Edge." I've got to say that Mr. Wolfe is getting paid for what he loves to do, quite handsomely I'd imagine, but any of us who've watched his program share in the pleasure of his photographic gifts. Doesn't that sound a bit like what I'm asking from you, our members? I'm sure there are quite a few "junior" members of our profession who could benefit from the wealth of experiences accumulated by all of you "gray hairs" out there. Story telling was the only form of communication and the dissemination of knowledge in civilization for thousands of years. Write yours down and send them to me.

Lastly, the brief story by Bob Taylor is really amazing! I can't tell you the number of times I've attended a funeral of someone I knew only to discover there was a unique story in their past that I'd never known. I'm so thankful one of our "living" members decided to share one and look forward to the time when we can chat about his pioneer upbringing. There've been a couple of obituaries in our newsletter lately that have given me pause to say to myself, "wow, I never knew that about them!" Sadly, they're no longer with us so that I can speak with them about their unique experiences. I'm reminded of the recent passing of Sue Newstetter and all that I learned about her when I attended her memorial service. This was particularly difficult for me because we'd served together for so long on the PLSO board, both in a professional capacity and as friends, and yet I really didn't know her.

I'm not saying that many of you within our membership are on the verge of crossing the great river, but I am saying that those of us with graying temples and sagging skin already realize that the sand pouring through the hourglass of our lives seems to be accelerating. For the sake of all of us, don't let it run out before you've taken the time to tell a bit of your story. ◦

Chairman Comments

■ *Leland Myers, PLS; 2016 State Chair*



I am finding that I need to apologize to the members of the Professional Land Surveyors of Oregon. This past year I have undertaken a lot more than I can handle. Remember that I told you last issue that we all need to be active in our communities. Well the negative side of serving has popped up and I am now a recalled mayor. It is not because I did anything wrong, other than being the longest resident of Sumpter. I shall not carry this any further except to say I am very disappointed in the results.

I am certain there are several of you who have been challenged by a client, holding an inexpensive GPS unit, telling you that you got it all wrong. Recently, a client has had the crew back to the property, twice, because the work done for her just didn't check out. The client has done some studying on the subject of surveying, which is admirable, but just isn't picking up on the fact that we professionals have extremely accurate (and also more expensive) instruments manned by personnel with years of training and experience—and that we do want the best results of our work for each and every client every time.

I am looking forward to the remainder of my term as Chair as we try to address PLSO issues—one being that it is that time of year for us to find a candidate for Chair-elect. Thank you to all who have kept the business of PLSO going. ◉

The Facts of Life

■ Aimee McAuliffe, PLSO Exec. Secretary



If you are anywhere in your 40's (or maybe older if you had kids) you may remember a television show called, "The Facts of Life." For the purposes of this article, I'm not going to go into the details of what it was about. The real reason I mention it, is because I just can't get the theme song out of my head. It goes something like:

*"You take the good, you take the bad,
you take them both and there you have:
the facts of life, the facts of life."*

The good and the bad is where it's at this summer. The good—we get to watch the Summer Olympics! The bad—the days and weeks are just creeping along until election season is over. I don't know if it was this painful before social media. But it sure is now.

But that's life. Everything has pros and cons, which change according to who is talking. Much like being a member of an association. For some, the cons include the cost of joining. Despite being a tax deduction*, some can't see the value of their membership. While others may contend that association members don't have similar objectives.

Except, here's the thing: an association is a reflection of its members—especially the active ones. If you want the ship to go a certain way, is the answer to stand on shore or step up and join the steering crew?

Trade associations bring people together. Whether it's working towards a common goal during committee meetings or making important decisions at the State Board level, members are contributing to the betterment of their profession. Monthly chapter meetings and the Annual Conference not only provide PDH's, but ample networking opportunities. Networking is the perfect time to glean fresh ideas and commiserate on challenges that everyone is facing in the profession. It brings a sense of knowing that you aren't alone in your frustrations. And if it's a really good conversation, the topic should go from what you're frustrated about to possible ways to solve the problem.

Which leads me to the habit that associations have of bringing competitors together. People that choose to work together under the association umbrella have a louder voice and more opportunity to make an impact. Whether

it's in Salem, the County Office, City Council or the high school job fair. That doesn't mean you can't disagree. It means, you come to the table and work out compromises before leaving for the actual party to go make the world a better place. One voice, one chorus, one beat is what makes the music beautiful.

Maybe I should be singing "We are the World" instead? I've always liked that part when Bruce Springsteen comes in with that gravely working man voice of his. But I digress.

If you have not renewed your membership for the 2016–2017 membership year, this will be the last Oregon Surveyor (unless you renew of course). For those that have been confused about our calendar year, the membership year runs July 1–June 30. The Officer Year and Fiscal Year run the standard calendar year of January–December. That means, if you renew in December to get the discounted conference registration price, you will still need to renew in your membership in July. If you were a *new* member last year and joined in January, you may have noticed that you received a pro-rated membership amount. That is a one-time special deal for new members only to see if you like being a part of your professional community. So don't do yourself and your community a disservice by waiting. We need you now.

To me, it's clear that the pros outweigh the cons. Many hands make light work. The small investment you make in your membership dues each year and the time you put into PLSO makes a difference. But the most important consideration is what it says about your commitment to the profession. It shows that you are willing to put in the extra work and time for its advancement. It shows that you care about the future of surveying in Oregon. ◊

**PLSO is a 501c(6), which encompasses professional organizations. Approximately 20% of PLSO annual dues are estimated to be attributable to lobbying and political expenditures. Pursuant to the Internal Revenue Code, this is non-deductible as a business expense for Federal Income Tax purposes. We suggest you contact your tax advisor for further clarification.*

Cornucopia: One of several ghost towns in Oregon.

■ *Bob Taylor, PLS*

Thomas T. Cook has just written a book entitled “*The Cornucopia: Oregon’s Richest Gold Mine*”.

This August 5, Thomas will have a book signing at the Cornucopia Lodge in northeastern Oregon. In the book Mr. Cook describes Robert M. Betts as a mining engineer for the Cornucopia Mining Company. Betts first appears in the mining records in 1916. Betts was later listed as a board member of the Oregon State Board of Examiners for Engineers from 1929 to 1937.

Cornucopia was building a new town in the 1890’s. Cornucopia is located in Baker county about 12 miles northwest of Halfway, Oregon.

George Robert Taylor (Sr.) was born in Halfway in November of 1913 along with four brothers and a sister.

George worked in those gold mines starting in the late 1930’s. He had to leave on November 5th, 1941 as the mine closed. He and his wife Claudean and baby son, G. Robert

Taylor, Jr. moved to La Grande and George worked on the Union Pacific Railroad. G. Robert was born October 20, 1941 as the winter snow began. That makes only 16 days between Bob’s birth and the mine closing, making Bob the last known person born in Cornucopia.

Every few years G. Robert would return to Cornucopia and check on the condition of the old miner’s log cabin he was born in. In the last few years he found the owner, Galen West was planning to restore the cabin so Bob asked if he could help. The last 2 years has been a joy for Bob. It was strange that Galen’s father and Bob’s father both lived in that same cabin.

The kicker to this tale is that G. Robert Taylor, Jr. became the second person from Cornucopia to serve on the board of OSBEELS. What are the odds of that?

I’m told the snow got up to 8 feet this year, and the elevation was 4600 feet. ◉





Teaching with Spatial Technology (TwIST)

During the last week of June, fifteen middle and high school teachers were on the Clark College campus in Vancouver to immerse themselves in surveying, global positioning systems (GPS), and geographic information systems (GIS).

The impetus of the program is to have middle and high school teachers become aware of and utilize knowledge in spatial technology so that they can expose their students to these somewhat unknown professional employment fields. This information can be used to help guide the students to look at post high school education and hopefully enroll in colleges that teach these technologies.

These middle and high school teachers were from most of the western states and teach math, history, and related sciences at their schools. They were provided a number of teaching tools including software and hardware that they could then incorporate into their curriculum.

The teachers were in the classroom in the morning and roving around campus most afternoons, collecting data with their new GPS units, measuring their pace, and using

their new hand compasses in a variety of exercises. It was great to watch them in their many “aha” moments as it all began to come together. The spatial data gathered with the GPS units was then downloaded into ArcGIS software for further analysis and use in lab sessions.

Each of the schools are eligible to receive an ArcGIS license from ESRI for a year. This will enable the teachers to utilize their learning experiences at TwiST in the classroom while the information remains fresh in their minds. The attendees ended the course by creating story maps, a great teaching tool that can be applicable to any teaching moment.

Support this effort by identifying teachers that you believe would benefit from attending this training. Remember, the students they teach today can become the professional surveyors of tomorrow. ◦

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Your Employees Path From Having a Job to Having A Career

NSPS's Certified Survey Technician accreditation

■ *Richard C. Brooks, PLS*

Just as any successful survey manager develops a project specific plan when a new survey contract is received, the successful Survey Technician has a career plan to ensure his or her marketability and employment desirability. As a long time business owner I have come to realize that it is an unavoidable reality that when the economy turns bad, good employees may have to be terminated as a result of a business decision. Every business owner develops a plan on how to keep their company solvent. That plan always includes an evaluation of the firm's employees and, if the need arises, the order in which they will be laid off. It is a struggle for that business owner to keep the firm at the right staffing level without compromising quality of work, ability to deliver the project, all the while maintaining profitability. Certainly Survey Technicians who are following the NSPS career advancement program will have a leg up on the employees that are just showing up to do the job. It seems that every business assessment article I read anymore discusses that for a firm to stay relevant and to survive it needs to redefine itself and to develop the "new normal". I suggest that the CST program gives your Survey Technicians, and in turn your company, the path to the "new normal". It is not hard to imagine the competitive bidding advantage your firm would have if your staff had CST certifications after their name. Remember, every time a field crew leaves your office, they are taking your professional license with them.

In existence since the late 1980s, the National Society of Professional Surveyor's Certified Surveyor Technician accreditation process offers the Technician a four level, two tiered career path. This allows the Technician to choose his job position, either as a field technician, boundary or construction or as an office technician. The CST exam is being used by Alfred State University and Paul Smiths College in support of their survey programs and is being used by some private firms to evaluate an employment candidate's true skill set. I know of firms that tout their technician's CST certifications when responding to Request For Proposals.

New York State, having the fourth highest population, has been consistently ranked eleventh for total number of Certified Survey Technicians. Our NSPS State Director has asked me to improve New York's CST rating. To that end, I will be raising the awareness of the program to the private companies and our NYSAPLS regionals. I will also

be presenting a preparation class on Saturday June 25 at 10 am at my office at 11 Main Street, Highland. I will be proctoring an exam, for all levels, Friday July 22nd also at my office.

In September 2014, NSPS and Spatial Media, publisher of American Surveyor Magazine, announced a joint effort to promote the CST program. This partnership resulted in an E-learning website being built and is now newly available at www.learnCST.com. The site offers the Technician the course work to study for each of the individual work groups that are tested. This is a huge tool for the technicians preparing to take the exam; No longer are they left with no structured study path to successfully passing the exams. Instruction for CST Level 1 and Level 2 are now available with the CST III module being developed and soon to be available.

I recently spoke with Francis Kurtz who was taking the Level three Computer Operator exam. He stated that participating in the CST program was "good preparation for the Fundamentals of Surveying test." He also shared with me that he thought the tests were well written and acted as a fair measure of his knowledge. A couple of weeks ago I corresponded with Jesse Bartell, a 2015 graduate of the SUNY-ESF Ranger School. He is gainfully employed on Long Island and has set a long term goal of becoming a licensed Land Surveyor. He sees the CST program as an opportunity to prepare for that licensing exam. He will be taking the Level One exam this July. On a national level, from January 1st to March 31st this year, fifty six people have passed a CST exam, none from New York. I am hoping that with your assistance I can reach your firms Survey Technicians and introduce them to the idea of developing their career. In the meantime my immediate goal is to get our State NSPS Director off my back, and you can help me with that. Please feel free to contact me if you need a speaker for your regional meeting or if you would like me to talk to your technicians. ☉

Richard C. Brooks is the vice president of Brooks & Brooks Land Surveyors, located in Highland, NY. The company is owned by his wife, Patti (second generation Land Surveyor) and Rick (third generation Land Surveyor). He is a frequent contributor to the NYSAPLS Empire State Surveyor. Rick is the New York State CST coordinator for NSPS and Patti serves on the Board of Directors of NSPS. He can be reached at RBrooks@bnbp.biz

A Disturbed Monument

■ John Minor, PLS

Well, a few weeks ago, June 10 to be specific, I received an interesting phone call from a Dale Lee in Port Orford. Apparently, Dale does a lot of beachcombing and he found a survey monument that had washed up on the beach. This wasn't the first one he found but it was the first one that had legible writing that enabled him to try to find out where it had originated. He determined that the monument had been manufactured by Ripro Corporation of Japan which supplies approximately 60% of the survey monuments used in Japan. Dale wrote to the company and to his surprise Mr. Kengo Okada, the C.E.O. responded and said that he would like to come meet Dale and see the location where he found the monument. Coincidentally, Mr. Okada was on a business trip that included stops in both Europe and America so it would be a pleasant way to end it with a stop in Port Orford. John Hohol, head of the N.S.P.S. delegation to F.I.G., is a longtime family friend of Mr. Okada and offered to travel from Wisconsin with Mr. Okada. Interestingly, this wasn't the first time John and Kengo had traveled together to see one of Ripro's monuments that had made the trip across the ocean. To learn more about that episode go to <http://www.kiro7.com/news/boat-owner-finds-tsunami-debris-orcas-island/246815730>.

Dale's reason for calling me was partly because he wouldn't be able to greet them at the airport on the 14th in North Bend plus he thought it would be nice if some local surveyors were also on hand to greet them. I contacted several other surveyors but because of the short notice and work schedules I was the only surveyor available. Aimee McAuliffe, PLSO Executive Secretary, was able to send me

some PLSO memorabilia to give as a gift to Mr. Okada. In return, Mr. Okada gave me a copy of the children's book that was a result of the monument mentioned in the link above plus a replica of the monument found by Dale. It was arranged that we would get together again the next day with Dale and visit the location of the found monument just a little North of the Cape Blanco Lighthouse, then retire to Dale's house for refreshments.

I missed making connections on the beach which was unfortunate because it was a rare, beautiful and nearly windless day but I got together with them at Dale's house for several hours. Kengo showed us pictures of where the monument began its journey from alongside a creek. Due to some heavy rains, the creek became swollen and eroded the bank tipping the monument into the creek and starting its trip across the Pacific. The monument was originally set in 2014 and Dale found it in May 2016. When I went to the airport to see them off, Kengo asked if it would be ok if he passed my gifts to the surveyor that had originally set the monument. I said "Of course" plus I also gave him one of my rebar caps to pass along.

In case you were wondering what material the monument was made of, Kengo told me "Protecting the environment and recycling are key elements to Ripro's success. Waste plastic materials are recycled and turned into survey markers. All types of plastic waste are used—scrap wrapping film from airport cargo, chemical plants, and trucking operations, plastic tape, carpeting, car parts including plastic bumpers, etc." Kengo gave me a product catalog that displays the large variety of products manufactured by Ripro. ☺



Far left top: Kengo Okada, John Minor, and John Hohol arrive at the North Bend airport.

Far left bottom: Kengo Okada and Dale Lee on the beach where monument was found with Cape Blanco lighthouse in the distance.

Left: Monument displayed on a tote bag with a picture of a children's book cover.

Below: Numbers and writing indicate the original monument location.



How I Became a Land Surveyor

(The Path I Didn't Take)

■ Gregory Crites, PLS

Most of you know that I received two bachelor's degrees from Oregon State, one in Forest Engineering and the other in Forest Management with a soils emphasis. Some of you may wonder what either has to do with Land Surveying, but most especially the BS in Forest Management. If you look at the course catalog for Forest Engineering, it does include course requirements in plane surveying, route surveying, survey law and a smattering of other offerings that might indirectly serve the need of a land surveyor such as Dendrology and of course, mathematics.

My BS in Forest Management merely served as a mechanism to pursue other interests within the field of forestry that the very structured curriculum in Forest Engineering simply wouldn't allow. I only bring these up to give a little background to what I'm about to write.

I started working in the woods for a small private timberland owner at the age of eleven. Never mind that this was illegal or that OR-OSHA would have cited this fine gentleman (may he rest in peace) more than "five days from Sunday" for all these workplace violations, but hey, an eleven year old didn't know anything about that back in 1962. All I cared about was the chance to operate a D4 Caterpillar Tractor (with a Wisconsin rope start pony motor to fire up the diesel). This was something akin to the biggest "Tonka Truck" dream a young boy could have! Over the next three years, not only did I become pretty proficient at running the "Cat" but also at setting chokers, falling, bucking and limbing trees, operating the A-frame to load the trucks, setting the tongs so as not to damage the logs, grading poles (Douglas Fir poles were all we logged), driving the crummy (only off-highway of course) and learning the locations of all the local watering holes that loggers frequented in the county. The beauty of this experience was my mother had no idea what we were up to!

What does all this experience have to do with Land Surveying? Well, maybe nothing, but then it really did underscore how much I enjoyed being in the woods, learning about wildlife, reforestation and even some local history thrown in as divulged by my boss (that self-same private timberland owner who just happened to be my next-door neighbor whilst growing up). It became the fundamental reason for my decision to choose Forest Engineering as a career path in college.

Leaping ahead now, there were some hints that my career choice might not suit me when I discovered that more than a fair number of my classmates were sons of logging company owners whose career paths were

predetermined prior to even entering college. A job was waiting for them upon graduation and most assuredly, unless they completely screwed up, presidency and ownership of a logging company sometime in their future. That can be a pretty good life if you live it right. For me, however, I would have to work my way up through the rank and file path working for either an industrial forestry company or the government. I'd had ample exposure to government employment working for the Forest Service during my summer breaks from college, so that career path wasn't even remotely to my liking.

Prior to graduation from college, I lined up employment working for a fairly large industrial forestry company on the Oregon coast. One of my former college roommates came from the Tillamook area and he had some fairly comprehensive knowledge of local forestry employers, not to mention the fact that several of his relations had rental housing I could take advantage of once I moved there. This was a distinct advantage in a small coastal community where housing wasn't as easily obtained by some stranger from "the valley" (i.e. Portland). Don't worry; I'm working my way around to how this/these experiences have anything to do with Land Surveying.

The company I worked for employed contract land surveyors to handle the major boundary surveys associated with managing large timberland ownerships, so these guys were my first exposure to land surveying. They worked in the woods, dressed and acted like loggers (to some extent) but were different in other ways. I couldn't help but notice their excitement when, after doing all the necessary homework, they discovered evidence of some GLO corner that hadn't been visited since the original survey, showing their pride upon making such a discovery. I worked around them long enough to witness this on numerous occasions so it wasn't hard to understand the specialness such an event held with them. The more I oversaw their contracts, the more familiar I became with their means and methods, the more I was intrigued by what I learned.

I've got to jump back a moment here. I had been working for this industrial forestry company for perhaps 7 or 8 months when the other Forest Engineer working for this firm who had the responsibility for managing the contract surveying crews decided to quit and go back to working in the family business as a mason. I should have suspected something was wrong with this picture, though in hindsight, I probably realized it but chose to ignore the warnings. Nevertheless, as I was the only other

» continues on next page »

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employee in the firm with a degree in Forest Engineering, the responsibility for managing the contract surveyors came to me! Just like that I was thrown to the wolves. Well, not really, but I certainly felt woefully inadequate to be overseeing contract surveyors when my knowledge of what they did was pretty rudimentary.

For the next 10 years or so, I oversaw contract surveyors and gradually began doing much of the work as a party chief. This was my real introduction to land surveying and of course, the first time I discovered GLO evidence that hadn't been recovered since the original survey, I was hooked.

As the firm's revenue streams began drying up with the depletion of the old growth, they naturally began to look for ways to save money. Keeping the surveying in-house seemed to be a logical step, though I believe this was too little and way too late! The old "logging" mentality was so pervasive in the industry, even into the early 80's, that tree farm managers still looked upon the company assets as their private domain. Inefficiencies were everywhere and change was doggedly difficult to achieve. In the last few years I worked in the industry, my sole focus was quantifying the differences in operational efficiencies between contract loggers and our company teams. It was pretty self-evident that contracting was the way forward, but then what do you do with over 150 union employees? The answer to that came in 1985 when we all received our "pink" slips. Thankfully, I'd had the presence of mind to sit for professional licensure back in 1980. My rationale at that time was, "hey, I've been gathering all this experience, why don't I use it to see if I can get my license?" The rest of that story is history but I really haven't told you the underlying causes for choosing land surveying as my "second" career path.

Cause number one was doing "stand examinations" in the Tillamook Burn in the dead of winter (when the snow wasn't so deep that you were prevented from getting to the work site). If you don't know much about the Tillamook Burn, think of an incredibly hot fire destroying thousands of acres of prime, old-growth timber in terrain that could sustain Rocky Mountain Sheep if it didn't have trees on it (i.e. STEEP and ROCKY). Simply put, stand examinations involved pacing off a fixed distance on a straight line (think about steep and rocky in THAT context), stopping, pulling out your loggers tape, marking out a 50-foot radius circle (a "plot" in Forestry vernacular) and cataloguing every tree within it by species, height and some qualitative statement about vigor, then moving on to the next plot, and so on. Mind numbing work, at least in my estimation. Now couple that with the wind blowing at 30 mph and rain coming at you horizontally, nearly impenetrable brush up to your Adams apple and the air temperature hovering at around 35 degrees and I think you get my point. Land surveying was sounding pretty

good, but I hadn't quantified it yet.

Cause number two was a boss who had no common sense. Let me characterize this to back up my claim. We're working doing road layout around Ten Mile Lake down near Florence, Oregon. John Minor, you know what I'm talking about so maybe you can skip this part. We're in a salal thicket that is so dense that there are only two ways to get a flag line through it; find a rabbit hole to slither through on your belly or swim over the top of the brush, one step forward, two steps back. You stand up to reconnoiter every 20 feet or so to hang a flag so you can see where you came from and check your grade with the Clinometer (or Abney to you old timers). Now, couple this with 10 inches of rain and a steady 20 mph wind out of the southwest during your 8-hour shift, and no trees! Yes, this area had been logged off way back in the 40's or so using systems that didn't require the modern day road networks needed for all the current timber harvesting technologies. Naturally, the road had to be laid out over the ground where the timber was easily creamed, so the newer harvest systems could get to the timber left standing in the remote corners of the tree farm, which we knew wouldn't be economically feasible to harvest anyway, but hey, our boss wanted to know. To my knowledge, those remnant trees are still standing because my firm was divvied up in a hostile takeover before we could ever build that road to reach them. Working in conditions like this, knowing that my boss was sitting back there in his comfortable office, dry and warm, well, that just riled me beyond belief. It was that specific episode that caused me to turn in my resume' with the State Forestry Department in Sisters to work on a fire crew.

Cause number three was doing road layout. We had a quota of somewhere between 20 and 25 miles of new road to open up harvest areas every year. This was done rain or shine, winter, spring, summer or fall. After you've done 50 miles or so of this type of work, it becomes pretty routine. Now, I worked in this industry from 1974 to 1985 and I swear that during that period of time I was personally responsible for laying out more than 1000 miles of logging road into new harvest areas. Did I mention mind numbing work? I'm sure you might be wondering why did I persist in this apparently useless endeavor. Well, the pay was good and hey, I'm a doggedly responsible guy. Give me a task and, though I may find it objectionable, at least back then I would have put one foot in front of the other and completed it.

Cause number four was the aforementioned pink slip. Despite all my hard work and "responsible" behavior, it meant nothing to a junk bond financier. I was no capital asset that could be liquidated. This "forced" departure from my forest industry employment, though hard to swallow on the short term, was the impetus I needed to kick me down the road to another career.

Of course, opening my own land surveying firm was just the opportunity I needed to explore what it meant to be my own boss. I'd done some research about a sole proprietorship and had some expectations about gradual starts so I took a job teaching surveying and forestry classes at the local community college to keep the income stream going while I ramped up my business. I never expected that the business would take off quite so quickly, to the point that teaching, even though I loved it dearly, began to get in the way of work. I've been involved in the land surveying industry ever since, finally turning my back on the classroom sometime around 1994.

So, you're probably wondering when I'm going to get around to my point? Does it sound like I took a direct path to my career choice? Of course not. Land surveying was NOT the path I chose. I've worked as a logger, a forester, a

warehouseman, a cook, a waiter, a landscaper, a firefighter, an EMT, a laborer on a mink farm and a few other assorted pursuits during my life. What those occupations did for me was offer perspective. None of them really gave me the feeling of a job that I looked forward to doing every day. That all changed once I really began to understand what surveying was all about. The salient point has to do with exposure. If we're going to attract new blood into this profession, I think we should remember how we got here. The trick is to "sell" our experience in a way that ignites some of the same passions we all share in others who are seeking a meaningful career. I wish there were an easy way to define this, but we're not going to turn that light on unless we illuminate the field which we find so rewarding! ◉

BLM Public Land Survey Plats

■ *Mary J.M. Hartel, BLM, Chief, Branch of Geographic Sciences*

The following public land survey plats for Oregon were approved and/or filed during the period of January 2016 through July 2016.

Oregon, Willamette Meridian

T. 16 S., R. 7 W.	Dependent Resurvey
T. 16 S., R. 2 E.	Dependent Resurvey & Subdivision of Section 25
T. 16 S., R. 14 E.	Dependent Resurvey & Subdivision of Sections 25&26
T. 16 S., R. 17 E.	Dependent Resurvey & Subdivision of Sections 24&25
T. 39 S., R. 3 E.	Dependent Resurvey & Subdivision of Section 21
T. 34 S., R. 3 E.	Dependent Resurvey & Subdivision of Section 19
T. 37 S., R. 2 E.	Dependent Resurvey & Subdivision of Sections 14&22
T. 20 S., R. 8 W.	Dependent Resurvey & Subdivision of Section 34
T. 18 S., R. 6 W.	Retracement
T. 29 S., R. 10 W.	Dependent Resurvey
Tps. 27 & 28 S., R. 4 W.	Dependent Resurvey & Subdivision of Sections
T. 16 S., R. 3 E.	Dependent Resurvey & Subdivision of Section 30
T. 39 S., R. 6 E.	Dependent Resurvey & Subdivision of Section 21
T. 2 S., R. 7 E.	Dependent Resurvey
T. 16 S., R. 5 W.	Dependent Resurvey & Subdivision of Section 33
T. 32 S., R. 8 W.	Dependent Resurvey & Subdivision of Sections 1&2
T. 25 S., R. 2 W.	Dependent Resurvey
T. 40 S., R. 4 E.	Dependent Resurvey

Then And Now. Where Are We Headed?

■ Dick Bryant, PLS

Many changes have occurred in the surveying profession since I got in the game 50 years ago. Gone are the days when the state of the art field equipment was a 20 second transit, a 200 or 300 foot steel tape, plumb bobs and the like. Self leveling levels were just coming into use which were a great improvement over the old dumpy levels. Calculations were done with a mechanical calculator (think Curta) and trig functions were taken from a set of tables. Plats were hand drafted. Depending on the county, records of survey contained much less information than is required today. Fast forward to today with GPS, robotic total stations, computers, and plotters. State statutes have tightened the requirements on what has to be included on any record of survey.

In the years I was practicing it was always in the private sector. As such we were called upon to do a variety of surveys. Boundary surveys and subdivisions on private land, cadastral surveys and public land corner recovery and restoration for the Forest Service. Road design surveys also for the Forest Service, control surveys for large mapping projects for the Soil Conservation Service, Bureau of Reclamation, and Corps of Engineers. We also did a lot of construction staking for private and public entities. I imagine that most private surveyors covered the above types of jobs if not more.

Because of the type of work being done back in the late 60's it was essential that surveyors had the ability to complete the varied tasks with the tools available to them at that time. Requirements to sit for the exam were less stringent. One still had to meet certain experience requirements to be able to take the test, but those requirements were less than they are today. I was able to sit for the exam after only 3 years of field experience. This was because of my degree in forest management, even though the curriculum had a minimum of surveying attached to it. Engineers of all disciplines were able to stamp surveys whether they had any surveying knowledge or not. Once the requirements to take the test were met, it was given in a 16 hour block in 2 back-to-back days. There was no LSIT category. Believe me, after those 2 days you were completely worn out. I flunked the first year as did all but 16 of the 100 plus that took the exam. I was successful on my 2nd attempt.

It was almost a given that when survey work was required, a client, public or private, would go to a firm with licensed surveyors, or else they had licensed surveyors on their staff. This was generally the case whether the work to be done required a stamp or not. Over the years with the advent of the digital age things began to change. Field equipment became much more accurate, and

sophisticated. Gone were the old 2 and 3 man crews that were needed to do a fairly simple site survey, or a traverse to complete a boundary survey or blue top a parking lot or set pins in a subdivision. I observed a Corps of Engineers survey crew one time collecting data for a future park at Fern Ridge Reservoir outside of Eugene. If memory serves me correctly the crew consisted of a party chief, instrument man, note taker, head and rear chainmen, and a stake hopper. Today this data can be collected by one person using a robotic total station or a survey grade GPS receiver, then downloaded into a computer for processing, the data manipulated into a finished drawing, and sent to a plotter for the finished product. Doing layout can also be done by one person or at most two using GPS or robotic equipment.

So what is this all leading up to? I think our profession is at a turning point. If say a construction firm needs a great deal of layout work to be done, curbs, parking lots, buildings utilities etc. What stops them from buying state of the art of equipment, and hiring an unlicensed individual to perform the work and bypassing a surveying firm?. Their incentive would be paying someone \$25 per hour versus \$100 per hour for a surveying firm to do the work?

This leads me to believe that a good portion of work that was done by licensed surveyors in the past can now be done by anyone that has the ability to run the field or office equipment now available. Are we headed for a profession where licensing will only be required if we set monuments and file records of surveys? Are clients that needed our services in the past now buying their own equipment and hiring non-licensed individuals to do their work? I have been out of the day to day surveying business for some time so maybe I am way off base, and am out of touch with what is really going on out there in the real world of surveying. I would be curious to know if the future of the profession is being diminished or not. Why not submit your opinions to *The Oregon Surveyor*. Our editor is always looking for fresh material.

I thought I would also add this aside as an example of how surveyors were perceived in one area of the country. For a short time, back in the 80s, I was in private practice in Texas. They had a state sales tax rather than an income tax. A ruling was passed down that required surveying firms to pay sales tax on income received. I believe there were certain caveats as to what types of survey work could be taxed. "Professionals" such as engineers, and architects were exempt. Surveying firms were listed in the same non-professional category as garbage collectors and landscapers. ◉

Gambling with the Deregulation of Land Surveying

Got to Know When to Hold 'Em, Know When to Fold 'Em.

■ R. J. Leaver, PLS *This article reprinted with permission from RPLS Today (rplstoday.com)*

The editor of POB just wrote about the deregulation of land surveying. Everyone is buying it. Everyone seems to be missing the point that we have already been deregulated as land surveyors, long ago.

How did this happen?

In my USPLS state of Wisconsin, deregulation began when the Office of the Surveyor General closed 150 years ago in 1866. This was the result of the federal government believing that the work of the PLS was done, and back in 1866, it was believed the locals could now take over what the federal government had now finished, and what the feds were also done funding.

This began the “any man can now measure mentality” and that began the deregulation of land surveying in my state.

Who can measure?

The legal profession now took over the task of writing legal descriptions, not based upon any land surveys. How did they manage to do this without land surveys? They made it up, or pulled it out of the air or maybe some other obscure place.

Civil engineers began the construction of highways using tools also used by surveyors. Since the engineers’ task was viewed as most important, i.e. we all need roads for cars, then the engineer also figured he could do what the surveyor did. Same tools, it must be the same job.

Later the civil engineers became licensed and called professional engineers or PE’s. They would also write the land surveyor’s exam, become dual licensed and send out unlicensed land surveyors, since the PE also had an RLS license, and it was all done under the guise of “direct supervision.”

State DOT’s indicated that it was not necessary for a land surveyor to be licensed in the land surveying duties associated with state highway projects. In turn county highway departments saw the example set by the state, and hired land surveying/engineering technicians without a land surveyor’s license.

Further collusion resulted to exclude the land surveyor. Counties would hire real property listers to take made up phony legal descriptions drafted by lawyers and set up property for assessment and taxation. The work of the real property lister, if you would ask them, will tell you that all their work is based upon “recorded deeds.” That is right,

» continues on next page »



made up legal descriptions drafted without using a land surveyor. Further collusion resulted when the real property lister looked to the county mapper/GIS guru to finally get all this tax parcel map information automated. Do we need a surveyor? No, the technology is here now, and we cannot wait for the surveyor. If we do, it will take forever, or it will never get done. Let's get the best approximation that we can!

Further damage and deregulation took place when the feds walked away with the "any man can now measure mentality." With the loss of the state land surveying authority, the Office of the Surveyor General, the state legislature then passed laws that gave the responsibility for the maintenance of the USPLS to town boards. Town boards, of course, are comprised of citizens who are not land surveyors. And if the county surveyors back then lobbied and explained the importance of all this, only 50% of the town boards in my county thought it was a good idea and bought it.

For example, in my county, town boards in 15 of the 30 congressional towns said yes, we will take the recommendation of the then 1870 county surveyor and choose to remonument the federal landmarks with cut limestones 6" x 6" x 36". This is when the land surveying profession took another major deregulation hit. Now rather than the professional land surveying authority making these decisions, county surveyors were left to scramble and lobby non-surveying town boards to get this important task completed. Eventually, this maintenance program by only half the towns wasted away and counties took the responsibility 100 years later in the 1970's with new state legislation that said counties "MAY" continue this maintenance. It is not necessary. It is optional. Another major hit and deregulation. And if counties choose to do it, according to the statutes, you have got 20 years to finish it. (And then you are done.)

Because land surveyors have been left out of the equation now for 150 years, we have a royal mess and state of the art approximations with terrible inefficiencies. We still resort to the text-based legal description of the crafty drafty lawyers to get all this information assembled "intelligently."

What about graphics or a survey map way back then? That would entail the services of a land surveyor, and with the "any man can now measure mentality," we now thrive on inefficiency at its greatest.

I supervised a county's tax parcel mapping program for 22 years. I was charged with making sense out of nonsense. I saw the big picture of not only the next isolated, individual parcel that needs to be surveyed or resurveyed, but I saw a 50,000 jigsaw puzzle to assemble with pieces that were destined not to fit to any acceptable degree of accuracy or precision.

The following was written by my former subordinates who are still at it, mapping at my county.

Explanation Of Gaps And Overlaps

"Areas of light blue and light red (pink) may appear throughout the maps. These shades are displaying gaps and overlaps that may or may not exist in its location. Think of Dodge County as being a puzzle with 50,000 pieces (tax parcels). As you lay these pieces on the table you will notice that some are new and some are very old, and consist of many shapes and sizes. Some have worn edges and others have new, sharp, crisp edges. As you try to match up adjacent pieces you also notice that some pieces don't fit together very well. There appear to be gaps between some and other pieces overlap with each other.

In the 1830's, government surveyors created this puzzle with about 14,500 pieces in the Territory of Wisconsin (of which 900 would eventually make up Dodge County) and each of these pieces fit perfectly with one another. As the land was sold these surveyed pieces (sections) were further divided and described by different people using their "legal scissors" to cut the sections into smaller and smaller pieces. Some of these people had great skill and training in the use of "their scissors" and the pieces they cut still fit together nicely. Others used "dull, worn scissors" with little knowledge of their proper use. Their pieces don't fit well with the others. All of these puzzle pieces are then thrown back into the "box" called the Register of Deeds office."

How would you like to assemble a 50,000 jigsaw puzzle by resorting to the reading of all those text-based legal descriptions that have been thrown into the "box." Does that sound like an exercise in total inefficiency?

At the time when the Surveyor General still ruled in Wisconsin, "each of these pieces fit perfectly with one another!" Since that office was closed in 1866, the surveying authority has been gone, and there is now insanity without any land surveying authority.

We are a profession of boundaries, but how many others have crossed our boundaries and done our work, or said our work is optional, because of the lack of a current day land surveying authority? History is replete with many such examples.

So I know what deregulation is. I have seen it in my career for 40 years by looking back 150 years. We as surveyors deserve far better, and our future will not be determined by deriding over possible future deregulation. It has already happened long ago, and I call upon all surveyors concerned about this profession to wake up and take a look at history. And then when you see the obvious, determine in your spirit, that what you do is far more valuable than what we have been dealt.

We have been dealt a bad poker hand, and it would be better to fold them than to keep playing and losing. We are like gamblers. We are far better than that. ◉

Trig-Star 2016

Six Oregon schools participated in the NSPS Trig-Star competition this year. The local test was taken by a total of 95 students and proctored by four PLSO members. The participating schools and their proctors were: West Salem High, Dallas High and Central High in Monmouth, all proctored by Gary Johnston; Valley Catholic High in Beaverton, proctored by Al Hertel; North Marion High in Aurora, proctored by Tony Brooks; and Springfield High, proctored by Jon Driscoll. PLSO awarded each school's first, second and third place finisher cash awards of \$50, \$30 and \$20 respectively.

Each school's local winner participated in the state test. The state test was held in conjunction with the Lower Columbia Chapter of LSAW in the training room of the offices of The PPI Group. Due to students' travel and schedule restrictions, two Oregon students took the state test at PPI and four students were proctored locally. The state winner is Andrew Reimer-Berg from West Salem High School. Andrew scored 117 points out of a possible 127. Congratulations to Andrew, to his teacher Jon Kawamura, and to his proctor Gary Johnston. As state winner, Andrew received an award of \$500 from PLSO.

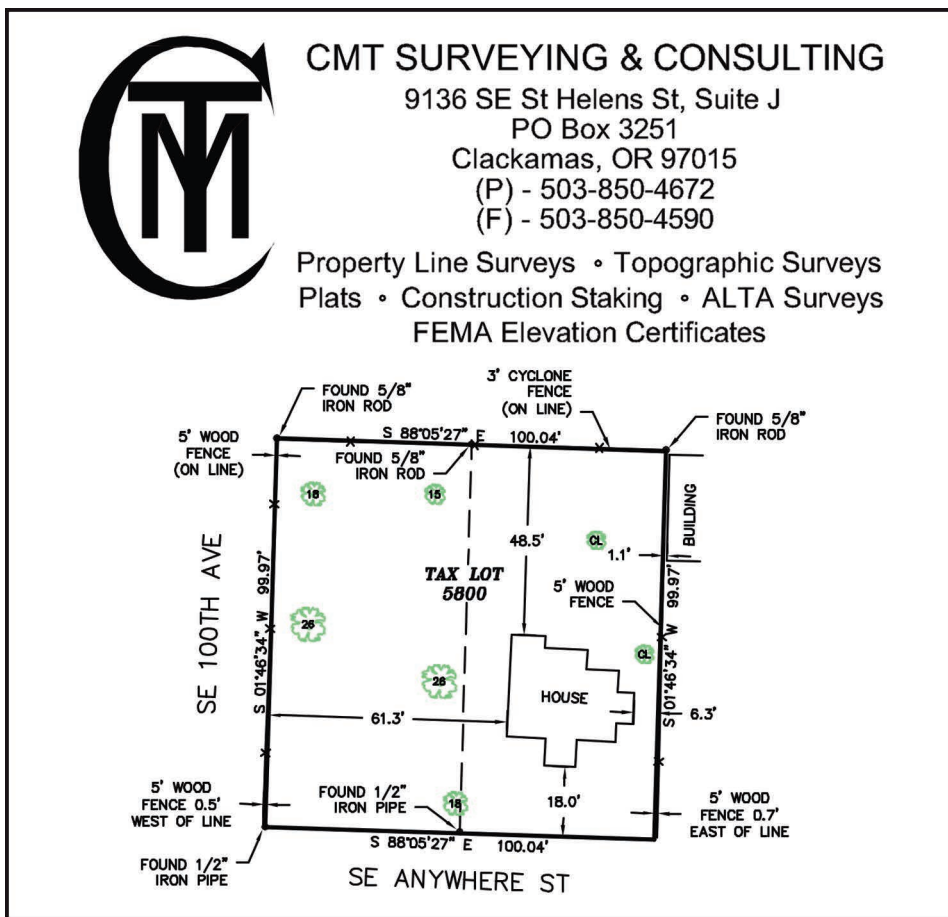


Andrew Reimer-Berg, 18, graduated in June. Andrew is the oldest of three Reimer-Berg siblings: he has a younger sister Ruth and a younger brother Jonathan. Andrew states that his favorite subject in school is Math. In the Fall, he plans to attend Eastern Mennonite University (EMU), a private liberal arts university near Harrisonburg, Virginia, where he has been awarded an EMU Honors Scholarship.

Andrew's extracurricular interests are playing piano and playing cello in the school orchestra. He is a member of the 2015 and 2016 Salem All-City Orchestra and was vice president of West Salem High School's National Honor Society.

By the time you read this, Andrew will have competed in the National Trig-Star competition, proctored at his alma mater on June 27 by Gary Johnston and John Thatcher.

As PLSO Interim Trig-Star Coordinator for 2016, I would like to sincerely thank Paul Rydell and The PPI Group for again offering the use of their facility for the State Test, our four proctors Gary Johnston, Jon Driscoll, Al Hertel and Tony Brooks, and Aimee McAuliffe for her usual prowess in keeping things focused and in getting the checks out to the winning students. ◉



News Briefs

ODFW Limmeroth Ranch Survey

In May 2016, Tenneson Engineering Corporation surveyors completed the field work for a survey of the Oregon Department of Fish & Wildlife (ODFW) Limmeroth Ranch property. The survey covered multiple sections within Townships 2 South, 14 East; 2 South, 15 East; and 3 South, 14 East, in Wasco County, lying between Tygh Ridge Road at elevation 3000 and the Deschutes River at elevation 1000. The Limmeroth Ranch property was acquired by ODFW in 2015. During that year, Precision Land Surveying, Inc., of Redmond, surveyed a large portion of the boundary of the property. This survey provided a great basis for Tenneson to complete the balance of the survey of the Ranch property. The Tenneson field crew for this project included Brad

Huffman, P.L.S.; Dalton Fetsch, Survey Technician; and Matt Yates, E.I., L.S.I. Multiple original GLO monuments were located in the course of the survey. This survey also followed in the footsteps of early Wasco County Surveyor Roy Campbell who completed work on a portion of these lands in May 1916. The Tenneson Engineering survey crew was able to locate multiple monuments during this survey, some recovered nearly 100 years to the day from when they were originally set. This was a beautiful location for a spring survey. If you ever visit this property, remember to bring your snake chaps! Thank you to the ODFW personnel for the boat rides across the Deschutes River. ◉



Tenneson Engineering Survey Technician Dalton Fetsch with the found 1/4 stone between Sections 27 and 34, Township 2 South, Range 14 East, as set by Wasco County Surveyor Roy Campbell in May 1916. The large stone in the background is a bearing object, which was found with scribed "X" and "BO 27".



1/4 corner stone deposited alongside newly established 5/8" rebar with aluminum cap.



Tygh Ridge wildlife.

CST Level 1 Exam

Six students from Todd Sanders Civil Engineering program at Portland Community College took the CST Level I exam on Saturday, June 4th. They reported that the exam was very comprehensive with a good variety of questions. Most of them took the entire four-hour time limit to complete it. Tim Kent proctored the exam. ◉

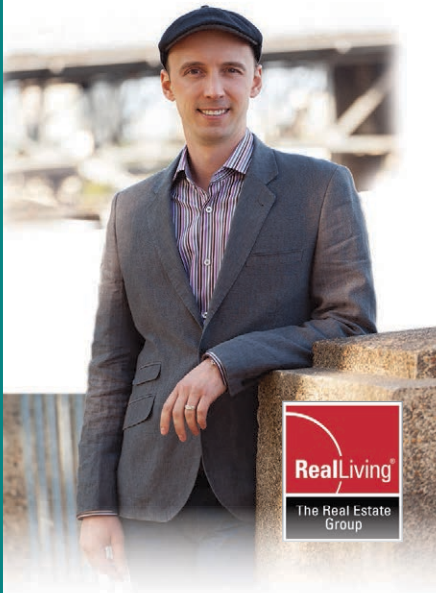


Pictured left to right are Vincent Nixon, Kyle McDermott, Lucerito Lopez, Josh Christopher, and Taeseok Kang. Not pictured was Emmitt Cannon.

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The Lost Surveyor

■ Pat Gaylord, PLS

Question:

I've traveled quite a bit the last couple of years and like many of you I tend to notice survey marks even while on vacation. Can you name the location of this unique survey monument?



Answer:

A Mile High Benchmark, based on NAVD88 datum, was set in the face of the 13th step of the Colorado State Capitol on September 29, 2003. Colorado Governor Bill Owens presided over the benchmark setting ceremony on the west steps of the capitol on a crisp, sunny Colorado morning.

The new Benchmark, featuring the Rocky Mountains as depicted on the Colorado State Seal, joins two existing monuments. A plaque adhered to the fifteenth step in 1909 established the first Mile High marker. After several plaques were stolen, the words “One Mile Above Sea Level” were carved into the native Colorado granite in 1947. Three steps higher is a brass cap set in 1969 by Colorado State University engineering students using NGVD29 datum. The difference between NGVD29 datum and NAVD88 datum at this location is 0.92 meters or 3.03 feet.

The NAVD88 brass cap is a standard Berntsen concrete marker and was the second Berntsen monument set for this project. Previously, as the first phase of the project, HWS-001, a Top Security rod monument set in a benchmark access cover was driven to refusal at the foot of the west steps of the capitol.

Phase two involved running differential levels between HARN station McDonnell on the campus of The Metropolitan State College in Denver, two NGS monuments at Union Station Railroad station, and HWS-001.

While State Capitol employees nervously watched, a hole was drilled into the 13th step to hold the new BM. This was the completion of the 3rd phase of work. A level loop was run from the newly calculated HWS-001 up the steps of the capitol to determine the location of the new Benchmark.

The ceremony to set the NAVD88 Mile High Benchmark was the result of many months of emails, meetings with State officials, phone calls and schedule checking to put together the three Saturdays that were needed to accomplish our mission. The Professional Land Surveyors of Colorado (PLSC) whose members comprise federal, state, county, city and private surveyors are quite proud and honored to be involved in the setting of the NAVD88 Mile High Benchmark. ◊

Report compiled by Michael M. Greer, PLS. Mike, Land Analyst for Jefferson County Planning & Zoning, was PLSC's Project Coordinator for the Mile High Benchmark project. Originally published in the Berntsen SurveyLog Volume 15, Number 1 (January, 2004)



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